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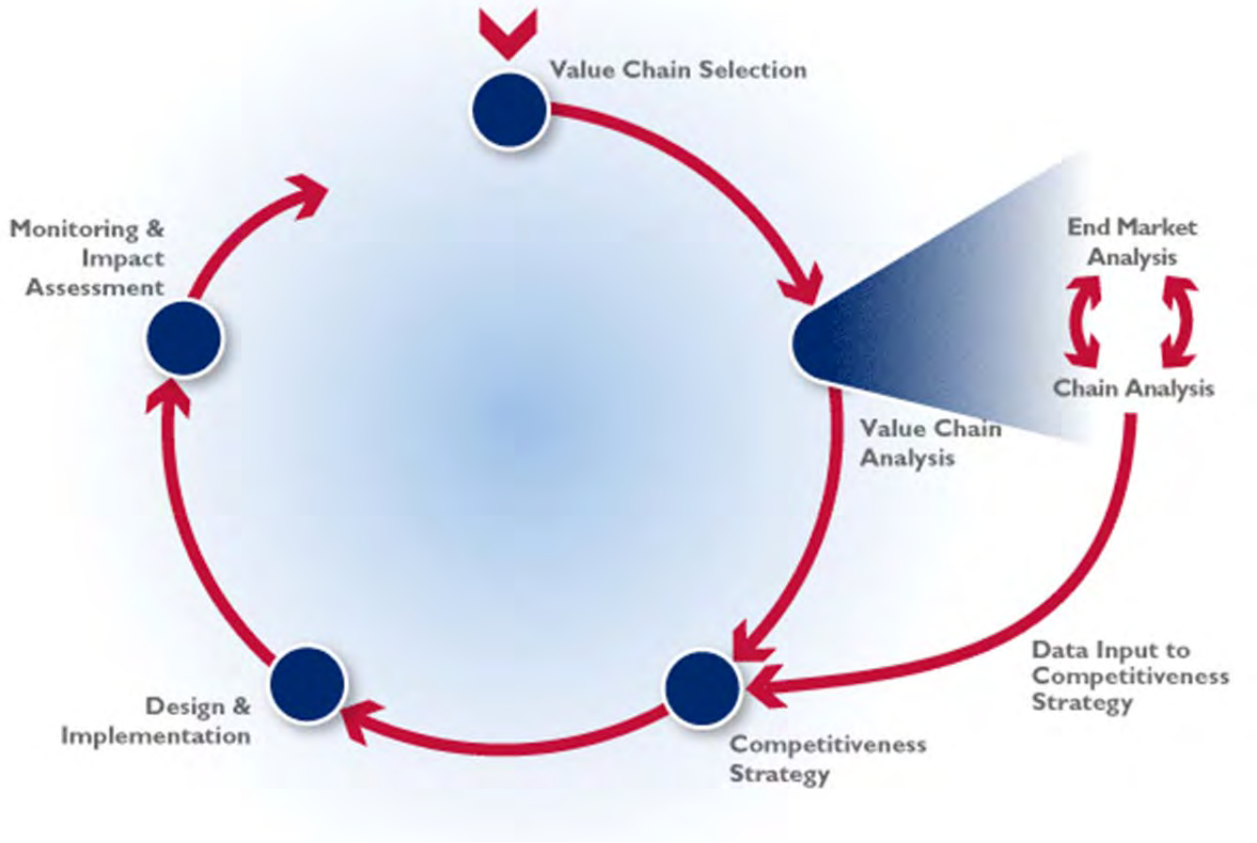
AGRIBUSINESS AND AGRICULTURE VALUE CHAIN ASSESSMENT FINAL REPORT



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Implementing Partner: Weidemann Associates Inc.

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Acronyms

AAVCD	Agribusiness and Agriculture Value Chain Development
APM	Agribusiness Project Metrics
BFS	Bureau of Food Security
CAADP	Comprehensive Africa Agriculture Development Program
DEC	Development Experience Clearinghouse
EOP	End of Project
FLSA	Fair Labor Standards Act
FTF	Feed The Future
GDA	Global Development Alliance
GHFSI	Global Hunger and Food Security Initiative
IAAP	Intensive Area Agricultural Program
IEHA	Initiative to End Hunger in Africa
IQC	Indefinite Quantity Contract
IRR	Internal Rate of Return
LAC	Latin America and Caribbean
MCC	Millennium Challenge Corporation
MDG	Millennium Development Goal
M&E	Monitoring and Evaluation
MSME	Micro Small and Medium Enterprise
NPV	Net Present Value
OFDA	Office of Foreign Disaster Assistance
PEPFAR	President's Emergency Plan for AIDS Relief
PIDS	Performance Indicator Data Sheets
PIS	Project Inventory Sheets
PMP	Performance Monitoring Plan
RAISE	Rural and Agricultural Incomes in a Sustainable Environment
SEGIR	Support for Economic Growth and Institutional Reform
SME	Small and Medium Enterprise
SOW	Scope of Work
USAID	United States Agency for International Development

Agribusiness and Agriculture Value Chain Development Assessment

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Agribusiness and Agriculture Value Chain Development Assessment: Data, Documents, and Development Results

I. Executive Summary

USAID's Bureau for Food Security (BFS) contracted Weidemann Associates to conduct a two phase assessment of Agribusiness and Agriculture Value Chain Development (AAVCD) projects since 1998. The assessment was to document "better practices" so that future AAVCD investments enhance rural family income by increasing the volume and value of farm family product sales. Phase One of the assessment developed a database of 240 AAVCD projects worth more than $4.930 billion.

The "Scope of Work for an Agribusiness and Agriculture Value Chain Development Assessment" reflects USAID's new evaluation policy and Feed the Future monitoring and evaluation initiatives. SOW implementation constitutes a "backward test" of the more standardized and relatively centralized M&E system USAID's new Evaluation Policy and the Feed the Future initiative are creating. AAVCD assessment Phase One has shown what USAID's past AAVCD performance monitoring experience has been. These insights may assist in the design and implementation of the Feed the Future M&E system.

BFS provided the AAVCD assessment team with Agribusiness Project Metrics (APM) to use in compiling AAVCD project performance information. BFS also posed questions on the cost of all agribusiness and agriculture value chain development projects; the number of farmers reached and the cost per beneficiary; the number of value chains funded; the number of firms assisted; the agricultural development results (yield increases, hectares, farm income increases); and other questions to be answered through APM data meta-analysis. As stated in the Agribusiness and Agriculture Value Chain Development Assessment Scope of Work (SOW) "The emphasis of Phase One will be on creating a data set that will establish a common set of indicators against which projects' results will be compared."

The issue of data commensurability, and the validity of cross project comparison, arose at the outset of SOW implementation. AAVCD projects did not use standardized and explicit definitions for beneficiaries, women beneficiaries, total farm income with and without project, firms assisted, and other APM variables. As such, it appears that AAVCD performance monitoring and impact assessment data compiled since 1998 does not allow establishment of a common set of indicators for project results comparison.

The assessment team used the APM variables to categorize AAVCD performance monitoring and impact assessment data and create "indicator groups". To clarify these "indicator groups" the APM spreadsheet records the AAVCD indicator "labels" or "definitions" employed since 1998. Indicator groups allow some cross project

comparison and yield interesting insight into AAVCD geographic focus, funding mechanisms, investment trends, performance reporting, project components and other design and management issues. The APM spreadsheet's presentation of "labels" or "definitions" shows a certain level of "commonality" in AAVCD investment focus. The use of "indicator groups" also allowed the AAVCD assessment team to consolidate, for the first time ever, substantial USAID AAVCD project information in one easy to search and analyze database. This database will speed staff and stakeholder learning from USAID's 12 year history of agribusiness and agriculture value chain development investment.

The lack of standardized AAVCD performance indicator definitions or terms makes learning from USAID's remarkable agricultural value chain development history difficult. That being said, in reviewing 240 projects (or more) the assessment team was impressed with the variability in USAID's AAVCD project design and implementation environment. Constantly changing macroeconomic and microeconomic conditions combined with weather, international and domestic politics, organizational behavior, rural farm family uniqueness, and stakeholder, implementing partner and mission dynamism to create incomparable investment risk and uncertainty. Investing successfully in this risky and uncertain environment requires focus, creativity and flexibility while recognizing that some of the world's least advantaged and vulnerable farm households are at the beginning of this "risk and uncertainty chain". The assessment found that AAVCD project design and implementation did not lack creativity and flexibility. It may be that more standardized performance indicator definition and measurement will improve AAVCD investment design and implementation focus.

Typically monitoring and evaluation ends by answering "So what?" The AAVCD assessment may have important implications for Feed the Future Initiative monitoring and evaluation. For example, FTF's "Improved agricultural productivity" indicator is "Gross margins per unit of land or animal of selected product". The "value of sales", number of hectares and production values needed to calculate gross margin were tracked in the AAVCD database. The database shows that number of hectares and total production were among the least reported variables by the 240 AAVCD projects inventoried. 24% of AAVCD project *final reports and evaluations* (ie. of "completed" projects) reported on production and that number combined all crop and non-crop (ie dairy and livestock) products. 30% of "completed" projects reported number of hectares. Yet many of those projects had the same increased rural household income objectives as the Feed the Future Initiative. Why is it that so few AAVCD project *final reports and evaluations* reported on production impact and number of hectares? What will happen to ensure improved crop production and hectare planted measurement under Feed the Future?

The reference to *final reports and evaluations* highlights that projects may have tracked production increases and number of hectares at some point during implementation but that those measurements did not appear in the final reports or evaluations. This may have been because project funded value chains changed during implementation. Some value chains were dropped as unprofitable, some added due to market demand. The 223 projects that reported on "number of value chains funded" assisted 1,797 value chains, an average of 8.87 per project. The 150 "completed" projects that reported "number of value chains funded" assisted 1,260 value chains, or 8.4 per project. The lowest number of value chains funded was one. The highest number of value chains funded was 52.

The 28 projects that funded one value chain were predominantly dairy (16) and coffee (7) projects. (Note that coffee and dairy were also funded under other "multiple value chain projects".) Because of livestock and coffee characteristics (ie perennial crop coffee has relatively constant area and location; smallholder cows are easy to track) it should be relatively easy to standardize gross margin measurement and reporting. Nonetheless, only 38% of dairy and 43% of coffee projects reported on production. Several dairy projects reported on increased milk production per cow but hardly any reported number of cows. 71% of coffee projects reported number of hectares with 3 of the 5 that reported hectares doing so to track reduced "illicit" crop area that coffee replaced. A more complex challenge comes with projects that add value chains opportunistically in response to market forces or as project implementers learn from experience. Establishing number of hectares and production baselines for these "opportunistic" projects at project initiation may not be feasible. Yet project flexibility in responding to market changes appears essential in increasing rural family income.

Another essential gross margin calculation number is "value of sales". To calculate gross margin the "value of sales" will be divided by "quantity of sales" to establish product "price". Yet only 35% of inventoried AAVCD projects (and 39% of "completed" projects) reported on some form of farmer or farmer organization sales revenue and only 10% of AAVCD projects reported on sales revenue AND total production (ie, "quantity of sales"), the two variables needed to estimate "price". Based on the AAVCD experience, and given that gross margin calculation requires data on 5 variables (across an average of 8 or 9 value chains/project) is it probable that the agricultural productivity performance indicator will be consistently tracked and reported?

Will requiring consistent gross margin measurement and reporting change AAVCD project focus to more "data friendly" beneficiaries? Given FTF's focus on "inclusive agriculture sector growth" that would "bring in typically marginalized groups" this last question seems important. Examining the 12 Title II projects ("completed" and not completed) as examples of AAVCD projects targeting predominantly "marginalized groups" we see that 50% provide production numbers, 41% provided number of hectares

and 41% reported total farm income ("value of sales"). (44% of the 9 "completed" Title II projects provided production, number of hectares and farm income numbers.) So, less than half provided the necessary gross margin calculation numbers even though Title II projects averaged 5.8 value chains per project. It may be wise to limit the value chains reported on to the two or three most important per project.

AAVCD data compilation illustrated the many "points of entry" projects use to "enhance rural family income by increasing the volume and value of farm family product sales". AAVCD projects assist input suppliers to increase sales; farmers to adopt new technologies; farmer groups to market increased volumes; traders to enter new markets; processors to improve product quality; support institutions to provide better services; partner firms to increase financing or investment; local NGOs to better manage grants; governments to improve technology dissemination, market information, regulations or policies. Given these many "points of entry", and the different approaches employed, the aggregation of project performance indicators into one large number may misrepresent what actually happened to value chain actors. The challenge is to develop monitoring and evaluation systems that compile and report aggregated numbers "to Congress at the country, regional and global levels" while ensuring performance monitoring and impact evaluations that reflect what AAVCD investments are buying; whether activities are accomplishing what they intended; and what changes would support broader and deeper program impacts. It is the dilemma of seeking broad trend indications from performance monitoring that concurrently provides granular insight into complex, dynamic and market driven value chain actor and system behavior.

"Value chains encompass the full range of activities and services required to bring a product or service from its conception to sale in its final markets—whether local, national, regional or global. Value chains include input suppliers, producers, processors and buyers. They are supported by a range of technical, business and financial service providers. Value chains have both structural and dynamic components. The structure of the value chain influences the dynamics of firm behavior and these dynamics influence how well the value chain performs."

From: "The Value Chain Development Wiki (http://apps.develebridge.net/amap/index.php/Value_Chain_Development)

II. Introduction

USAID's Bureau for Food Security (BFS) wants to learn from past agribusiness and agriculture value chain development (AAVCD) projects so that future AAVCD projects enhance rural family income by increasing the volume and value of farm family product sales. To enhance learning BFS contracted Weidemann Associates Inc. to conduct a two phase aggregate assessment of USAID's agribusiness and agriculture value chain development projects. The two phase assessment's objectives are to describe AAVCD project impact on small farmer and

pastoralist livelihoods, determine whether USAID investments have increased agribusiness and agriculture value chain profitability and competitiveness, and document "better practices" in agribusiness and agriculture value chain development.

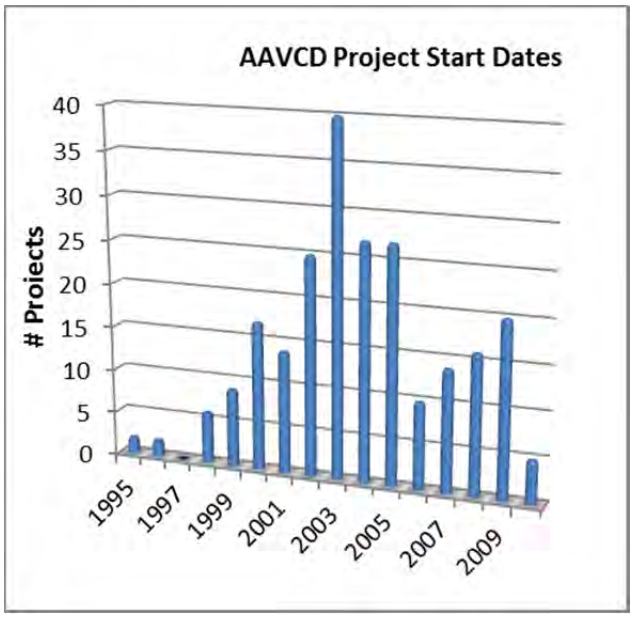
As stated in the Agriculture Knowledge Program Support Work Assignment #2 "Phase One will compile agribusiness and agriculture value chain project information, extract data from that information, reconfigure the data to facilitate comparison across projects, identify commensurable data and data shortfalls, and generate information and knowledge to underpin further "better practice" analysis and documentation".

This report presents the results of Phase One compilation and extraction of AAVCD project implementation and evaluation data and information. It is one piece of the Phase One deliverables specified in the Work Assignment #2 (WA 2). According to WA 2 Phase One was to "design and populate a database within important agribusiness value chain investment parameters including intervention level (farmer, agribusiness, supporting services such as finance, policy, etc.) and market orientation (domestic, regional, and international). Phase One will result in:

(1) A catalog of agribusiness and agricultural value-chain development projects that USAID has funded since 1998, from the start of the Rural and Agricultural Incomes in a Sustainable Environment (RAISE) Indefinite Quantity Contract (IQC);
(2) A data set drawn from these projects;
(3) Common indicator analysis of relative project impacts;
(4) Project characterization and comparisons of key results indicators, where possible;
(5) A description of indicators that are not commensurable, and recommendations for further analysis;
(6) A report on key findings and recommendations for Phase Two follow-up.

Phase One completion required various knowledge management capacities and tasks. To understand USAID's project reporting process an in depth experience with USAID procurement and project implementation and USAID's agricultural development history was needed. This need was due to the absence of key procurement and implementation information (such as project cost, performance period, indicator definition) in reporting documents. Phase One tasks included document search (through the Development Experience Clearing House (DEC); on line; USAID mission communications and follow up; implementing partner communications), retrieval, archiving, clarification, data extraction, data interpretation (is "new investment attributed to the project" a "net project benefit"? what is an "estimated increase in value added"?), project filing, database development/cleaning/maintenance, and meta-analysis.

This document describes Phase One results. It begins with background on the AAVCD assessment. It then identifies methodological issues that affected database construction and assessment progress and describes database structure. This is followed by sections describing how comprehensive the database is and answering AAVCD impact questions posed by BFS. In answering BFS questions the issue of data commensurability arises. Data commensurability is discussed along with a series of program management questions that the database can inform. It ends with some "lessons observed" and recommendations for AAVCD assessment Phase Two.

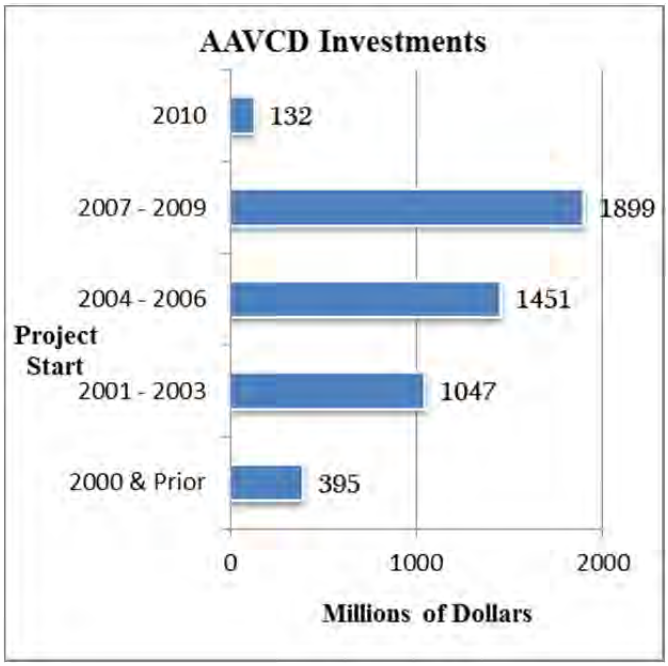


Up to the last day before deliverable submission the AAVCD assessment team continued to receive AAVCD project reports. The team tried to reflect this new information in this reports APM "meta-analysis". As each new report changed APM totals, frequency distributions and percentages this report's analysis may not exactly correspond with database variables. There may also be some minor internal inconsistencies.

III. Background

The most dominant aspect influencing Phase One's database population, common indicator analysis, and key results comparison was the macro and micro level change that affected USAID programs and performance monitoring during the 1998-2010 assessment period. As stated in USAID's January 19, 2011 "Evaluation Policy": "The number of evaluations submitted to USAID's Development Experience Clearinghouse (DEC) decreased from nearly 500 in 1994 to 170 in 2009, despite an almost three fold increase in program dollars managed." For agribusiness and agriculture value chain projects this "level of effort" decrease accompanied changes in project size, contractual reporting requirements, preferred performance indicators (i.e. different funding sources required different indicators), terminology (sectors, sub-sectors, clusters, value chains, supply chains) and commodity priorities (non-traditional exports, traditional exports, livestock/dairy, food staples, organic, fair trade). There were changes in cross cutting themes and between sector "synergies" (more, or less, coordination with HIV/AIDS, biodiversity, gender and global climate change investments). There were peaks and valleys in agribusiness and agriculture value chain development funding and funding "initiatives" that reoriented strategies and performance indicators in select USAID

countries. After 9/11 agribusiness and agriculture value chain projects emerged as key in achieving stability in conflict and post conflict countries while development joined defense and diplomacy as one of three national security "pillars". Agribusiness and agriculture value chain development projects also grew in importance in reducing illicit drug supply. International market change, economic growth and recession, and China's economic emergence affected agricultural food staple and export commodity prices.



There were also changes at the "micro-level". To varying degrees developing countries embraced free markets and private sector or multinational investment as engines of economic growth and poverty reduction. The spread of democracy meant more frequent leadership change and political dynamism. There were droughts, floods, earthquakes and other national and regional calamities. USAID became involved in the aftermath of military interventions in Iraq and Afghanistan. USAID increased its focus on empowering local institutions and promoting participatory development, public private partnerships, and global development alliances. USAID staff changed with retirement, different backstop priorities (the number of agriculture development officers shrank, then began to grow) and mission staff reorganization and change. These changes would have challenged effective performance monitoring even with an established and widely followed strategy and lexicon. Without those structures analytically rigorous comparison of project results across space and time is all but impossible.

BFS provided the AAVCD assessment team with Agribusiness Project Metrics (APM) to use in compiling AAVCD project performance information. The assessment team used these metrics in assessing AAVCD projects initiated in 1998 or after and costing $1 million or more. BFS also posed questions to be answered using APM data. These questions concerned the cost of all agribusiness and agriculture value chain development projects; the number of farmers reached and the cost per beneficiary; the number of value chains funded; the number of firms assisted; the agricultural development results (yield increases, hectares, farm income increases); and other questions.

The issue of data commensurability, and the validity of cross project measurement, arose at the outset of Agribusiness and Agriculture Value Chain Development Assessment Scope of Work (SOW) implementation. As stated in the SOW "The objective of this phase is to establish a common set of indicators against which results will be examined." and "The emphasis of Phase One will be on creating a data set that will establish a common set of indicators against which projects' results will be compared." The potential difficulty of establishing a common set of indicators for project results comparison was also recognized in the AAVCD Work Assignment that kicked off SOW implementation. In the final analysis it is not possible to determine the actual level of data commensurability by reading project documents. It appears that performance monitoring and impact assessment data compiled since 1998 does not allow the establishment of a common set of indicators for project results comparison. However, using APM variables to categorize AAVCD performance monitoring and impact assessment data has resulted in "common indicator groups". These groups allow a level of cross project comparison.

Phase One information gathering and database development was intended to set the stage for AAVCD Phase Two project assessment and better practice documentation. AAVCD database meta-analysis would identify projects for field assessment. Insight into USAID's overall agribusiness and agriculture portfolio management is also an important intrinsic database value. The database can show which countries/regions received AAVCD funding and when; common AAVCD project components; how frequently different funding mechanisms were employed; whether one mechanism was better than another for performance reporting; etc.

IV. Methodology Issues

The major methodology issue in learning from past AAVCD projects through database development and meta-analysis was whether project reporting would allow "common indicator analysis of relative project impacts" across projects, countries, time periods, and resource levels. As recognized in the AAVCD SOW the first element necessary for viable cross project comparisons was commensurable performance monitoring information. In other words, for a project in country X to be compared to a project in country Y project performance indicators would need to be the same, or very similar, in definition, measurement, and reporting format. In addition, given the APM indicators specified at AAVCD assessment initiation cross project comparison would mean limiting data extraction to projects that reported on strictly defined beneficiary, cost/beneficiary, farm income (with and without), firms assisted, jobs created, production, number of hectares and value added indicators "after the fact" (i.e. applying APM definitions to projects initiated up to 12 years prior).

The assessment team found that projects infrequently reported against strictly defined APM performance indicators. In fact there were few if any project reporting documents

that actually defined what was meant by beneficiary, farm income, firms assisted, estimated increase in value added, and other APM terms. This isn't to say that projects were not concerned with impact or on tracking performance. Of the 240 projects inventoried 153 had some form of "results framework" specifying quantitative indicators of project impact.

Relatively recent AAVCD projects described performance using standardized indicators from the U.S. Government's Foreign Assistance ("F") Framework (2006). To put the lack of AAVCD performance indicator standardization in perspective we note that the "F" Framework attempts to establish more systematic monitoring and reporting through the use of nearly 190 indicators for the eight program areas comprising the Promoting Economic Growth and Prosperity strategy goal. This large number of indicators stems from the complexity of the development process in that different countries require different interventions to overcome key economic growth constraints.

This lack of definition and reporting clarity affected AAVCD assessment deliverables:

- Common indicator analysis of relative project impacts;
- Project characterization and comparisons of key results indicators, where possible;
- A description of indicators that are not commensurable, and recommendations for further analysis.

To address the disjoint between what was hoped from the AAVCD assessment in terms of "project characterization and comparison of key results indicators" and "recommendations for further analysis" the assessment team defined the APM variables broadly and included in the APM spreadsheet "comments" section performance indicator "definitions" or "labels" drawn from project documents. AAVCD performance indicators employed since 1998 and grouped in this broadly defined way show a trend towards using indicators similar to those currently being developed under Feed the Future. Performance indicator issues are more specifically explored in the Appendix: Performance Indicator Data Sheets.

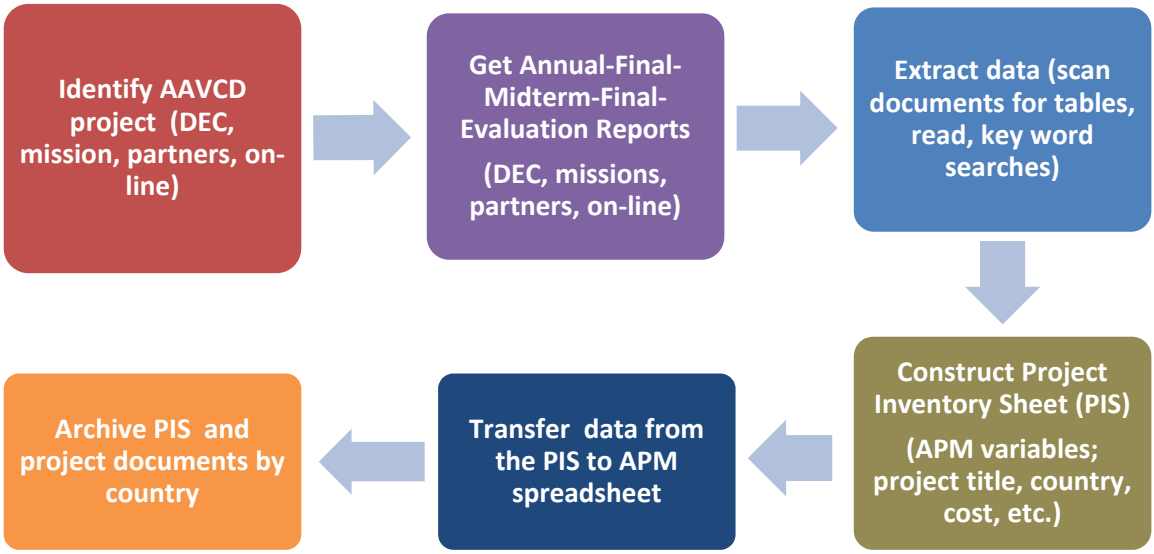
Another major assessment methodology issue was the variance in project reporting across quarterly, annual and final reports and mid-term and final evaluations. Project report and evaluation authors varied in their ability to present performance data clearly and consistently. As there were no mandated standard performance reporting formats project report internal consistency and consistency between project reports and evaluations was a major hurdle to understanding project implementation and impact. Internal and external evaluation objectives also varied. Missions frequently used external evaluations to assess

project management and performance impact while concurrently making recommendations for future USAID programming. This further reduced performance monitoring clarity and understanding. All this had a major impact on how easily AAVCD data was obtained, extracted and entered into the APM spreadsheet.

V. Database Structure

The AAVCD database is an unprecedented and comprehensive collection of agribusiness and agriculture value chain project information organized for convenient access. This graphic shows how the AAVCD database was constructed.

AAVCD Database Construction



The following components constitute the database:

1. **A Spreadsheet of Agribusiness Project Metrics (APM)**

   To structure and orient AAVCD database development USAID provided the following Agribusiness Project Metrics:

   a. **Core Information:** Country; Project Name; Type of Project (economic growth, crop diversification, food security, other); Funding Mechanism (contract, cooperative agreement, etc.); Project Timeframe; Implementation Status (# quarters completed at time of documentation); Total Cost.

b. **Beneficiaries:** Number of Beneficiaries; Number of Women: Cost/Beneficiary; Total Farmer Income with Project; Total Farmer Income without Project; Total Number Firms Assisted; Total Number of Jobs Created; Ratio of Firms to Beneficiaries;
c. **Investment Returns:** Net Project Benefits; Life of Investment; Internal Rate of Return;
d. **Production:** Number of Hectares; Total Production Increase; Increase Production/Farmer;
e. **Value Chain:** Number of Value Chains Funded; Estimated Increase in Value Added; Cost/Value Chain;
f. **Project Components (yes/no):** Did the project have activities in: Policy; Finance; Grant; Farmer Training; Enterprise Training; Ag Inputs Assistance?
g. **Comments:** The database "Comments" section hosts APM performance indicator "definitions" or "labels" gleaned from project documents. As performance indicator definitions differ this section clarifies the APM spreadsheet data and offers a snapshot of performance indicator definitions, or labels, employed to measure agribusiness and agriculture value chain development impact since 1998.

In addition the AAVCD Team added this information to the Project Inventory Sheets (PIS):

a. **USAID Mission:** useful in communications, project search, PIS retrieval, project sorting, etc.
b. **Available documentation:** The referenced project quarterly, annual, final or mid-term/final evaluation reports, websites, and brochures. In most instances the database includes an archive of the most important project documents. The PIS also includes the URL to an on-line document source or website. This will greatly facilitate project report access.
c. **Project Goal:** To understand project performance it is necessary to know the project's goal. It is noted that the words goal, objective, purpose, result were frequently used interchangeably.
d. **Results Framework:** A "yes/no" Results Framework column was added so that meta-analysis could explore whether having a results framework affected performance monitoring and reporting. The AAVCD team struggled with a lack of "Results Framework" definition and did not ascertain whether the project reports "Results Framework" was developed at project initiation. In the APM spreadsheet a "yes" showed that the report had any explicit tabulation of the results the project was to achieve/had achieved.
e. Implementing Partner: This is useful in finding and understanding project documents.

It should be noted that the APM performance indicators were not explicitly defined at the outset of database construction. Additionally, the AAVCD team did not find standard USAID definitions for APM variables. The AAVCD assessment team employed "intuitive" APM variable definitions when "testing" the first 75 AAVCD projects to see what "commensurable" performance indicator data the projects reported.

Test results indicated that using relatively strict definitions of "beneficiaries", "farm income", "estimated increase in value added", etc. would result in the majority of project document results being excluded from APM spreadsheet entry. Thus, to ensure the maximum amount of learning from reviewing AAVCD projects since 1998 the assessment team embraced "rolling" performance indicator definitions for the first 175 or so projects. "Rolling" indicator definitions aligned APM spreadsheet variables with AAVCD project reported performance indicators, ensured that the APM spreadsheet would enable AAVCD performance indicator "meta-analysis", and enabled documentation (in the APM spreadsheet "comments" section) of the "definitions" or "labels" employed by AAVCD performance reporting over the 17 years of project existence (1998-2015, including projects not yet completed).

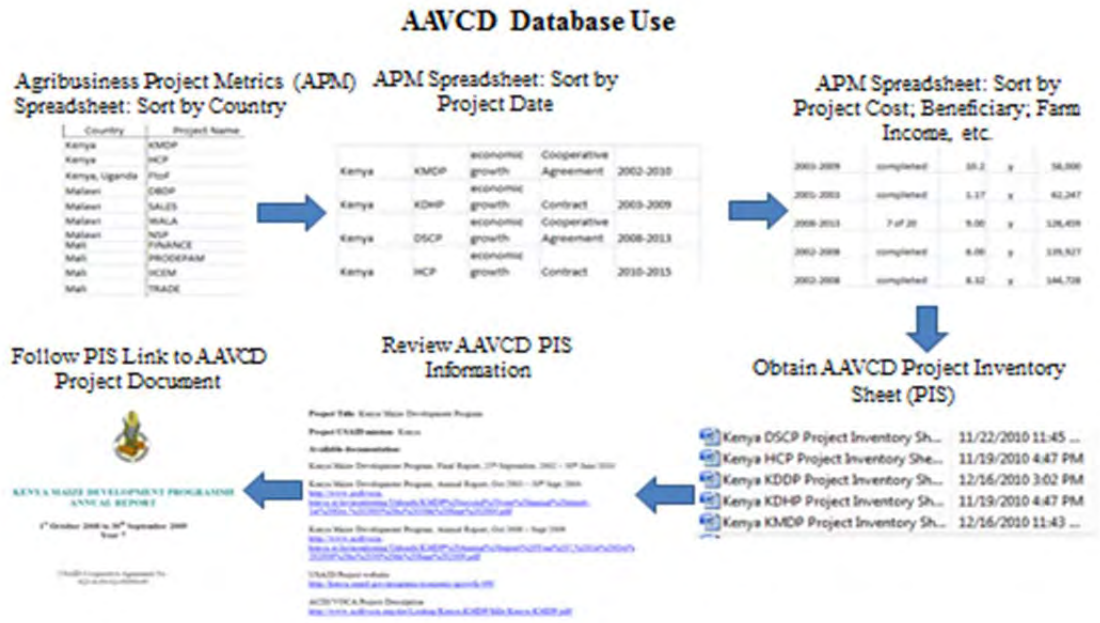
The downside of "rolling" indicator definition is that performance variables were classified in different ways as the assessment progressed. The most problematic definition was between "total farm income with project" and "estimated increase in value added" due to the large number of projects (around 168) that reported "increased" or "incremental" marketing or sales revenue as an indicator. The AAVCD assessment team classified marketing or sales revenue as "total farm income with project" if the revenue accrued to a farm household or farmer member organization and "estimated increase in value added" if it accrued to an agribusiness. While every attempt has been made to go back and "reclassify" project "farm income" and "estimated increase in value added" indicators as the "rolling" progressed the AAVCD assessment team recognizes that further "re-classification" may be necessary.

2. **Agribusiness and Agricultural Value-Chain Development Project Catalogue**

Project Inventory Sheets (PIS) were used to extract the APM spreadsheet data from each project. These 3-5 page documents, representing 240 AAVCD projects, identify the project documentation and compile project reported APM information. The catalogue is searchable using the Microsoft Word 2010 search engine. It will sort for variables such as country, project title; timeframe, project cost, implementing partner, type of value chains funded (by commodity), etc.

3. **Project Documents**

There is at least one project document for each project reviewed. Project documents include quarterly, annual and final reports; mid-term and final evaluations; brochures and web pages.



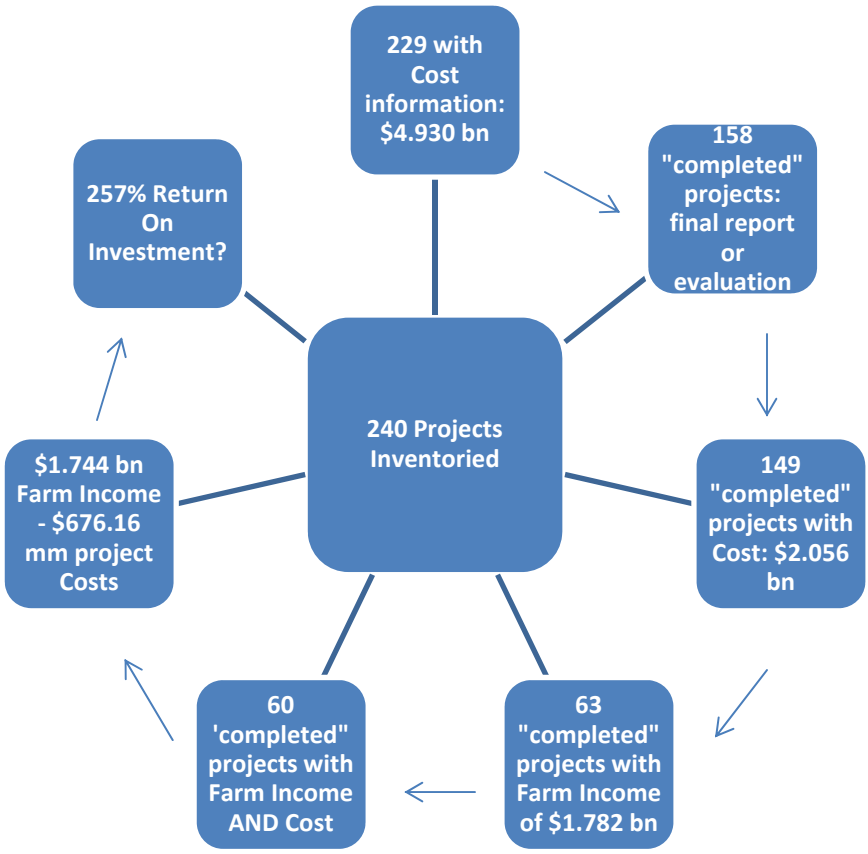
The above graphic depicts one approach to AAVCD database use. It starts from the APM spreadsheet with user identification of the country of interest and flows through the Project Inventory Sheet to the project document. Other database searches can begin with the Project Inventory Sheet or the actual project document.

VI: AAVCD Database: Data Comprehensiveness

The graphic below depicts AAVCD assessment data comprehensiveness. As can be expected not every project inventoried was physically completed (ie. had achieved End of Project (EOP) status); had submitted all of its project reports to the Development Experience Clearinghouse (DEC); had been evaluated; and had written project reports that included data to satisfy all APM spreadsheet variables.

Nonetheless, and with full recognition of data commensurability issues, there were a sufficient number of AAVCD projects that reported on some form of APM indicators (beneficiaries, firms assisted, total farm income with project, number of value chains, project components) to allow meta-analysis that informs further analysis of USAID's agribusiness and agriculture value chain development experience.

As shown below the exercise began with compilation of a large number (240) of AAVCD projects. It proceeded to the establishment of "project subsets": a) projects with complete documentation (with a final report and/or final evaluation); b) projects reporting cost information; c) projects reporting "total farm income with project"; d) a comparison of project costs with development results (in this example estimation of a form of return on investment). While the lack of data commensurability across projects is recognized meta-analysis can help in understanding USAID AAVCD investments.



VII. Database Meta-Analysis: Answering Project Impact Questions

This section answers questions from the AAVCD Assessment SOW. It also identifies those questions that could not be answered by analyzing APM data. Each question section provides "Recommendations for Further Analysis".

1) Indicator Commensurability

One SOW question asks: "How commensurable are results across the data set?" It is useful to address this question at the outset of answering the SOW's project impact and results questions. A definition of commensurable is "having a common measurement;

able to be measured by a common standard". As illustrated in Appendix 1: Performance Indicator Data Sheets, and referred to in other report sections, AAVCD project reported data does not appear to "have a common measurement" or be "able to be measured by a common standard". While it is impossible to tell the level of AAVCD data commensurability by reading project reports the lack of common performance indicator definitions would indicate that the data is not commensurable (i.e., without an explicitly stated common performance indicator definition it can be assumed that a "common standard" for measuring performance indicator change doesn't exist).

In addition APM data "completeness" varied by project. The table below compiles the most significant APM variables totals. Of the 240 AAVCD projects inventoried the assessment compiled project cost information on 229. Those 229 projects invested $4.930 billion. Also, of the projects inventoried 158 projects were "physically" completed (had ended and the assessment obtained final reports or final evaluations). Of those completed projects the assessment obtained cost information for 149 totaling $2.066 billion

	Number Projects Reporting (240 total)	Results Reported	Completed Projects Reporting (158 Total)	Results Reported
Projects Total Cost	229	$4.930 billion	149	$2.066 billion
Results Framework (Y/N)	237	153 had RF	158	104 had RF
Number of Beneficiaries	216	19,853,861	150	11,801,425
Number of Women Beneficiaries	130	1,689,570	88	834,722
Cost per Beneficiary /1	208	$231	142	$179
Total Farmer Income With Project	90	$2.407 billion	63	$1.782 billion
Firms Assisted	190	1,932,808	131	238,427
Total Number Jobs Created	91	1,325,086	61	725,055
Number of Hectares	82	14,602,712	47	12,723,739
Total Production Increase	54	2,117,079 MT	38	1,121,335 MT
Number of Value Chains Funded	223	1,797	150	1,260
Increase in Value Added	78	$5.553 billion	51	$3.239 billion
Cost per Value Chain/2	213	$2.74 million	142	$1.64 million
Policy	236	114	158	76
Finance	236	98	158	64
Grant	236	121	158	71
Farmer Training	236	223	158	148
Enterprise Training	236	219	158	146
Ag Inputs Assistance	236	128	158	79

/1 Projects Reporting Beneficiaries Total Cost divided by Number of Beneficiaries
/2 Projects Total Cost divided by Number of Value Chains Funded

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Additional statistics on the number and percentages of projects that reported on APM spreadsheet variables (beneficiaries, women beneficiaries, total farm income with project, estimated value added, etc.) is included in the following sections.

2) Project Impact Questions

(Note: The APM spreadsheet is updated on an ongoing basis with newly available project data and data reclassification due "rolling" database design. Therefore the quantitative results reported are indicative and there may be minor discrepancies with the APM spreadsheet.)

Question: What is the cost of all agribusiness and agriculture value-chain development projects that USAID has funded within the timeframe and what is the value of benefits (i.e. income) estimated to have been derived from these projects?

Answer: Of the 240 AAVCD projects inventoried the assessment team obtained cost information for 229 (95%). The combined cost of the 229 projects is $4.93 billion. The lowest cost project was $1 million and the largest $371 million. 149 of the 158 (94%) "completed" projects provided cost information totaling $2.066 billion.

For the "value of benefits" 90 of the 240 (37%) projects reported $2.407 "total farm income with project" information. The smallest "total farm income with project" reported was $339 and the largest $266 million. Of the 158 completed projects 63 (40%) reported $1.782 billion in "total farm income with project". 60 of the 63 completed projects that reported "total farm income with project" also provided project cost information totaling $676.16 million. Those 60 projects reported $1.744 billion in "total farm income with project". *Thus for the 60 completed projects that provided both "total farm income with project" and project cost information there was $1.744 billion in total farm income and project costs of $676.16 million.*

(Note: In the APM spreadsheet project reported "sales" revenue was classified as: 1) "total farm income with project" if there was a direct link between the sales and the farmer (cooperatives sales, for example); and, 2) "estimated increase in value added" if the sales revenue appeared to accrue to an agribusiness.)

Recommendations for Further Analysis: The variability in performance indicator definitions, measurement, and reporting notwithstanding 60 completed projects reported $1.744 billion of "total farm income with project" with an investment of $676.16 million. These projects should be further analyzed to determine whether this potentially

significant rate of investment return is real and whether these projects represent “better practices”. As the 60 “completed” projects provided both cost and benefit information they may represent “better practice” examples of performance monitoring and reporting. A review of whether these projects have fulfilled other APM data requirements is the first step in this analysis.

Question: How many farmers were reached and what was the cost/beneficiary (individually and through producer groups)?

Answer: Of the 240 AAVCD projects inventoried 216 ((90%) reported on 19,853,985 beneficiaries. The smallest number of project beneficiaries was 15. The largest number of project beneficiaries was 2,349,149. The 158 completed projects reported 11,801,425 beneficiaries. 150 (94%) completed projects reported beneficiary numbers.

Of the 240 AAVCD projects inventoried 130 (54%) reported 1,680,861 women beneficiaries. Of the 158 completed 88 projects (55%) reported 834,722 women beneficiaries.

Overall the $4.930 total project cost assisted 19,853,985 beneficiaries at an individual beneficiary cost of $248. Completed project costs were $2.066 with 11,801,425 beneficiaries or a cost/beneficiary of $175.

The APM spreadsheet also calculated the individual project cost/beneficiary. Adding up the spreadsheet calculated project cost/beneficiary for 158 completed projects (15 not reporting) and dividing by the number (143) of project “cost/beneficiary” yields a cost/beneficiary of $2407 with the smallest cost/beneficiary being $5 and the largest $37,000.

Recommendations for Further Analysis: The APM spreadsheet did not specify whether project beneficiaries were members of producer groups. This analysis is complicated by the lack of “group” title standardization. AAVCD projects used different combinations of producer/farmer/water user with group/organization/association/business and cooperative. Searching the AAVCD PIS files will identify projects with beneficiary groupings. Those projects could then be analyzed using the APM spreadsheet.

The variability of women beneficiary reporting does not reflect the important role of women in AAVCD project impact. Further APM analysis could determine whether women beneficiary reporting varied over time, between funding instruments, geographically, with commodity focus, etc. This could yield ideas on how to improve and make more comprehensive project reporting on women beneficiary.

Question: How many value chains were included in the project and what has been the approximate cost/value chain? Is there a relationship between the cost per value chain and the number of value chains funded?

Answer: 223 projects reported assisting 1,797 value chains at a total cost of $4.601 billion (for the 221 projects reporting number of value chains and cost). On average projects funded 8 value chains at a per value chain cost of $2.56 million. 141 completed projects provided both project cost and number of value chain information. These 141 completed projects funded 1,171 value chains at a total cost of $1.927 billion or an average cost of $1.645 million/value chain. 29 projects funded one value chain (usually dairy, but also coffee and maize) and one project funded 52 (mostly high value horticulture) value chains. The APM spreadsheet also calculated a "cost per value chain per project". Adding up those "cost per value chain per project" figures and dividing by the number of projects (141 projects that provided both project cost and number of value chains) gave an average value chain cost of $2.842 million. So, APM spreadsheet analysis approximates the project cost/value chain of $2.25 to $2.5 million.

APM spreadsheet analysis did not establish a link between cost per value chain and number of value chains funded. AAVCD project document review did not find any value chain activity based budgeting or reference to estimates of value chain development costs. Therefore it is inferred that there is no relationship between the cost per value chain and the number of value chains funded. The "value chain to fund" decision appears to have been opportunistic and based on USAID and implementing partner estimation of which value chain offered the best opportunity to enhance rural family income by increasing the volume and value of farm family product sales.

Recommendations for Further Analysis: Project reports did not routinely tabulate value chain numbers or costs. The AAVCD assessment team pulled out and tabulated identified value chains. While inferences can be drawn it wasn't possible to rigorously calculate value chain development costs with project reported information. Nonetheless, the AAVCD database allows estimation of the most frequently funded value chain (40 coffee value chains or 68 livestock/dairy value chains); what value chains were funded in which country; and when. The AAVCD database provides a useful tool if, for example, a US coffee roaster wants to identify new organic coffee sources and asks where USAID funded coffee improvement activities and when. A simple search will identify the countries, the projects, the implementing partners, and link to project documentation.

Question: What were the agricultural development results? (reported yield increases, hectares, farm income, off-farm income increase, production increases, as set out by the database parameters)?

Answer: (Note that farm income results were reported earlier.) Of the 240 projects 82 (34%) reported assisting 14,602,712 hectares, 54 projects (22.5%) reported assisting a total production increase of 2,117,079 metric tons, and 42 (17%) projects reported the number of beneficiaries and a total production increase allowing the APM spreadsheet's calculation of a per farmer production increase of 2.3169 metric tons.

There was no off-farm income indicator included in the APM spreadsheet and infrequent reference to off-farm income, per se, in project documents. However, the APM spreadsheet did enable the tabulation of "total number of jobs created" which has some implication for off farm income. 91 (38%) of the 240 projects reported on 1,325,086 jobs created.

Recommendations for Further Analysis: Although the APM spreadsheet sought one hectare and production increase number per project AAVCD projects reported on individual crop hectares and production. So, for hectares the APM number might reflect area under field crops, fruits and vegetables, greenhouses, irrigation, sustainably managed or organically certified husbandry, reforestation, etc. This same general distinction can be applied to "total production increase" where a number was entered that combined different crop tonnages, but also milk, meat, etc. As stated in the AAVCD SOW "Projects linking small farmers to markets generally define success in terms of increased family income resulting from increased volume and value of commodities marketed by farmers receiving project assistance." If AAVCD projects sought to increase family income by increasing production "volume" and "value" (i.e. some combination of sustained/increased revenue over reduced/sustained costs while increasing production/sales volume) then some thinking and analysis of why so few AAVCD projects reported on hectares and production is warranted.

Question: How many enterprises were assisted and what was the ratio of enterprises assisted to farmers assisted?

Answer: 190 (79%) projects reported on assisting 1,932,808 million firms. However, 219 projects reflected enterprise training activities in their reporting. For the entire APM database the ratio of "#firms" (1,932,808) divided by the "#beneficiaries" (19,853,985) yields a ratio of 1 enterprise assisted to 10-11 farmers. The 158 completed projects assisted 238,427 firms to 11,801,425 beneficiaries or 1 firm for around 49 beneficiaries. (Note that there is 1 project that reported assisting 1,569,024 firms.)

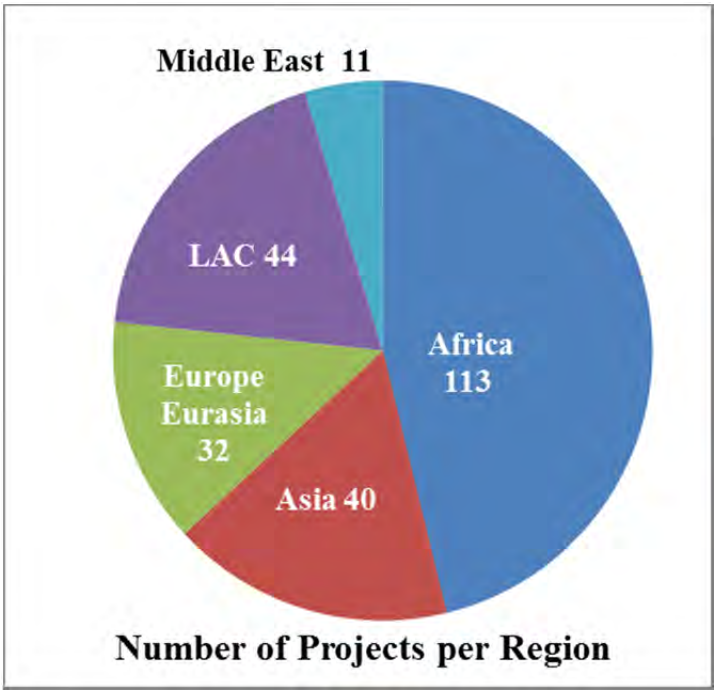
Recommendation for Further Analysis: As 190 projects provided information that allowed the calculation of firms (enterprises) assisted, and 219 projects reflected enterprise training activities, it is evident that enterprise training is an important part of AAVCD projects. Additional questions to explore through APM spreadsheet analysis include: a) is one type of funding mechanism used more than others in assisting

enterprises; b) are larger projects more apt to assist enterprises and farmers while smaller projects predominantly assist one or the other; c) what is the firm/beneficiary ratio that achieves best impact (as reflected in farm income, jobs, production, etc.); d) is there some relation between the firm/beneficiary ratio and women beneficiary reporting? estimated increase in value added reporting? project time period?

Question: How many farmers were trained and what were the total farmer training days? How many for enterprises? What, if any, relationship is there between training and results?

Answer: Of the 236 projects reporting 223 (94%) had farmer training components and 219 (93%) had enterprise training components. Thus the vast majority of AAVCD projects trained the vast majority of the 19,853,985 beneficiaries and 1,932,808 firms.

Recommendations for Further Analysis: AAVCD related USAID staff and implementing partners feel that farmer and enterprise training is effective in enhancing rural family income by increasing the volume and value of farm family product sales. Yet there was little to no project reporting on total farmer or enterprise training days. Why is that? Intuitively if that many USAID and implementing partner staff invest USAID resources in farmer and enterprise training then they must think there is a positive relationship between training and results. Why isn't there more rigorous training monitoring and training impact reporting? Using APM spreadsheet data the number of AAVCD beneficiaries trained should be estimated as well as whether the project reported on total farm income increase, jobs, total production increase, estimated increase in value added, and other APM indicators. This should be followed by a desk top review of projects with the most reported impact, testing the correlation between training, income, jobs, production, etc. and determining if further analysis could identify better practices. Given the level of USAID investment in farmer and enterprise training understanding how to make this AAVCD project component as effective as possible is warranted.



Question: Are there notable differences in performance between and among regions and are there any apparent differentiating factors?

Answer: From 1998 to present there have been completed or initiated 113 AAVCD projects in Africa, 40 in Asia, 11 in the Middle East, 32 in Europe and Eurasia, and 40 in Latin America and the Caribbean. The top eleven AAVCD project countries and the number of projects are Zimbabwe 11, Uganda 10; Afghanistan 9; Ethiopia 9; Kenya 9; Colombia 8; Zambia 7 and Mali, Rwanda and Tanzania 6.

There have been 99 AAVCD completed or initiated projects in the 20 Feed the Future countries with 33 in Priority 1 countries, 28 in Priority 2 countries, and 38 in Priority 3 countries.

Feed the Future Priority 1 country project costs were $553.39 million assisting 1,521,509 beneficiaries, including 173,670 women, and resulting in $184 million in farm income and 224,348 jobs.

Feed the Future Priority 2 country project costs were $476 million assisting 2,073,308 beneficiaries, including 323,141 women, and resulting in $284 million in farm income and 36,679 jobs.

Feed the Future Priority 3 country project costs were $456 million assisting 3,778,260 beneficiaries, including 786,165 women, and resulting in $641 million ($474 million for two projects in Kenya) in farm income and 7,254 jobs.

As might be expected Afghanistan was the largest recipient of AAVCD financial investment with 9 projects initiated after 2003 worth $1.127 billion, assisting 3,937,131 beneficiaries, including 32,776 women, and creating 331,891 jobs.

Colombia is the next largest AAVCD investment recipient with 8 projects initiated since 2001 worth $530 million, assisting 450,772 beneficiaries, including 61,577 women, resulting in $187 million in farm income and 339,371 jobs.

So, notable differences can be identified between and among regions. In this short analysis we see that USAID uses relatively large AAVCD projects in Afghanistan and Colombia to stimulate economic growth, promote stability and discourage illicit drug production. In Afghanistan AAVCD investments have benefited almost 4 million Afghans.

Feed the Future countries have received less AAVCD investment with the twelve 1st and 2nd Priority countries/regions almost equaling Afghanistan investments and benefiting 3.6 million beneficiaries. AAVCD document review shows that USAID investments in

countries with a direct link to US national security received the largest AAVCD investments.

Recommendations for Further Analysis: As the APM database identifies the AAVCD project country, country and regional analysis is possible to compare all APM variables. The validity of the comparisons will be limited due to data commensurability. Nonetheless from a program management perspective interesting insights into where USAID invests in AAVCD projects, why, and the broad results of those investments can be explored.

Questions: Are there notable differences in results by the type of products supported (high-value horticulture, staples, livestock) and project orientation (export, regional, local)?

Answer: 28% of AAVCD projects support dairy production (30% in Africa, 20% in Europe Eurasia), 21% of AAVCD projects supported livestock (cows, sheep, pig) (with 25% of these projects in Africa and 17% of in Afghanistan and Pakistan) and 16% supported poultry.

For high value crops 21% supported coffee (with half the projects in Latin America and the Caribbean and 40% in Africa), 15% supported tomatoes, 11% supported peppers (58% in LAC), 11% supported bananas, 7% supported pineapples (with half the projects in Africa and 44% in LAC) and 7% supported apples.

For staples 17% supported maize (with 75% of the projects in Africa), 14% supported rice (with 75% of the projects in Africa), 14% supported potatoes (with 55% of the projects in Africa), and 4% supported cassava (90% of the cassava oriented projects were in Africa).

30 (13%) projects were export oriented accounting for $2.997 billion (54%) of “estimated increase in value added” and $601 million (25%) of “total farm income with project”. 15 export oriented projects were in Africa (5 regional).

The above commodity support analysis indicates that the majority of AAVCD projects that support staples are in Africa and that a large part of the dairy production projects are in Africa. As Africa is not known for its staples or dairy exports one might infer that the majority of the $2.997 billion “estimated value added” resulting from export oriented AAVCD is not accruing to African value chains. However, Africa hosted 15% of “export oriented” AAVCD projects and 40% of the AAVCD coffee projects. Thus determining if there is an AAVCD trend to focus on staples or dairy in Africa and miss stimulating relatively profitable international market linkages requires additional analysis.

Recommendations for Further Analysis: Given the number of data variable relationships inherent in this question development of an APM relational database is needed to generate a comprehensive response. The transfer of the APM data to a relational database will take place as part of the AAVCD database placement on the web. When that has been accomplished more exact analysis of USAID commodity support trends can be examined.

(Note: The following questions deal with project components. Although 240 projects were inventoried only 236 had enough project documentation available to identify project components.)

Question: Were there any policy reforms introduced by the project that may have had a systemic sector-wide application of impact?

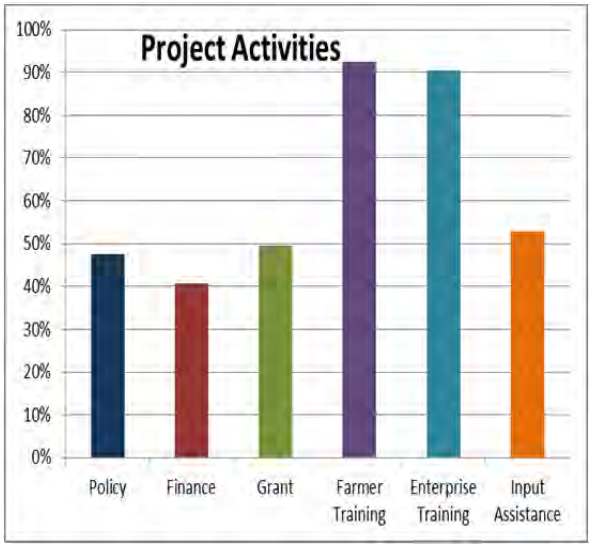
Answer: 114 (47%) of the 236 AAVCD projects had policy related activities while 78 (49%) of 158 completed projects had policy related activities. 28 "with policy" completed projects reported total project costs of $273.93 million resulting in $1.089 billion in "total farm income without project", a 397% "return on investment". 35 AAVCD projects without policy reported total project costs of $428.42 million and earned $676.86 million in "total farm income without project", a 158% return on investment. Completed projects "with policy" accounted for 7,685,017 (65%) of completed project beneficiaries and 184,193 (77%) of completed project firms assisted. Thus, there is some evidence that AAVCD projects with policy components had more impact at less cost than AAVCD projects without policy components.

Recommendations for Further Analysis: A country by country analysis of completed projects may yield additional insight into the impact of policy activity. For example Moldova had four projects with policy activities (1,395,648 beneficiaries including 11,458 women beneficiaries; no farm income reported; $84 million in estimated increase in value added) and Honduras had five projects (140,634 beneficiaries including 23,655 women beneficiaries; $73.05 million in total farm income; $11 million in estimated increase in value added) without policy activities. Although the "income" impact was similar ($84 million in value added for Moldova and $84 million in total farm income plus estimated increase in value added for Honduras) Moldova's beneficiaries were ten times those reported by Honduras. Was this due to the Moldova projects policy components?

Moldova was emerging from the Soviet Union when AAVCD projects were implemented so involvement in policy activities may have been all but unavoidable. However, aside from food quality concerns that are "second generation policies" Honduras AAVCD activities may have focused on value chains not significantly affected by government policy.

Ethiopia had 6 AAVCD projects, 5 without policy activities and one with policy activities. The one Ethiopia project with policy activities was a livestock value chain project supporting pastoralist and trader attempts to access international markets. That project reported 636,597 beneficiaries (beneficiaries are "pastoralists including small and medium sized traders"; women beneficiaries are "self-help group members") earning $122 million in “total farm income with project”. Does a concentrated focus on one important value chain lead to coalesced interests that more easily pursue policy reform? Or, is it the international market need for improved food standards for Ethiopian livestock competitiveness that drove the project’s policy activities?

Question: What combinations of activities typically comprise agribusiness value chain projects and how do they compare in terms of results?

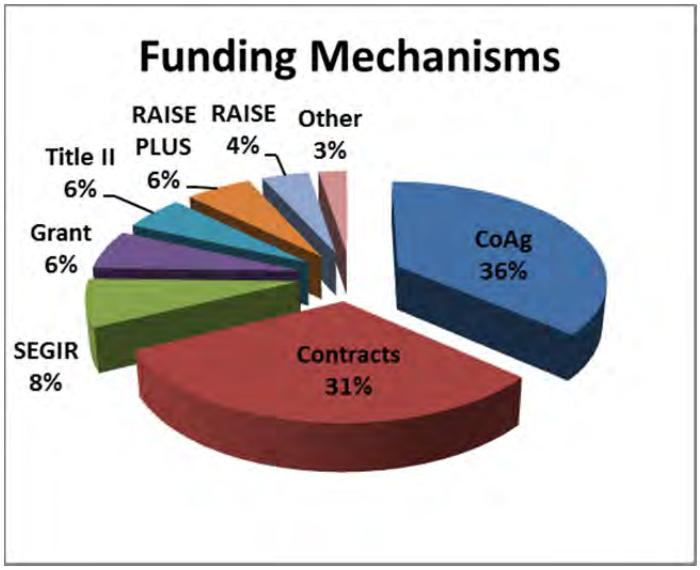


Answer: 114 of 236 (49%) AAVCD projects had policy activities. 98 (41%) projects had finance activities and 121 (51%) had grant activities. 223 (94%) of AAVCD projects had farmer training activities and 219 (92%) had enterprise training activities. 128 (54%) of AAVCD projects had some form of agricultural input activity. As the terms policy, finance, grant, farmer training, enterprise training, and agricultural inputs were not defined these percentages are only indicative of broad trends. However, it seems obvious that a typical AAVCD project will have farmer and enterprise training activities. For policy, finance, grant and agricultural inputs support the odds seem even that they would be included or not in an AAVCD project.

Recommendations for Further Analysis: Questions on the best combination of activities is at the crux of AAVCD database development and assessment. What combination of AAVCD project activities yield the greatest market driven rural family income increase? What implementation approach represents a ‘better practice”? The identification of best activity combinations would necessarily consider country; location; rural population; natural, cultural and policy context; performance period; investment size; value chain products; field mission strategic objective; etc. The AAVCD database can help in narrowing the potential field of project activities to be assessed and field assessments can further delineate better activity combinations and practices.

Question: Is there a cash flow and a benefits flow for reported projects? What is the projected return on investment?

Answer: There was little to no explicit project reporting on "cash flow and benefits". 10 of 240 projects (4%) reported some form of Internal Rate of Return. These 10 "IRRs" ranged from 5% ("net present value) to 566% ("for every dollar spent by USAID on Morocco IAAP $5.66 was generated in direct sales and investments"). Nonetheless the details of all project IRR calculations (with the exception of Pakistan PISDACs) were not specified adequately to understand the results.



Recommendations for Further Analysis: The AAVCD assessment team briefly reviewed Millennium Challenge Corporation (MCC) and World Bank agricultural development projects. Although MCC project design calculates Economic Rates of Return the team was unable to obtain any final MCC project reports and examine their use of project cash flow and benefits flow or IRR calculations. The assessment team did inventory 10 World Bank agricultural development projects and found that 60% reported Net Present Values and 80% reported IRRs. Given the low number of USAID AAVCD projects that reported NPVs and IRRs a review of MCC and World Bank NPV and IRR methodologies, including needed analytical capacity, data sources, surveys, etc. would inform USAID decisions on whether to formally require NPVs and IRRs in project reporting.

Question: What has been the distribution of projects across contracting mechanisms (RAISE IQCs, SEGIR IQCs, FTF LWAS, stand-alone projects, etc.). Also, how much by type of implementation mechanism: contract, cooperative agreement, and grant. Does the type of mechanism have any implications for results?

Answer: As seen during AAVCD assessment stakeholder discussions drawing inferences from the database on the implications of different contracting mechanisms is quite sensitive. Implementing partner and USAID reporting comprehensiveness and consistency and other variables affect the amount of information the AAVCD team obtained per contracting mechanism. There was also the issue of physically completed

versus ongoing projects, size and location of awards, etc. Nonetheless, the database does offer a useful tool for identifying broad trends if not in definitively understand causation.

Below is a table of the requested information and some idea on how to assess the implications of different contracting mechanisms on results framework, cost and beneficiary reporting.

Contracting Mechanism	Number of Projects	Value of Projects	Implications: Results Framework, Cost, Beneficiary Reporting
Contract	**76**	**$1.963billion**	**54 RF; 66 Cost; 66 Beneficiary**
Cooperative Agreement	**86**	**$1.804 billion**	**54 RF; 84 Cost; 79 Beneficiary***
Cooperative Agreement (Leader with Associates)	**2**	**$38 million**	**0 RF; 2 Cost; 2 Beneficiaries**
Global Development Alliance	**1**	**$1.066 million**	**0 RF, 0 Cost, 0 Beneficiary**
Grant	**15**	**$136 million**	**8 RF, 15 Cost; 14 Beneficiary**
MOBIS	**2**	**$28 million**	**2 RF, 2 Cost, 2 Beneficiary**
RAISE IQC	**10**	**$276 million**	**8 RF, 10 Cost; 10 Beneficiary**
RAISE PLUS IQC	**14**	**$77 million**	**6 RF, 14 Cost; 11 Beneficiary**
SEGIR IQC	**18**	**259$ million**	**9 RF, 16 Cost; 16 Beneficiary**
Title II	**13**	**$325 million**	**11 RF, 11 Cost 10 Beneficiary;**

Time and Materials IQC	**1**	**$33 million**	**No RF, Cost; No Beneficiary**
Farmer to Farmer (Cooperative Agreement)	**14**	**$92 million**	**8 RF, 14 Cost; 13 Beneficiary**

Recommendations for Further Analysis: This question exploring the distribution of AAVCD projects across funding mechanisms speaks to program management. For additional program management questions that could be answered through AAVCD database meta-analysis see section "VI. Database Meta-Analysis: Program Management Questions".

Question: How commensurable are results across the data set? What improvements should be made that would standardize reporting of this data? What are the most important gaps in the data set?

Answer: The issue of data commensurability is touched upon throughout this report. In general the AAVCD data is not adequately commensurable to draw definitive cross project results comparisons. However, as an AAVCD database has never been compiled before it is now possible to undertake database meta-analysis that can identify trends for further exploration and analysis. One example is in women beneficiary reporting. Given the importance of women in development and USAID's emphasis throughout the 1998-2010 period on gender disaggregated impact reporting exploring why only about half of inventoried and completed projects reported on women beneficiaries may be warranted. Another interesting finding is the large number of projects that include farmer and enterprise training without evident use of training effectiveness measurements. Finally, an important "gap" is the lack of standardized project reporting and evaluation formats requiring fundamental project information such as project cost, performance period (including explicit identification of contract extensions), contract number, implementing partner, results framework, tabulated results reporting, hyperlinks to other project documentation, evaluation schedule, etc. Although financial information may be a sensitive issue of widely distributed it would be useful if project reports included semi-annual or annual expenditures. Finally, as AAVCD projects are seasonal, and thus generate results seasonally, AAVCD performance monitoring and impact analysis should recognize that if a project ends half way through the last project year's harvest or marketing cycle then the full project impact may not be captured.

VIII. Database Meta-Analysis: Program Management Questions

In addition to increasing USAID knowledge and understanding of AAVCD project components, better practices and impact AAVCD database meta-analysis may also

increase insight into USAID's AAVCD planning and program management. AAVCD meta-analysis could help USAID understand how to improve performance monitoring and evaluation. There may be important correlations between the ability to obtain, monitor and report on performance monitoring information and the what, when, where, how and why of project design and implementation. Below are some exemplary program management questions addressed by AAVCD database meta-analysis.

1. Does AAVCD performance reporting vary by funding mechanism?

Funding Mechanism	Number Completed Projects	Percent Projects Reporting on Women	Percent Projects Reporting on Jobs	Percent Projects Reporting on Income	Percent of Data Fields Filled
Contract	47	51.06%	42.55%	31.91%	72.05%
Cooperative Agreement	61	73.77%	34.26%	44.26%	73.11%
Grant	14	42.86%	28.57%	57.14%	73.65%
RAISE IQC	9	88.89%	66.66%	55.55%	78.93%
RAISE PLUS IQC	1	0.00%	100.00%	100.00%	75.86%
SEGIR IQC	14	0.00%	7.14%	50.00%	66.75%
Title II	9	33.33%	11.11%	44.44%	70.49%
Other	3	66.67%	33.33%	66.67%	77.01%

2. Does AAVCD performance reporting vary by time frame?

Project Timeframe	Number of Completed Projects	Percent Projects Reporting on Women	Percent Projects Reporting on Jobs	Percent Projects Reporting on Income
2000 & Prior	33	51.51%	36.36%	33.33%
2001 - 2003	73	60.27%	21.92%	41.09%
2004 - 2006	47	51.06%	44.68%	46.81%
2007 - 2009	5	40.00%	40.00%	0.00%

3. Does AAVCD performance reporting vary by geographic region?

Geographic Region	Number of Completed Projects	Percent of Projects Reporting on Women	Percent Projects Reporting on Jobs	Percent Projects Reporting on Income
Sub Saharan Africa	69	56.52%	21.74%	27.54%
Asia	24	70.83%	37.50%	58.33%
Europe & Eurasia	25	36.00%	32.00%	36.00%
Latin America & Caribbean	30	56.67%	70.00%	46.67%
Middle East	10	60.00%	60.00%	90.00%

4. Does AAVCD performance reporting vary by project size?

Project Size	Number of Completed Projects	Percent Projects Reporting on Women	Percent Projects Reporting on Jobs	Percent Projects Reporting on Income
$5 mil and under	54	50.00%	25.93%	40.74%
$5-$25 mil	78	60.26%	46.15%	43.59%
$26 -$343	17	52.94%	35.29%	23.53%

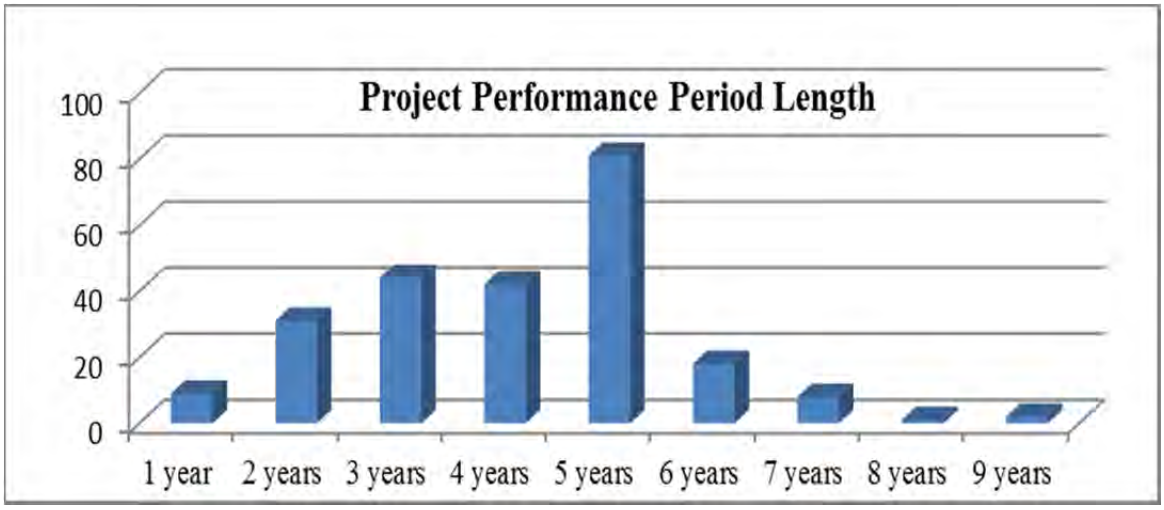
5. On average what proportion of project beneficiaries are women?

   10% of all AAVCD project beneficiaries are women. (eliminates projects that did not report on women)

6. Which countries had the largest completed agribusiness and agriculture value chain development projects? Which countries had the smallest?

   a. Largest Four Projects
      i. Afghanistan (ADP/S) $166 million
      ii. Afghanistan (RAMP) $145 million
      iii. Peru (PDA) $116.5 million
      iv. Bangladesh (SHOUHARDO) $99.2 million
   b. Smallest Three Projects
      i. Kosovo (KEAP) $1 million
      ii. Nicaragua (DEI) $1 million
      iii. Mali (Oils) $1.06 million
      iv. Uganda (REAP) $1.1 million

7. What was the most common AAVCD project performance period?



8. Which countries had the longest involvement (number of years) with agribusiness and agriculture value chain development projects?

Ethiopia, Ghana, Nepal and Uganda were involved with AAVCD projects for 12 plus years.

IX: Agribusiness Project Metrics Lessons Observed

This section describes "lessons observed" in compiling APM data. Additional insight into project reporting against APM spreadsheet variables can be found in Appendix I: Performance Indicator Data Sheets.

Core Information: Project report (quarterly, annual, final) and evaluation presentation of basic project information (project title, USAID mission, performance period, cost, implementing partner, funding mechanism and number, funding source) in a consolidated "Core Project Information Data Face Sheet" would facilitate understanding and cross project comparisons. Some projects submitted quarterly reports; some reported semi-annually; some annually; some had final reports; some had final reports that were combined with the last project year annual reports; some had monthly reports accessible on the project's website; some made extensive use of success stories. There were some project name changes during implementation or at contract extension. This variability made cross project learning more difficult. It also made it difficult for an external observer to understand the individual project.

The Type of Project (economic growth, crop diversification, food security, other) was not specifically stated but could be gleaned from the project location (ie. Colombia and alternative livelihood projects), project objective or "Funding Mechanism" (ie. Title II funded predominantly food security projects). The Funding Mechanism (contract,

cooperative agreement, etc.) was not stated in many project documents. The AAVCD team frequently assigned a "funding mechanism" category based on the implementing partner's for-profit or non-profit status. For the RAISE, RAISE PLUS, and SEGIR IQCs USAID provided project lists or awardees "self-identified" by providing project documents.

Project extensions (including option years) frequently eliminate some activities and focus on or expand others. While this may make resource management sense project managers should require that project reports include details of why and how the focus changed. Without this analysis the final report doesn't capture the entire project impact.

Obtaining project "total cost" was difficult. Frequently "total cost" data was not provided in final project reports or evaluations. USAID BFS attempted to provide comprehensive project cost information to no avail. The AAVCD assessment team obtained missing project cost data from implementing partners, USAID field missions, and on-line sources. In one case we obtained a projects cost from a mission's USPSC solicitation.

Evaluation teams varied in their ability to clearly describe project impact. Although evaluation documents often described data and information gathering methodologies they less frequently described how the methodology yielded certain performance indicator results. Final reports also made statements about performance without back up explanation or justification.

A project's success in attracting additional funding beyond the initial project award led to confusion in performance monitoring. Projects were asked to add HIV/AIDS awareness, OFDA funded emergency, Farmer to Farmer, or GDA performance indicators, with or without baselines, to indicators established at the outset of project implementation.

It is difficult, to impossible, for an external observer to reconcile the differences between performance impact data included in annual and final reports, evaluations, success stories and websites. This may create challenges for "aid transparency" as the amount of performance information, and its dissemination, increases. If there are discrepancies in data between the final report and the evaluation the evaluation scope of work should require an explanation from the evaluators as to why there were discrepancies. Currently it seems the discrepancies are simply accepted with no comment.

External or internal "evaluations" were called many different things. They were called "final evaluations", "technical evaluations", "impact evaluations", "end of term evaluations", "audits of management", "monitoring and evaluation reports" and other terms. Of the 236 projects inventoried 16 had mid-term "evaluations" and 35 "final evaluations". Evaluations appeared to lack standardized requirements such as inclusion of a project results framework, explicit statements describing project performance against

results framework indicators, requirements for basic project information, etc. In general external evaluations measured specific project impact more clearly than internal evaluations.

Evaluations sometimes measured progress against indicators established at project initiation or reassessed and established new performance indicators after project implementation had begun. Sometimes evaluations focused on recommendations for future projects, policies or programs. Evaluations that focused on helping the mission decide what to do in the following project cycle asked questions not directly related to performance monitoring results (ie. How is donor coordination handled? How was the project managed?). Many times the evaluation focus is "mutually exclusive". In other words, an evaluation that is primarily focused on recommendations for the future frequently does not report on performance against indicators.

Beneficiaries: AAVCD projects employed various beneficiary definitions. Beneficiary definitions were universally not stated in project documents. It appears that the most prevalent beneficiary determinant was participation. So, beneficiaries were counted if they participated in training, workshops, farmer field days, trade delegations, conferences, cooperatives or trade associations, and HIV/AIDS awareness training. Beneficiaries were also recipients of grants, loans (microfinance), seed or planting material, fertilizer, food aid and vouchers for equipment.

High beneficiary numbers were reported in projects that developed/changed policies or public and private institutions that would benefit farmers if farmers responded by adopting a technology, buying an input, selling a product, using market information, or not growing illicit crops. Beneficiaries also included new firms or associations initiated due to project activities. This variability and lack of definition notwithstanding the vast majority of agribusiness and agriculture value chain projects reported on the numbers of farmers, rural households and firms that received some form of AAVCD project support.

Some projects limited beneficiaries to project participants that experienced a tangible economic benefit. These beneficiaries usually adopted a new technology, received increased income, received a loan, or increased their firm's sales. Finally, a characteristic of projects with relatively strictly defined beneficiaries was the chance for double or even triple counting. Thus the same project indicators might report on firms who participated in export training, improved their management plans, had improved access to finance, and increased their sales due to USG assistance. Projects that reported on these indicators usually did not clarify whether a firm was counted under several categories or just one. There were several projects that reported on farmers as farmers and as MSMEs or SMEs.

Wide variability of how beneficiaries were counted affects the calculation and cross project comparisons of "Cost per Beneficiary". Farmer to Farmer (FtoF) had the most clearly defined beneficiary definitions (Standard Indicator Tables). However even with Standard Indicator Tables there was a lack of commensurability in results data depending on whether a FtoF volunteer's host was a farm, cooperative or business.

Without explicit and applied farm income performance indicator definitions performance measurement may depend on the observer's interpretation. Also, an observer's interpretation would depend on project goal interpretation. Thus a project that reports on farm stores or farm service centers may be combining agribusinesses that buy and sell agricultural inputs and outputs. In this case sales revenues could be from input sales. Input sales revenue would not be a farm family income performance indicator unless one assumed that improved inputs increase productivity and farm family income. If due to project support the farm service center increased the volume and value of farm family sales the observer may feel this was a reasonable increased farm income measure. Here is an example of what performance monitoring data a development practitioner not involved in the day to day management of this project might be asked to interpret.

E. Performance Benchmarks

Input/ Output Market Activity (IR 2.1)					
	Existing Baseline 2000	Yr. 1 **Achieved** 2001	Yr. 2 **Achieved** 2002	Yr. 3 **Achieved** 2003	**Achieved Thru 2nd qtr. 2004**
Total Farm Store Projects (cum.)	9	30	60	85	85
Total co-ops developed (cum.)	8	14	21	31	32
Number Stores purchasing outputs or providing output marketing	5	11	26	43	47
Volume of farm store business	$150,000	$1,100,000	$2,420,000	$6.1 M	$4.63 M
Year-to-year percentage increase in existing store sales volume	Baseline	147%	34%	N/A	N/A
Volume of farmer output marketed[2] (brokered, purchased or processed)	Baseline	$114,817	$5.6 M	$11.4 M	$1.03 M
Number of Farm Service Centers providing input/marketing services	4	6	7[3]	7[2]	7[2]
Number of AP processing/marketing enterprises expanding production and/or exports (cumulative)	7	9	11	14	14
Number of private farmers receiving services	25,000	242,228	420,193	410,757	235,500
Volume of FSC business	$3.0 M	$4.55 M	$5.4 M	$3.2 M	$1.94 M
Clients/farmers rec. training Total Men Women		5,447 4,063 1,384	8,083 5,957 2,126	4,440 2,920 1,520	4,260 2,742 1,518
New jobs created (cumulative) Total Agribusiness Partnerships Farm Stores Savings and Credit Assoc.		**New Indicator**	947 274 519 154	1,255 390 647 218	1,618 639 761 218

Financial Services Activity and Women in Development Activity					
Number SCAs created or strengthened (cumulative)	45	76	86	128	128
Number of SCA loans	2,603	7,200	9,455	12,284	12,284
Volume of SCA loans	$412 K	$1.5 M	$1.95 M	$4.42 M	$4.42 M
Number of loans in PFCP activity[3]	65	98	110	110	110
Volume of PFCP lending[3]	$750 K	$1.1 M	$1.13 M	$1.2 M	$1.2 M
Women in Development Activity					
Women in training seminars	110	1,384	2,126	1,520	1,518
Number of new women-owned or managed enterprises created (Cum)	2	3	3	3	3
Number of women-owned or managed enterprises assisted trained, consulted, etc. (Cum)	5	16	19	36	36

[2] Includes Farm stores, Farm Service Centers and Processing enterprises assisted through PFCP and AP-2
[3] Includes Agroagro Input Buying Cooperative
[3] Monetization project closed, results are through 12/31/2003

This is an important challenge given USAID's current evaluation policy that encourages use of "data collection and analytic methods that ensure, to the maximum extent possible, that if a different, well-qualified evaluator were to undertake the same evaluation, he or she would arrive at the same or similar findings or conclusions". To achieve this objective performance indicator specification across the wide range of USAID AAVCD projects must reduce or eliminate the evaluator's view or bias on how a project might affect farm income.

Often times "total farm income with project" is not reported for every project year. For the last project, as the project demobilizes, it is often "projected". Internal project performance monitoring ends before the harvest or sale of target farm products. This leads to under measurement of project performance results.

The generic APM terms “firms assisted” and “enterprise training” illustrate the difficulty creating a common performance indicator definition for agribusinesses, agro-enterprises, agro-processors, traders, input stockists, business development service providers, banks, microfinance institutions, MSMEs and SMEs, cooperatives, producer associations, producer groups, producer organizations and other members of the “value chain cluster”. The AAVCD assessment team identified “firms assisted” as any entity (excluding farm households) that received business development technical assistance or training. Although there were instances of double counting in project reporting the AAVCD team segregated, to the greatest extent possible, farmer and farm household beneficiaries from firms assisted.

The number of jobs is frequently a derived number. For example, one project used research generated crop production labor requirements to estimate the number of jobs generated by farmer adoption of a certain crop variety.

The “Total Number of Jobs Created” is an important and complex APM indicator. AAVCD projects can increase “on-farm” and “off-farm” employment. “On farm” employment usually means employment in cultivating or harvesting crops. Frequently, given agriculture’s seasonality, “on farm employment” increases from AAVCD interventions will not be full time, all year. Instead they will be full time for part of the year or part time for part of the year. Similar circumstances affect “off-farm” employment directly tied to AAVCD assisted value chains that grow and become more competitive and profitable (thus giving rise to more demand for labor and, thus, employment). The standard definition of “jobs created” is thus problematic for AAVCD projects that have used terms like “jobs”, “person months of employment”, “casual workers”, “on and off farm jobs”, “employment opportunities”, “full time jobs”, “part time jobs”, and “man hours worked”.

Investment Returns: Investment return indicators such as Net Project Benefits and Internal Rate of Return were infrequently used in project reporting and evaluation. The AAVCD assessment used the Net Project Benefits variable to capture something projects reported on frequently: new investment or net investment resulting from project activities.

Frequently project reports present performance indicator data in several different formats (aggregated/ disaggregated; annual/cumulative; in paragraphs or in tables) rendering it difficult to understand. It is often the case when a project reports on multiple year impact that it becomes unclear whether the year on year reporting is annual or cumulative. This, of course, would make Net Project Benefits (Net Present Value of Project Benefits) or IRR calculations impossible.

Production: Attempting to track production increases with one overall number does not reflect the multi-commodity focus of agribusiness and agriculture value chain projects. It also doesn't capture the different production techniques for field crops, high value crops (greenhouses), "plantation crops", licit/illicit crops, tree crops, etc.

AAVCD project impact is affected by agriculture's seasonal nature. When a project "demobilizes" the final report or evaluation often fails to reflect the project's last full year of impact (as the performance monitoring ends before the harvest, or before the full harvest is marketed). This has important implications given USAID's new policy that "The performance evaluation must be timed so that the findings will be available as decisions are made about new strategies, project designs and procurements. This will often mean, for example, that the evaluation will be designed and commissioned 18 months or more before the planned conclusion of the project." Given that the majority of AAVCD projects were 5 years in length, commissioning an evaluation 18 months before the planned project conclusion would mean the project was 75% completed and the years 4 and 5 where the most project impact would be expected will not be evaluated. The other two most common project performance period lengths, 3 years and 4 years, would be even less represented by an evaluation 18 months before project completion.

Value Chain: The "number of value chains" captured in the APM spreadsheet and the "cost/value chain" does not accurately determine the level of funding per value chain. AAVCD projects reports did not include activity based budgets or any reference to activity based budgeting so there was no evidence that costs were assigned to specific value chains. While implementing partner financial records may provide added insight into how much it cost to develop a specific value chain this issue was not explored in final project reporting or evaluation. Projects that work with multiple value chains have different costs, intervention intensity, time frames, farmers affected, etc. depending on value chain. "Cost per Beneficiary" also varies depending on the value chain. Finally, production and value is affected by weather and market variability. This makes it difficult to compare the cost effectiveness of value chain development investments within and across projects.

Relatively recent projects reported on two, three or four different sets of indicators: Initiative to End Hunger in Africa, Global Food Security Response, USAID Standard F Indicators, Feed the Future, and with different funding mandates PEPFAR, Title II, OFDA. Additionally these projects developed and employed project level performance monitoring indicators. AAVCD assessment findings could be enhanced by a chronology of when each new performance indicator initiative began and ended, whether there was overlap, why projects defined their own performance monitoring indicators, and the implications of concurrent use of centrally defined and project defined performance monitoring indicators.

X. Recommendations for Phase Two: Project Selection and Field Assessment

On January 19, 2011 USAID's Bureau for Policy, Planning and Learning issued an "Evaluation Policy". The Evaluation Policy states that "Evaluation provides the information and analysis that prevents mistakes from being repeated, and that increases the chance that future investments will yield even more benefits than past investments." It also describes "Concepts and Consistent Terminology" for impact evaluations, performance evaluations, performance indicators and performance management. Concurrent with the development of USAID's new Evaluation Policy USAID is developing a Feed the Future Results Framework with aligned Feed the Future indicators and a handbook of Feed the Future indicator definitions. Feed the Future country performance monitoring will generate data on 54 FTF indicators, 25 of which are required for USAID mission use to ensure comprehensive reporting on FTF initiatives. Several of these 25 project level indicators will be entered into a central M&E database.

The "Scope of Work for an Agribusiness and Agriculture Value Chain Development Assessment" reflects USAID's new evaluation policy and Feed the Future monitoring and evaluation initiatives. SOW implementation constitutes a "backward test" of the more standardized and relatively centralized M&E system USAID's new Evaluation Policy and the Feed the Future initiative are creating. AVVCD assessment Phase One has shown what USAID's past AAVCD performance monitoring experience has been. These insights can assist in further design and implementation of the Feed the Future M&E system.

The AAVCD SOW states that "Assessment Phase Two will focus on micro (field)-level results analysis of a sample of specific projects. The results of Phase Two analysis will be: (1) an assessment of how effective agribusiness value-chain investments have been at improving the livelihoods of smallholder farmers and their communities; (2) key findings and presentation of lessons that have been learned; (3) a framework providing guidance for future agribusiness value-chain investments; (4) recommendations for how results reporting should be standardized in the future; and, (5) material for an updated training program on agribusiness development for new hires, current staff and Foreign Service Nationals."

Finally, the SOW provides the following specific questions to be addressed during Phase Two:

- What are the most successful approaches to linking small farmers to markets that result in sustainable increases in family income? Is there a mix of project components that is more likely to realize this objective?
- How do social and economic conditions compare in those projects that have had greater impact, such as natural resource and geographic endowments (size of

landholdings owned and\or rented, access to irrigation water, etc.), proximity to all-weather roads, availability of potable water, electricity, telecommunications, etc?

- What was the role of private investment in the more successful projects? What was the role of public goods? Were there examples of public-private partnerships and how did these influence outcomes? How was private investment encouraged, nurtured, expanded to the benefit of small farmers?

- What were the key institutional components to successful approaches, e.g. government extension system support, public and\or private quality control laboratory support, national research system support, public education institutions, etc.?

- What were the original assumptions of the design, the underlying qualitative and quantitative information sources that were used, etc. and how did assumptions change from design to mid-term to the end of the project, and why?

- What are the key social capital components of successful market linkage for small holders, e.g. capacity of groups to form strong, viable, business-oriented producer associations, etc.? What is the necessary legal context?

- What are the key indicators that USAID should adopt as being the most relevant to monitoring project performance?

Answering some or all of these questions would provide material for these deliverables: (1) an assessment of how effective agribusiness value-chain investments have been at improving the livelihoods of smallholder farmers and their communities; (2) key findings and presentation of lessons that have been learned; (3) a framework providing guidance for future agribusiness value-chain investments; (5) material for an updated training program on agribusiness development for new hires, current staff and Foreign Service Nationals." In order to also respond to this deliverable "(4) recommendations for how results reporting should be standardized in the future" we propose a project selection process that depends entirely on the APM database. This seems to be the most effective way to address "standardized results reporting" issues while looking "backwards".

The first step in identifying specific projects for field level results analysis will be to define "development hypotheses" to be tested during field assessment. For example we repeat this SOW question and propose a development hypothesis:

Question: "What are the most successful approaches to linking small farmers to markets that result in sustainable increases in family income? Is there a mix of project components that is more likely to realize this objective?

Hypothesis: If small farmers are linked to markets using the correct mix of policy, grant, finance, farmer training, enterprise training, and inputs assistance then they will experience sustainable farm income increases.

From database meta-analysis we would identify the typical "increased farm income" project that would provide a basis for testing this hypothesis. For example, the completed project would be a 5 year Cooperative Agreement worth $13.865 million that started in 2003 in an African country. Project documentation will contain a results framework. The project would have assisted 78,676 farmers increase their income by $28.285 million (or $360 per farmer). The project would fund 8 value chains including livestock, dairy, coffee and maize. Project components will be farmer training, enterprise training and agricultural inputs assistance.

After identifying projects that are similar to this "typical" project we would apply the following "first cut filters" to AAVCD database projects:

a) projects that ended in 2008 or earlier. (This will focus field assessments on project impact sustainability.)
b) countries that have two or more projects;
c) the number of APM boxes filled (ie. the better an AAVCD project was in reporting against APM variables the more it should be considered for field assessment);
d) the number of APM boxes filled that align with Feed the Future indicators relevant to AAVCD projects;
e) commodity groups: livestock/dairy; food staples; non-traditional agricultural exports (horticulture, etc.); traditional agricultural exports (coffee, tea, cocoa);
f) the feasibility of field level assessments in the identified country (conflict and post conflict countries, etc.);

The application of these filters will result in a short list of projects for Phase Two field assessment. This short list of projects will then be subject to a "feasibility assessment" that:

a) determines whether sufficient project information will be available (in country and from other sources) to underpin significant field assessment findings;

b) identifies those Phase Two SOW questions that can be addressed through analysis of the selected project. (For example, knowing the original assumptions of project design may require focus on more recently designed and initiated projects);

c) estimates individual project field level results analysis costs including level of effort and technical skills required;

d) schedules, on a preliminary basis, field assessment travel itineraries including time in country.

The results of the "first cut filters" and the "feasibility assessment" will be the preliminary list of projects for field assessment and a project by project description of how that project was selected. This list will be submitted to USAID for review, comment and approval.

Additional questions would be addressed using additional hypotheses. For example, this question:

Question: "What was the role of private investment in the more successful projects? What was the role of public goods? Were there examples of public-private partnerships and how did these influence outcomes? How was private investment encouraged, nurtured, expanded to the benefit of small farmers?"

Would lead to the hypothesis:

Hypothesis: "If an AAVCD project resulted in significant private investment then it sustainably increased the value and volume of rural farm family products and sales.

Database meta-analysis will identify the typical "private investment" project that would provide a basis for testing this hypothesis. The 13 or so completed projects that reported some form of private investment result would be scrutinized to select one or two for the application of the additional "filters" and "feasibility assessment". Given the lack of "commensurability" in the AAVCD database it is suggested that answering the SOW questions by testing several development hypotheses, then developing a typical project that is subjected to the proposed filters and feasibility assessment would avoid the "cherry picking" inherent in selecting projects from 'best project performers". It is also the best way to select projects that may have not performed as expected and to "learn from failure".

It is also recommended that Phase Two:

1) Make the AAVCD database available to a wider audience of agribusiness and agriculture value chain development practitioners through development of a AAVCD website or other form of on-line distribution.

2) Address questions from "VI. Database Meta-Analysis: Program Management Questions" and "VII. Database Meta-Analysis: Answering Project Impact Questions" "Recommendations for Further Analysis" that USAID feels might inform AAVCD project design and implementation going forward.

Appendix I: Performance Indicator Data Sheets (PIDS)

Introduction: The "Scope of Work for An Agribusiness and Agriculture Value Chain Development Assessment" states that "The results of Phase Two analysis will be: "(4) recommendations for how results reporting should be standardized in the future;" To set the stage for possible results reporting standardization recommendations this appendix describes and analyzes AAVCD performance indicator data obtained from projects implemented since 1998. In assessing the value of results reporting standardization this appendix groups AAVCD performance indicators using the Agribusiness Project Metrics labels provided by USAID: beneficiaries, firms assisted, jobs created, farm income with project/without project, net project benefits, internal rate or return, production increase/production increase per farmer, estimated value added.

Performance Indicator Data Sheet #1: Beneficiary

1. Introduction

The number of beneficiaries is an important project impact measurement. Past AAVCD project reporting seems to illustrate that the more beneficiaries reached the more successful a project is in raising farm family income and spurring economic growth.

2. AAVCD Beneficiary "Definitions" and "Labels

Below is an exemplary list of beneficiary labels, gleaned from AAVCD projects:

- Households
- Farmers
- Farmer Organizations
- Farmer/Producer organization members
- Families
- Farm household members
- Vulnerable and rural households
- Sesame and onion producers
- Enterprises trained
- Agribusiness people trained
- Cooperative members
- Processors
- Extension Agents
- Suppliers
- Collectors
- Networked clients
- Firm operators trained

- Participants in the value chain
- Pastoralists
- Members of trade associations
- Trainees
- Number of people trained
- Number of people benefiting from USG project services
- Direct and Indirect beneficiaries
- Networked Clients – this is primarily attendees of various project sponsored training programs but also includes recipients of vouchers, participants in out-grower schemes
- Firms
- Dairy producers
- MSMEs
- SMEs
- Members of self-help groups and cooperatives
- Number of "women's associations"
- Farmers who accepted to add more chili to their plantation

As can be seen projects employed many different beneficiary "labels". It is assumed that the labels reflected project goals and objectives including where the project intervened in the value chain.

In addition to the beneficiary "label", project beneficiary counting and reporting varied. Some projects reported beneficiaries by activity or component without providing a total number of project beneficiaries. Other projects scattered beneficiary information throughout the project report without a total tabulation. In this case the AAVCD team compiled a final project beneficiary number.

Many projects did not specifically identify target beneficiaries but did report on project trainee numbers. Many times trainee numbers would group farmers, farm households, farmer organization members, agribusiness operators or employees, government officers, etc. In some cases projects combined direct and indirect beneficiaries without distinction. A few project "results frameworks" indicated that project impact on indirect beneficiaries was expected and monitored. Frequently indirect beneficiary numbers were estimated by multiplying one number (farmers) by an average number (average number of farm household members).

Many projects had non-AAVCD value chain components such as employment generated by public works projects or food aid recipients. These projects frequently did not disaggregate beneficiaries making it difficult to determine which beneficiaries were affected by which AAVCD project component. While it is understandable that AAVCD projects responding to varying country conditions would adjust beneficiary labels the lack of explicit beneficiary definitions, varying target populations, and the inconsistent manner of project reporting makes cross project comparison of beneficiary and cost/beneficiary numbers irrelevant.

3. Other Definitions

Millennium Challenge Corporation (MCC) projects consider beneficiaries to be individuals who realize improved standards of living, primarily through higher incomes, as a result of project generated economic gains.

Many individuals will participate in MCC-funded training; use services improved by MCC funding or enjoy MCC project outputs (improved school environments, subsidized irrigation, improved roads). However, only a portion of these participants and service user will realize higher incomes. MCC only counts beneficiaries that realize higher income due to project interventions. Consistent with standard poverty measurement practices, MCC considers the household the most practical unit of measurement, which reflects the underlying assumption that when one household member earns additional income, all household members benefit. It is noted that final MCC project reports and evaluations have just recently become available. It remains to be seen how only counting project participants that realize higher incomes will affect project results.

4. Comment and Preliminary Recommendation

As stated in the "Scope of Work for An Agribusiness and Agriculture Value Chain Development Assessment" AAVCD projects "enhance rural family income by increasing the volume and value of farm family product sales". To do this AAVCD projects attempt to intervene at the most propitious part of a multi-participant value chain. Any one of the value chain participants that receive project assistance could be (and as illustrated has been) labeled a '"beneficiary". However, focusing on the ultimate beneficiary would lead to a definition that refers to the "farm family".

The AAVCD assessment found that grouping farm family and firm beneficiaries into one beneficiary number prevents the observation and measurement of "enhanced rural family income". However, it is also difficult to totally disaggregate individual farm households based on project service provision. In fact, the spread of new ideas and approaches from one farm family to the next underpins agricultural innovation.

In general the participation of individual farm family members in groups or organizations can reduce farm business development costs (reduced service delivery transactions costs, bulk input and output marketing). It would also seem that performance monitoring would be less costly if it focused on farmer groups as opposed to individual farm families. Thus, from both a development impact perspective and a performance monitoring cost effectiveness perspective it may be a good idea to identify, and define, farmer groups or organizations as a preliminary AAVCD project beneficiary. Nonetheless, as USAID field mission capacity to adapt to local environments, opportunities and farm community needs is key to success we must be careful that USAID investments not be driven by performance monitoring cost effectiveness needs.

Performance Indicator Data Sheet #2 "Firms Assisted"

1. Introduction

The APM "total number of firms assisted" is an important "output" indicator. Project assistance that increases firm profitability and competiveness on domestic and international markets should increase market demand to "enhance rural family income by increasing the volume and value of farm family product sales". However, for the value chain to succeed firms that buy farm family products must be joined by firms that provide complementary business development, financial service, and technology dissemination services. This multiplicity of value chain firm objectives and incentives makes firm definition and impact measurement difficult.

2. AAVCD Firms Assisted "Definitions" and "Labels"

AAVCD projects worked with wide range of agribusiness and agriculture value chain participants. Therefore it is understandable that AAVCD projects did not employ a common definition for "firms assisted". Instead the AAVCD team compiled "firm assisted" numbers based on project provision of services that enhanced firm profitability and competitiveness. So, if a farmer group, producer organization or cooperative received project services that enhanced their profitability and competitiveness the AAVCD team identified that producer organization or cooperative as a "firm assisted. Below is an exemplary list of "firms assisted" labels".

- Trade Associations
- Farmers Associations
- Production and Irrigation Management Groups
- Savings and credit organizations
- Producer Associations
- Trade and Business Associations
- Community Based Organizations
- Coffee and Chili cooperatives
- Farmer Business Groups
- On and Off farm enterprises created
- Processor
- Micro-finance institution
- Business Development Service provider
- Micro-enterprises
- On-farm and off-farm enterprises
- Dairy farm organizations or Dairy processors
- Firms receiving capacity building assistance to export
- Supported professional agribusiness groups
- Savings and credit organizations

Projects often discussed the number of farmer cooperatives or associations reached without defining them as a "firm". Similar to beneficiary reporting, projects reported on

firms in an inconsistent manner with information scattered throughout the project report and not summarized in tables. The number of firms was often not reported by component thus raising the risk of double counting. In many instances the AAVCD team compiled the number of "firms assisted".

3. Other Definitions

InvestorWords.com says that a firm is "Any business such as a sole proprietorship, partnership or corporation. A business is defined as a commercial activity engaged in a means of livelihood or profit or an entity which engages in such activities." AllWords.com provides the definition of a firm as; "In economics, a collection of individuals grouped together for economic gain."

Wikipedia says that "A business (also known as company, enterprise or firm) is a legally recognized organization designed to provide goods, services or both to consumers or tertiary business in exchange for money. Businesses are predominant in capitalist economies, in which most businesses are privately owned and typically formed to earn profit that will increase the wealth of its owners. The owners and operators of private, for-profit businesses have as one of their main objectives the receipt or generation of a financial return in exchange for work and acceptance of risk. Businesses can also be formed not-for-profit or be state-owned."

4. Comment and Preliminary Recommendation

The AAVCD assessment found that grouping farmer member organizations, with "sole proprietorships, partnerships or corporations" detracted from understanding where value chain development interventions might have their most impact on enhancing rural family income by increasing the volume and value of farm family product sales. The AAVCD team took the initiative to assign "farmer group/organization/cooperative" sales revenue to the "total farm income" category and agribusiness/trader/exporter sales to the "estimated value added" category. This seemed to be a good way to focus AAVCD project impact on the farmer or the firm. While it can be assumed that the increased sales of the "agribusiness/trader/exporter" emanated from the farm family intuitively farmer group/organization/cooperative sales would seem to enhance rural family income more directly.

To disaggregate farmer groups, producer organizations and cooperatives from value chain firms it may be advisable to count the number of private enterprises, trade and business associations assisted individually and not grouped with farmer organizations. Thus, a distinction would be made between a farmer member "firm assisted" and a "sole proprietorship, partnership or corporation" so that "beneficiary" reporting is more clear. As recommended above identification of the "farm family" as the ultimate beneficiary and "farmer groups" as their "unit of measurement" would help clarify whether the farm or the firm is receiving AAVCD project services.

Performance Indicator Data Sheet #3: "Total Farmer Income With/Without Project"

1. Introduction

Total Farmer Income with Project is an important indicator for AAVCD projects that "enhance rural family income by increasing the volume and value of farm family product sales". Yet of the 158 completed projects only 62 (39%) reported "some version" of "total farm income with project". Although value chain participation isn't the only determinant of "total farm income with project" farm family income change that results from value chain participation is the starting point for measuring AAVCD impact.

2. AAVCD Farm Income "Definitions" and "Labels"

Below is an exemplary list of labels compiled during the AAVCD project assessment.

- Total Association Gross Income
- Total value of sales increase
- Reported per farmer per month and multiplied by total number of beneficiaries
- Reported by enterprise
- Marketed volume and value of outputs by unions or pre union cooperatives
- (local currency unit) per month per household
- Increase income per participant or per household
- Value of sales by assisted producer groups
- Reported per acre
- Value of purchases from farmers
- Percent Increase
- Increase in marketable surplus resulting in $XX sales for XX smallholders
- Percent increase over base line (without baseline specified)
- Gross income margin per hectare
- Income of farmers 2003 -2006
- Sales of produce and commodities
- Total client sales
- Aggregate total across all value chains
- Combined value of organic sesame sales
- Value of total sales of coffee, cacao and tomatoes
- 1,744 beneficiaries increased their average income by $250
- Total net sales over three crop cycles
- High value crop sales and livestock
- Net Income generated by producer groups
- Increased incremental income across all hosts adopting
- Value of production marketed by producer organizations
- Increase client household income
- $1,500 per family of additional income
- Value of marketed commodities

- Value of purchases from smallholders of targeted commodities
- Value of agriculture, natural resource and tourism exports

Some form of "total farm income without project" was reported by 14 completed projects. "Total farm income with project" was sometimes reported for individual value chains and frequently not reported for all project assisted value chains. "Total farm income with project" was frequently reported as a percentage increase over an unspecified baseline or in local currency thus injecting exchange rate determination into potential cross project comparisons. Some AAVCD projects reported a "total farm income with project" number while others reported an individual farm income with project number and left it to the observer to multiply by the number of beneficiaries to obtain the project total. Some projects provided a gross income figure while others recorded a net income figure. Only a few projects aggregated all the value chains together to report "total farmer income with project" for the project. The majority of AAVCD projects linked farm income to marketing or sales.

3. Other Definitions

On Answers.com "farm income" refers to profits and losses incurred through the operation of a farm. A farm income statement (sometimes called a farm profit and loss statement) is a summary of income and expenses that occurred during a specified accounting period. This period is usually the calendar year for farmers (January 1 - December 31)

Investopedia states that "In U.S. agricultural policy, farm income can be divided as follows:

- Gross Cash Income: the sum of all receipts from the sale of crops, livestock and farm related goods and services, as well as any direct payments from the government.
- Gross Farm Income: the same as gross cash income with the addition of non-money income, such as the value of home consumption of self-produced food.
- Net Cash Income: the gross cash income less all cash expenses, such as for feed, seed, fertilizer, property taxes, interest on debt, wages, contract labor and rent to non-operator landlords.
- Net Farm Income: the gross farm income less cash expenses and non-cash expenses, such as capital consumption and farm household expenses.
- Net Cash Income: a short-term measure of cash flow.

4. Comment and Preliminary Recommendation

The APM spreadsheet's unit of "total farm income with/without project" measure is millions of dollars. This aggregation reflects a desire to use the APM spreadsheet for cross project comparisons. Also, aggregating beneficiary, or "farm income", for an entire project and comparing it to project cost gives some sense of investment return. However, if production costs increase along with farm income the "farm income" may not indicate

a reduction in rural family poverty. Nonetheless, the SOW states that AAVCD projects "enhance rural family income by increasing the volume and value of farm family product sales". To ascertain if increased rural family income contributes to rural farm family poverty alleviation gross margin analysis is necessary. This can be buttressed by tracking household expenditures.

In all of this information costs come into play. The least costly "total farm income with project" indicator may be "value of incremental sales" by the farmer group or organization. This is especially attractive if the farmer group or organization tracks and report this number as part of its monthly profit and loss statement. In this way the farmer group or organization is deeply involved with project performance monitoring while concurrently generating essential business management information. In addition the farmer group or organization's first profit and loss statement can serve as the project and farmer group or organization baseline.

Performance Indicator Data Sheet #4: "Total Number of Jobs Created"

1. Introduction

The number of jobs created by a value chain project is an important yardstick of a projects success. If an AAVCD project results in a large number of full time jobs it may have made a significant impact on the economic wellbeing of its target population. Creating jobs can reduce poverty and raise a household's standard of living.

2. AAVCD Jobs Created "Definitions" and "Labels"

Below is a list of exemplary project labels for jobs compiled during the AAVCD assessment.

- Jobs
- Person Months of employment
- Casual workers
- Person days
- Formal and informal work days created
- Estimated employment increase
- New employment days
- Work days
- Permanent jobs
- On and Off farm jobs
- Employment opportunities
- Full time jobs
- Full time equivalent
- Part time jobs
- Man hours worked
- Jobs that were created or enhanced by the project
- Permanent employment and seasonal labor

- Employed people in any given week

Although jobs are an important indicator of overall economic impact, projects often did not report on the number of jobs created as a result of project interventions. Many projects included part time jobs together with full time jobs.

3. Other Definitions

Business Dictionary.com defines full time employment as : “In general, a paying job that involves 35 or more (usually 40) hours of work during a week”

The U.S. Department of Labor does not delineate a definition of what is meant by the term "full-time job." The information refers to the Fair Labor Standards Act (FLSA), which suggests that the employer has the responsibility of clarifying an employee's status in this regard. However, the standard work week as it has come to be understood is a 40-hour time period within one week. Another interpretation of the definition of a full-time job is one that requires a minimum of 35 hours per week, depending on the situation of employment

FTE is defined as 2080 hours a year which can be obtained by multiplying 5 * 52 *40 or 5 days per week times 52 weeks (260 days) in the year times 40 hour work week.

4. Comment and Preliminary Recommendation

AAVCD projects frequently reported on some form of “jobs created” without specifying how the number was obtained. If projects were required to define their “jobs created” indicator in each project reporting document, and describe measurement challenges and how those challenges might affect indicator redefinition, some consistency in jobs created definition and measurement might accrue. Of all of the AAVCD indicators “jobs created” seems to be the least difficult to define. The definition should include a set number of hours/week and a minimum number of weeks/year. Project reporting should also allow for part time or seasonal jobs and attempt to report part time or seasonal jobs separate from full time jobs.

An important project design and performance monitoring issue is how job creation affects rural family income and firm profitability and competitiveness. AAVCD project implementers may decide that it isn’t possible to increase firm profitability and competitiveness, demand for increased volumes and values of rural family projects, and jobs created concurrently.

Performance Indicator Data Sheet #5: “Net Project Benefits” and #6 “Internal Rate of Return”

1. Introduction

The APM spreadsheet Net Project Benefit indicator was not defined and may be closely aligned with Net Present Value (NPV). The Internal Rate of Return (IRR) definition is easily obtained. The two measure investment returns and have not been widely used in economic development to date. Information on these indicators was rarely reported by AAVCD projects. Very few projects attempted to measure economic impact utilizing IRRs and NPVs. Because NPVs and IRRs were rarely reported the AAVCD team used these data categories to compile other types of "quazi-net project benefit" information.

2. AAVCD Net Project Benefit "Definitions" and "Labels"

Below is an exemplary list of "Net Project Benefit" type data categories.

- Total value of investment increase
- Total investment minus total benefits
- Value of new investment
- Additional investment leverage by public-private partnerships
- Total client and counterpart investments
- Cumulative monetary benefit
- Net Present Value of Extra Value Added
- Additional Export revenue from all project interventions
- Millions of dollars in milk sales over baseline
- "revenue gains and cost savings due to project market information system"
- Impact on economy of Bolivia
- cumulative new sales (total sales that would not have occurred without CDA assistance) over the same three-year period"
- New investment generated by IAAP
- Documented production cost savings
- Net present value of extra value added
- Value of additional agricultural production to the economy
- NPV on the cocoa processing plant
- Private investment and additional project funding attracted
- Investment generated by ADP activities
- Sales minus Length of Project Costs

Given the absence of an APM investment variable, the SOW's recognition that investment is an important AAVCD project objective ("Generally these projects have as their objectives that USAID investments will serve as catalysts for sustained private-sector investment and growth.") and the low level of "Net Project Benefit" reporting the AAVCD assessment team used the Net Project Benefit variable to compile "new investment" information. While this "new investment" data did not explicitly net out project costs they do constitute a seemingly important and positive AAVCD impact indicator.

3. Other Definitions

The three APM "Investment Returns Indicators" (Net Present Value of Project Benefits (NPV), Life of Investment, Internal Rate of Return) are related. The advisability of their use in results reporting standardization must spring from a common understanding of their calculation. Fortunately methodologies and data needs for NPV and IRR calculations are widely known.

The methodology for calculating Net Present Value is

1. First determine the net revenue stream of benefits.
2. Determine how long these benefits will last (Life of Investment)
3. Utilize a logical opportunity costs of capital for the project's investment period. (The going interest rate or a rate derived for development projects.)
4. Plug these values into the formula: $\frac{R_t}{(1+i)^t}$

Where *t* - the time of the cash flow; *i* - the discount rate (the rate of return that could be earned on an investment in the financial markets with similar risk.), R_t - the net cash flow (the amount of cash, inflow minus outflow) at time *t*.

For a more detailed explanation as to how this works go to the following link:
http://en.wikipedia.org/wiki/Net_present_value

The resulting number is a comparison of revenues over time against project costs to arrive at net present value of project benefits. The higher the resulting number the more favorable the project impact. In some cases the NPV will be negative if project costs are greater than benefits. The units are dollars or local currency equivalent. NPVs are most frequently used before the fact to compare competing investment alternatives.

Internal Rate of Return is a very similar number only instead of utilizing an opportunity cost of capital, the formula is set up to solve for the interest rate. This interest rate ® is the internal rate of return. If the project is/was a good investment the IRR would be higher than prevailing interest rates (cost of capital).

The formula for IRR is:

$$\mathrm{NPV} = \sum_{n=0}^{N} \frac{C_n}{(1+r)^n} = 0$$

For more information as to how this works go to the link below:
http://en.wikipedia.org/wiki/Internal_rate_of_return

The resulting number is the interest rate expressed as a percentage return. So a 15% IRR means that you obtain a return of 15% for every dollar invested in this project.

Internal rates of return are commonly used to evaluate the desirability of alternate investments or projects. Nonetheless, information for the calculation of these indicators could be assembled and analyzed at the end of the project (ie. after all dollars have been invested and final impact surveys completed). The projects benefits and the time frame for those benefits must be projected over time.

4. Comment and Preliminary Recommendation

Utilizing NPV and IRR to standardize AAVCD project results reporting may enhance learning. However, it remains to be seen how the variable environment in which USAID makes AAVCD investments, and the form of those investments, would affect initial NPV and IRR assumptions and eventual cross project NPV and IRR comparisons. There would also be issues concerning data availability and accuracy and USAID staff or implementing partner capacity. To an extent these constraints can be assuaged with common NPV and IRR software

That being said relatively few of the AAVCD projects used NPV or IRR indicators to measure performance. As stated earlier:

"There was little to no explicit project reporting on "cash flow and benefits". 10 of 236 projects (4%) reported some form of Internal Rate of Return. These 10 "IRRs" ranged from 5% ("net present value) to 566% ("for every dollar spent by USAID on Morocco IAAP $5.66 was generated in direct sales and investments"). Nonetheless the details of all project IRR calculations (with the exception of Pakistan PISDACs) were not explicitly specified."

If USAID is going to use NPV and IRR calculations effectively in standardized project results reporting then basic stipulations on and definitions of project costs, benefits, life of investment, and interest (or discount) rate will need to be stated and employed.

It is also recommended, on a preliminary basis, that standardized project results reporting include some form of "new investment attributed to project interventions" indicator. This indicator could include "capital" investments at all value chain levels (excluding on farm technology adoption financed by "operating" investments but including "fixed" investments such as irrigation equipment or storage), reported by the beneficiary or firm, and verified by implementing partner staff or evaluators.

Performance Indicator Data Sheet #7: "Total Production Increase/Increase Production per Farmer (MT)"

1. Introduction

In that AAVCD projects "enhance rural family income by increasing the volume and value of farm family product sales" it seems important to track changes in farm production due to project interventions. Although a farmer's production and income will vary with external factors such as climate and commodity prices AAVCD project

interventions traditionally seek to increase total farm production as a way of increasing marketing and income. Surprisingly very few assessed AAVCD projects reporting on production changes (52 projects, 22%).

2. AAVCD Total Production Increase "Definitions" and "Labels"

Below is a list of exemplary labels compiled during the AAVCD assessment:

- Household Percentage increase
- Production per farmer
- Total Production Increase
- Animals Marketed
- Produce purchased from farmers in 2010
- Cumulative sales volume facilitated by project
- Change in total output of production from baseline
- Production for one value chain out of 32 assisted
- Percentage yield increase
- Percentage over 2003
- Percentage increase per acre
- Produce marketed between 6/2003 & 9/2003
- Production increase per hectare
- Tons of rice millet/sorghum and shallots processed
- Expressed as the total metric tons of rice, potatoes and mangos produced
- Volume of value added commodities and products
- For wheat, tomatoes and soybeans only
- Average tons/ha for corn in two provinces
- Percentage increase of milk per lactation
- Percentage increase in milk production per cow
- Marketed annual HVC production
- Percentage increase over baseline
- Aggregate production of all crops
- Produce purchased from farmers
- Percentage increase over traditional yields
- Percentage increase over baseline in marketable production
- Percentage increase in cow productivity
- Percentage increase per acre
- Range of percentage increases
- Millions of liters per cow
- Tons of milk
- Liters per day
- Cumulative sales volume facilitated by project
- Increase yield per hectare of potato, sweet potato, banana, beans

As stated above “total production increase” was infrequently tracked and reported and there was little consistency in measurement or reporting. Production measurement was sometimes reported for only one of the many project assisted value chains. This overcame the dilemma of generating one “total production increase” number for several crop, animal and processed (dairy) products but may have under estimated impact. Total production increase was often reported as a percentage increase without stating a baseline amount. There were projects that reported a total aggregate number for the project and those that reported production per farm household. Only a few projects utilized a production increase figure that was expressed per farmer.

3. Other Definitions

Investopedia: A measurement of the amount of a crop that was harvested per unit of land area. Crop yield is the measurement often used for a cereal, grain or legume and is normally measured in metric tons per hectare (or kilograms per hectare). Crop yield can also refer to the actual seed generation from the plant. For example, a grain of wheat yielding three new grains of wheat would have a crop yield of 1:3.

It is also referred to as "agricultural output”. To estimate the crop yield, producers usually count the amount of a given crop harvested in a sample area. The harvested crop is then weighed, and the crop yield of the entire field is extrapolated from the sample.

For example, if a wheat producer counted 30 heads per foot squared, and each head contained 24 seeds, and assuming a 1,000 kernel weight of 35 grams, the crop yield estimate using the standard formula would be: 30 X 24 X 35 X 0.04356 = 1097 kg/acre. And since wheat is 27.215 kg/bu, the yield we estimated would be 40 bu/ac.

4. Comment and Preliminary Recommendation

In the APM spreadsheet the “Increase Production/Farmer” is a spreadsheet calculated number derived from the “Number of Beneficiaries” and “Total Production Increase”. Thus the accuracy and validity of the “Increase Production/Farmer” number depends on the definition, accuracy and validity of the “Number of Beneficiaries” and “Total Production Increase” number. Although this performance measurement “construct” was posited at AAVCD assessment initiation it highlights the interdependency of AAVCD impact reporting and the value of two things that frequently don’t exist: 1) rural farm family homogeneity; 2) marketing standards consistency (ie. weights, measures, quality standards).

This lack of homogeneity and consistency mitigates against realistic standardized performance results reporting. The farm family that responds to market demand will produce a plethora of products and quantities that vary over time and space and with agro-climatic conditions. Therefore, comparing production increases between farmers growing sorghum in Mozambique and green house vegetables in Kenya, for example, may not indicate which project approach holds the most promise. Generating one total

production increase number per project, or per farmer, over various crop, animal and processed products will also not report project impact accurately.

Nonetheless, it is important for AAVCD projects to monitor whether their interventions are increasing farm family production, why and/or why not. And it may yield valuable insights for USAID programming if projects working with certain crops grown consistently by large numbers of farm families routinely measure and report on their impact. So, for example, projects dealing with milk production could be required to use a standardized project impact reporting methodology for comparison across countries and projects. Other commodities that were most produced by AAVCD projects include livestock products, coffee, and tomatoes. For staples, their predominance in African AAVCD projects (maize and rice by 75% of the projects, cassava by 90% and rice by 55%) merits special attention. Given the complexity of the rural farm family enterprise mixes that AAVCD projects seek to make more profitable and competitive it would seem to be relatively easy to standardize project results reporting by focusing on a few key and widely produced and marketed value chain products

Performance Indicator Data Sheet: #8 "Estimated Value Added"

1. Introduction

Value Added is an important AAVCD concept. Competitive and profitable value chains that add value at every "link" can "enhance rural family income by increasing the volume and value of farm family product sales". A good indicator of a value chain's performance, horizontal and vertical linkage strength, information flow, trust, transparency, risk sharing and upgrading is value chain revenue and volume growth.

Estimated Increase in Value Added was rarely reported by projects during the agribusiness and value chain assessment. Often when it was reported it was not referred to as a value added figure but rather a revenue, sales or export number.

2. AAVCD Estimated Increase in Value Added "Definitions" and "Labels"

Below is a list of exemplary labels compiled during the AAVCD assessment:

- Total value of sales increase
- Sales of agricultural produce to date
- Incremental exports achieved by project for targeted commodities
- Increased gross value of sales
- Increase in agricultural exports
- Increased incremental net income across all hosts adopting
- Value added Sales
- Value of agriculture/natural resource/tourism based exports" minus "baseline exports";
- Exports from RATES supported industries;

- Value of grain passing through project established "grain bulking centers";
- Estimated amount of sales of green coffee sold
- Assisted 35 rural enterprise clients, which generated $4.7 million in revenues and benefited over 27,000 households
- Contributed to local economy
- Firm sales from a survey of 53 beneficiaries
- New exports to world markets
- Combined sales value of GEM arranged marketing agreements
- Assisted 35 rural enterprise clients which generated $4.7 million in revenues and benefitted over 27 households
- Estimated range of values
- Expressed as a percentage 15.72% for coffee and 3.1% for tea
- Value of value added commodities and products
- Present value of benefits
- Increased milk sales and income from new Milk Collection Center jobs and member farms
- Dollar value of exports from southern Africa as a result of USG assistance (AGOA and non-AGOA)
- Increased gross value of sales
- Increased process food exports
- Increase in sales over baseline international trade in fresh vegetables, the IEHA product indicator
- Exports regionally and to the US
- Exports facilitated
- Total value of exports in targeted sectors in which firms are receiving USG assistance to increase their exports
- Reported as a sales figure and exports sales figure
- Project estimated a percentage attribution of the countries additional export earnings to the project
- Increase value of trade between two countries
- Project assisted sales
- Incremental exports achieved by the project in the targeted commodities from 4/2006 – 9/2010

AAVCD projects almost never reported on value added. When they did report a value added number there was often no explanation of the methodology employed. Nonetheless, the AAVCD team extracted figures for 71 entrees for “Estimated Increase in Value Added”. Some form of sales was the most frequently reported figure categorized by the AAVCD team as “Estimated Increase in Value Added”. Sales that appeared to emanate from farm groups or producer organizations were entered as “Total Farm Income with Project” while sales that seemed to emanate from firms were entered as “Estimated Increase in Value Added”. As the above list shows, the numbers most frequently found for this variable were total sales figures, export sales or increase trade either between countries or within a region.

3. Other Definitions

The value chain wiki provides several references to "value added" and the importance of sustained growth and "upgrading" in the value chain.

"In order to respond effectively to market opportunities, firms and industries need to innovate to add value to products or services and to make production and marketing processes more efficient. These activities, known as firm-level upgrading, can provide MSEs with higher returns and a steady, more secure income through the development of knowledge and the ability to respond to changing market conditions. Upgrading at the industry-level focuses on increasing the competitiveness of all activities involved in the production, processing and/or marketing of a product or service and mitigating the constraints that limit value chain performance. Upgrading needs to be a continual process and can lead to national economic growth. In value chain analysis, the objective is to identify opportunities and constraints to firm- and industry-level upgrading; specifically the analysis looks for catalyst firms with the incentives, resources and willingness to promote and facilitate upgrading within the chain. "

Wikipedia and BusinessDictionary.com define value added as follows: "Value Added is used in several ways to indicate an enhancement to a product or an entity. By one definition, value-added is the difference between the cost of materials purchased by a firm and the price at which it sells the goods that use those materials."

"Value Added is a higher portion of revenue for integrated companies, (e.g., manufacturing companies, and a lower portion of revenue for less integrated companies, (e.g., retail companies)."

"In national accounts used in macroeconomics, it refers to the contribution of the factors of production (i.e., land, labor, and capital goods) to raising the value of a product and corresponds to the incomes received by the owners of these factors. The national value added is shared between capital and labor (as the factors of production), and this sharing gives rise to issues of distribution."

About.com Economics provides another definition; "Value added is a measure of output. Value added by an organization or industry is in principle: revenue less non labor costs of inputs where revenue can be imagined to be price times quantity and costs are usually described by capital (structures, equipment, land) materials, energy and purchased services. Value-added is a measure of output which is potentially comparable across countries and economic structures.

4. Comment and Preliminary Recommendation

The "Estimated Increase in Value Added" metric appears to be a difficult to standardize performance result. Given the many variables that contribute to a products "increased value

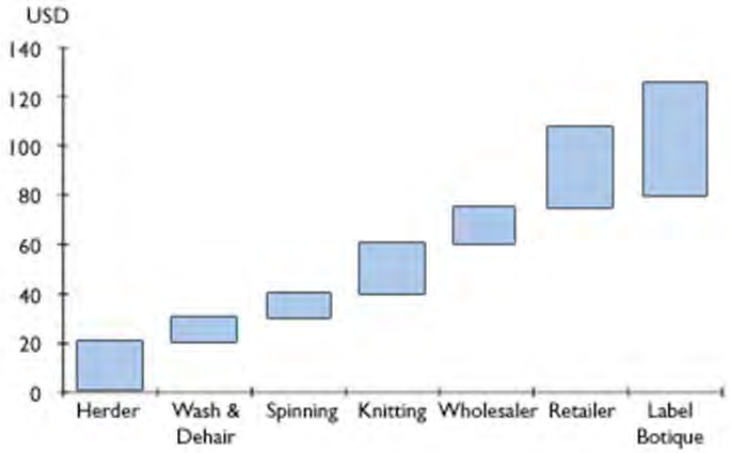
added" (final product sales price times quantity) over costs (production, transport, processing, packaging, wholesaling, retailing, financing) it would seem nearly impossible to standardize measurement and attribute change to project or non-project influences. And, if it was possible to standardize measurement there would be the seemingly insurmountable challenge of ensuring value chain performance data accuracy and commensurability.

Here is the Value Chain Wiki's description of how to ascertain value added:

"The first step in mapping the distribution of value added is to record prices (i.e. gross output values) at the different stages in the chain for one unit of a good beginning at raw material and ending with the final product sold to the consumer. Next, to assess value added at each link, total input costs (such as bought-in materials and contracted services) need to be subtracted from the recorded prices. This exercise identifies the roles of each segment and the incremental value that the market assigns to each role based on additional inputs and services to the product.

The results are typically presented in a graph like the one below. This example shows the build-up of the net revenue of one kilogram of Mongolian cashmere from herder to retailer. Over 60 percent of the value of the end product is captured by the knitting, wholesaling, and retailing activities."

Mongolia: Net Revenue per kg of Cashmere for each Function in the Value Chain



Source: Nathan Associates Inc. and J.E. Austin Associates, Inc

Data must be collected from primary sources by interviewing (or surveying) a representative sample of key respondents in each link of the chain (sales and finance functions of the economic unit would be the most helpful). The analyst should triangulate information between buyers and sellers. Typically, value chain actors' participation is promoted in workshops where preliminary results can be refined and validated.

Other difficulties that are likely to be encountered stem from the fact that certain value-adding activities, such as marketing, design, or production, will not always correspond with the activities of individual economic units (i.e. some firms may be vertically integrated and perform most of the value-adding activities while others firms could be more specialized). Additionally, there could be different technology and or production methods involved (and thus different business models). Likewise, products sold in different markets or at different times of the year can fetch different prices. In these cases, it could be useful to create multiple scenarios to account for these differences.

It is also important to note that value-added can also be quantified per activity within each economic unit (such as a firm, plant or a farm). Indeed, the role each discrete process play in adding value can also be measured and benchmarked against those of competitors. **This information is typically more difficult to obtain and would require that value chain participants employ activity-based accounting systems.** Overall, the objectives set forth by those conducting the analysis and the amount of resources at hand will determine how deeply value distribution is analyzed." (http://apps.develebridge.net/amap/index.php/Quantitative_Analysis#Mapping_Value-Added_Distribution)

Nonetheless, in standardizing performance results that measure change in the "volume and value of farm family product sales" some indicator of value chain performance beyond the farm gate is necessary. It appears from the AAVCD assessment that AAVCD project implementers are adept at monitoring and reporting on some form of value chain sales. They have reported on farmer group/producer organization sales, exports, regional and international trade, sales through collection centers or warehouses, etc. Although sales changes don't necessarily reflect increased revenue over costs (ie. value added) if their growth is reflected in increased farm family value chain participation sales may be a valuable "proxy" for value added. However, in terms of project impact reporting it will be important to track how sales affect that part of the value chain targeted by the AAVCD project. Also, the calculation of changes in sales will require some reference to what happened before the project or in areas with similar value chains but no project interventions.

Performance Indicator and Analysis Guidelines #9: "Number of Value Chains Funded/Cost per Value Chain"

1. Introduction

The AAVCD assessment Phase Two calls for recommendations that would help to achieve standardized performance results reporting. Two of the APM variables were "Number of Value Chains Funded" and "Cost per Value Chain". The second variable was calculated by the APM spreadsheet if there was data for both the Project Cost and Number of Value Chains Funded variables. Intuitively if USAID new how much it cost to upgrade a value chain and could compare that costs to the benefits of upgrading a rationale for value chain upgrading could be conceptualized. In addition comparing value chain upgrading costs across value chains and countries may yield important insight on

how to invest USAID AAVCD monies to enhance the volume and value of rural farm family product sales.

Value chains differed from project to project and many projects worked with farmers in several value chains simultaneously. Many papers and studies have been written about value chains and there is a large amount of value chain information on USAID's value chain wiki. Many value chain projects began prior to USAID value chain wiki existence. This challenged website designers to look back and determine which projects or activities should be categorized as "value chain projects" or utilized a "value chain approach". (http://microlinks.kdid.org/good-practice-center/value-chain-wiki)

2. AAVCD Value Chains Funded

Here are some of the AAVCD value chains funded since 1998.

- Vegetables
- Onions
- Shallots
- Peppers (including chili)
- Tomatoes
- Fish
- Textiles
- Wheat
- Maize/corn
- Millet
- Sorghum
- Rice
- Potatoes
- Cassava
- Bananas
- Plantains
- Oranges
- Mango
- Apples
- Pineapples
- Sesame
- Garlic
- Cashew
- Beans
- Peanuts
- Palm oil
- Cassava
- Yam
- Coffee

- Cacao
- Tea
- Livestock (pigs, sheep, cows)
- Dairy
- Rosemary
- Poultry
- Wool
- Leather
- Organic or Specialty versions of these crops

AAVCD projects have supported a wide variety of value chain upgrades depending on geography, agro-climate, market demand, project goals and objectives. AAVCD projects worked at the farm level to improve production, the firm level to improve "value added", at the trader/exporter level to penetrate markets, and at the policy level to improve opportunities. Many projects had components that "indirectly" affected a selected value chain such as road rehabilitation or HIV/AIDS awareness. Indicators were often reported for the total project but often not by individual activity. Finally, there was little evidence in the AAVCD project documents reviewed of activity based budgets that allocated value chain upgrading costs to value chains funded. This detracts from the insight that can be gleaned from the APM spreadsheet's "Cost per Value Chain" number. Nonetheless the Cost per Value Chain can open up interesting avenues of inquiry.

3. Other Definitions

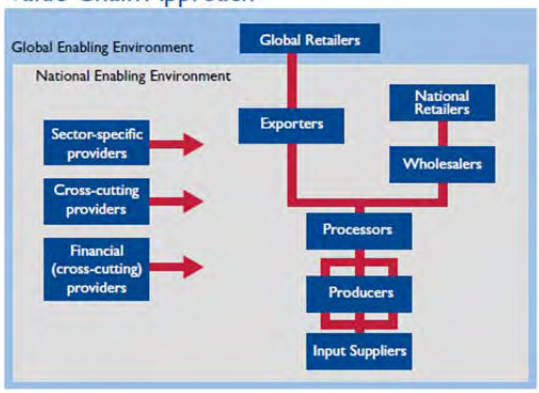
Here are two succinct value chain definitions:

"The value chain describes the full range of activities which are required to bring a product or service from conception through the different phases of production (involving a combination of physical transformation & the input of various producer services) to delivery to the final consumer and final disposal after use." ((http://www.value-chains.org/dyn/bds/docs/detail/626/4):

"A value chain can be defined as the set of 'vertical' relationships that a good or service passes through from its primary producer to its ultimate user, creating value at each stage of the passage. For a firm, the chain involves backward linkages to suppliers of inputs, business services, and capital goods, and forward linkages to processors, wholesalers, retailers, and customers. A firm's profitability depends in part on what value chain it is in and on its relationships to other firms in the chain"

The value chain wiki provides additional information regarding the value chain approach. Below is an illustration of this approach directly from the web site.

Value Chain Approach



"Value chain" refers to all the activities and services that bring a product (or a service) from conception to end use in a particular industry—from input supply to production, processing, wholesale and finally, retail. It is so called because value is being added to the product or service at each step. Taking a "value chain approach" to economic development means addressing the major constraints and opportunities faced by businesses at multiple levels of the value chain.

Under the Knowledge and Practice Task Order of the AMAP BDS IQC, ACDI/VOCA has developed a framework that underpins this approach (see figure). Value chain analysis uses this framework to examine the structure and the dynamics of the value chain. The structure of the value chain influences the dynamics of firm behavior and these dynamics influence how well the value chain performs in terms of two critical outcomes: value chain competitiveness and MSE benefits.

Structure

The AMAP BDS IQC

ACDI/VOCA is one of three prime contractors under the AMAP BDS IQC. Each

4. Comment and Preliminary Recommendation

The value chain wiki offers an excellent value chain definition. As this definition illustrates, an agricultural value chain is the multifaceted value added path a crop takes from the farmer's field to the consumer's plate. Thus it is optimal to determine the cost per value chain by isolating a project's investments in upgrading each value chain link. Whether this can be a routine part of standardized performance monitoring will depend on resource availability. Obtaining value chain upgrading cost for single value chain projects (dairy or coffee) is relatively straight forward. However, if a project works on a number of value chains then per value chain upgrading cost may have to be obtained by dividing total project cost by the number of value chains. In this case standardization and cross project comparisons become more dependent on project similarity. When an AAVCD project has other non-value chain directed components it is important to isolate the project value chain upgrading costs from the non- value chain upgrading project costs.