microREPORT #2

Value Chain Assessment: Indonesia Cocoa

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June 2004

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Accelerated Microenterprise Advancement Project
Contract Number: GEG-I-00-02-00016-00
Task Order: Knowledge and Practice
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ACDI/VOCA is a private, non-profit international development organization based in Washington, DC.

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Abbreviations

ACDI/VOCA	Agricultural Cooperative Development International/ Volunteers in Overseas Cooperative Assistance
ADB	Asian Development Bank
ADM	Archer Daniels Midland Inc.
AFE	Action for Enterprise
APIKCI	Indonesia Cocoa Processors and Manufacturers Association
ASKINDO	Indonesia Cocoa Association
CPB	Cocoa Pod Borer
DEPTAN	Department Pertanian (Ministry of Agriculture)
DISBUN	Dinas Perkebunan (District/Provincial Estate Crops Services)
FAQ	Free Air / Fair Average Quality Cocoa Bean
FOB	Free on Board
GoI	Government of the Republic of Indonesia
ICCO	International Cocoa Organization
ICT	Information, Communication, and Technology
IFC	International Finance Corporation
IPM	Integrated Pest Management
MD	Microenterprise Development Office (USAID)
MFI	Microfinance Institutions
MSE	Micro- and small-scale enterprises
MT	Metric Ton
PENSA	Pemgembangan Usaha (Program for Eastern Indonesian SME Assistance)
PsPSP	Panen sering (Frequent harvesting), Pemangkasan (Pruning), Sanitasi (Sanitation) and Pemupukan (Fertilization)
SNI	National Standards Board of Indonesia
SUCCESS	Sustainable Cocoa Extension Services for Smallholders Alliance
USAID	United States Agency for International Development

Executive Summary

The primary objectives of this assessment were to:

- determine the major constraints and opportunities to growth and expansion of the cocoa sector in Indonesia (primarily Sulawesi);
- propose strategies to alleviate or at least mitigate those constraints, and;
- assess current public and private sector investments to support cocoa in Indonesia.

With over 426,000 metric tons (MT) of cocoa beans[1] produced in 2003, Indonesia is the third largest producer of cocoa in the world after Ghana and the Ivory Coast. Indonesian cocoa exports are currently valued at approximately $600-700 million per year and provide the main source of income and livelihood for over 400,000 smallholder farmers and their families. On the island of Sulawesi, smallholder farmers working on plots ranging from 0.5 to 1.5 hectares produce over 80% of the cocoa exports from Indonesia.

Indonesia's primary competitive advantage in global cocoa trade lies in its ability to supply large quantities of beans. Current cocoa yields in Indonesia range from 400 to 800 kg/hectare, with the potential to increase yields as high as 1 to 1.5 MT/ha. Cocoa yields in West Africa and other major producing countries, on the other hand, are much lower and only average 300 kg/ha or less.

As the largest producer of unfermented bulk beans, Indonesia currently occupies a strong position with few competitors in this segment of the global market. Thus, the major threats to Indonesia's continued competitiveness in this market segment are internal rather than external. The major challenge is to improve, or at least maintain, local cocoa productivity; not increased competition from suppliers in other countries. Since global trade in Sulwesi bean is volume based, it is recommended that efforts to improve cocoa productivity must form the basis for any cocoa development initiative in Indonesia.

Quality is another critical concern that must also be addressed. The current marketing structure of the value chain (and global demand for low quality/low price beans) does not provide adequate incentives to improve quality. Without incentives for exporters, intermediaries, or farmers to differentiate their beans and invest in quality improvements they continue to be driven by volume-based transactions. There are some existing schemes of vertical integration including up-country buying stations that could be expanded, where appropriate, to introduce more commercial quality-based incentives for cocoa supply.

There may also be opportunities for further growth and competitiveness of Indonesian cocoa by increased investments in local value addition. This could be accomplished through the commercialization of improved plant varieties or through more efficient process technologies.

[1] Or cocoa bean equivalents

It is recommended that possible programmatic focus areas be prioritized as follows: increased *productivity*, improved *quality*, and increased opportunities for *local value addition*. All of these reflect the economic growth priorities of USAID Indonesia and support the policy priorities of the Government of Indonesia. Many of the current private and public sector initiatives to support cocoa have limited outreach and are overly dependent on external funding. But these priority program areas should not be considered in isolation. A holistic program incorporating all three is possible, but the sequencing of activities should reflect the broad priorities as suggested.

Possible commercially viable solutions to major constraints in the value chain and illustrative program facilitation activities, categorized by the three proposed program areas, are presented in Table 1 below.

Table 1. Summary of Programmatic Priorities and Illustrative Facilitation Activities

Program Priorities/ Possible Commercial Solutions	Illustrative Facilitation Activities
Increased Productivity	
Provision of training and technical assistance in improved cultural practices and other improved crop husbandry techniques	– explore use of media to disseminate best practice message (with commercial sponsorship) – develop alternative (less intensive) models to transfer the needed skills, know-how, and information to improve productivity
Availability of and access to credit for smallholder farmers to purchase fertilizers	– improve smallholder access to finance for inputs ▪ reduce risk to rural commercial lending via loan guarantee mechanisms, alternative collateral options, etc. ▪ improve land certification process to formalize collateral – support group mobilization to reduce transaction costs and risk
Improved Quality	
Access to up-country buying stations where smallholders can bring large volumes of cocoa beans for direct sale to exporters and processors. Access to an auction system for smallholder farmers to sell their beans more transparently	– explore feasibility of commercial up-country buying and warehousing system ▪ promote existing private sector initiatives by reducing risk for expansion and replication (where appropriate) ▪ assess other ownership structures with emphasis on capacity to ensure commercial operations – introduce transparent grading system to improve quality and support commercial market incentives ▪ could be pilot tested via up-country buying stations – support group mobilization to improve direct sales to large-scale buyers (i.e., exporters & processors)
Provision of formal and informal enforcement mechanisms to ensure compliance with prevailing quality standards for cocoa exports.	– improve systems to ensure broad-based compliance with existing national quality standards for cocoa bean exports (SNI) – improve formal and informal dispute mechanisms (e.g. contracts, industry-based mediation/arbitration services, etc.) to decrease risk

Program Priorities/ Possible Commercial Solutions	Illustrative Facilitation Activities
Availability of financial services for exporters, traders, and processors based on alternative sources of collateral (e.g. inventory)	– explore feasibility of commercial financing based on up-country warehousing system ▪ promote possible rural-based warehouse (inventory-based) finance program to reach rural clients
Increased Opportunities for Local Value Addition	
Access to affordable and improved planting materials for smallholder farmers Availability of a dedicated Research & Development facility for cocoa	– increase commercial availability and smallholder farmer access to inputs – promote commercial distribution of improved planting materials that are appropriate for local conditions – support the development of materials to inform farmers on the appropriate use and application of fertilizer for cocoa (for distribution via private sector channels) – improve the capacity of private input supply companies to deliver a range of embedded services – support dedicated cocoa research & development to identify appropriate plant varieties and other inputs
Access to lobbying service to expand the legal status options for farmers groups, and rural enterprises in general, to effectively conduct business operations Access to lobbying service for exporters to prevent the enactment of an export tax on cocoa	– conduct research on effect of pending legislation (local, provincial, or national) on continued growth and competitiveness of cocoa sector

During the assessment, the team completed the following activities:

- reviewed existing literature on the Indonesian cocoa value chain and the global trade in cocoa and cocoa products;
- met with USAID, other donor agencies, and key government officials active in cocoa production and processing in Indonesia to gain an understanding of their strategies and approaches, current plans for new investments, and perceptions about gaps in assistance;
- interviewed key private sector buyers, exporters, manufacturers, processors, traders, and farmers;
- completed maps of the Indonesian and global cocoa value chain which graphically present the major functions, participants, and their inter-relationships; and
- facilitated two focus group discussions with 16 participants, representing key participants in the cocoa value chain, to validate the initial findings from the individual interviews and literature review process; and
- prepared and conducted de-briefings of USAID/Indonesia, USAID/MD, and other relevant stakeholders.

The team would like to extend its deepest appreciation for the extensive logistical support provided by the ACDI/VOCA Success Alliance staff in South and Central Sulawesi and Jakarta. The team is also thankful for invaluable technical support and guidance from Judith Payne (USAID/EGAT); Hubert Schmitz (Institute for Development Studies, University of Sussex); Art Warman, Firman Aji, and Rum Ali (USAID/Indonesia); Jeanne Downing and Mike Field (USAID/MDO); Olaf Kula (ACDI/VOCA); and Frank Lusby (AFE).

1 Background and Research Approach

1.1 Background

The primary objectives of this assessment were to:

- determine the major constraints and opportunities to growth and expansion of the cocoa sector in Indonesia (primarily Sulawesi);
- propose strategies to alleviate or at least mitigate those constraints, and;
- assess current public and private sector investments to support cocoa in Indonesia.

The assessment exercise was also an opportunity to begin testing an approach and methodology for understanding the dynamics and constraints to growth of a given value chain - within a limited level of effort. See Appendix 1 for the Scope of Work of this assessment.

The assessment took place over a one month period, with in-country fieldwork from March 19 to April 5, 2004. Interviews were conducted in Jakarta (March 19 to 23) and Sulawesi (March 24 to April 2). A list of the companies and agencies interviewed is presented in Table 2 below. See Appendix 2 for full contact details.

Table 2. Value Chain Participants Interviewed

Value Chain Participant	Companies/Agencies
Government of Indonesia (GoI) Agencies:	Dinas Perkebunan (Disbun) - 3 Districts Department of Agriculture -- Jakarta Ministry of Industry and Trade, Palu (Central Sulawesi)
Associations:	ASKINDO (Jakarta, Palu, and Makassar) APIKCI
Input Suppliers:	PT. Pupuk Sriwidjaja (Pusri), Makassar Independent ag. input distributor, Palu (Central Sulawesi)
Farmers:	farmers groups in Sindue (Central Sulawesi)
Collectors/Traders:	Traders in Parigi & Makassar Local collectors, Parigi & Sindue Buying station (PT. Effem)
Exporters:	Archer Daniels Midland (ADM) Cocoa / Indonesia Cargill Indonesia Continaf (Mitra Celebes) PT. Olam, Palu
Processors:	PT Effem, Makassar Unicom International PT. Maju Bersama Cocoa Industries, Makassar PT. Industri Kakao Sulawesi, Palu (Central Sulawesi)
Global Buyers:	Hersheys Masterfoods
Financial Institutions:	Bank Indonesia Bank Niaga Bank Perkreditan Rakyat (BPR)

Value Chain Participant	Companies/Agencies
Others:	PT. Sucofindo University of Hasanuddin (Food Policy Research) Radio Citra Pertanian, Palu (Central Sulawesi) World Cocoa Federation

Two focus groups discussions with 16 key value chain participants were also conducted in Palu, Central Sulawesi and Makassar, South Sulawesi on March 27 and April 1 respectively. Final de-briefing meetings of USAID/Indonesia and USAID/MD were conducted on April 5, 2004 before departure from Indonesia.

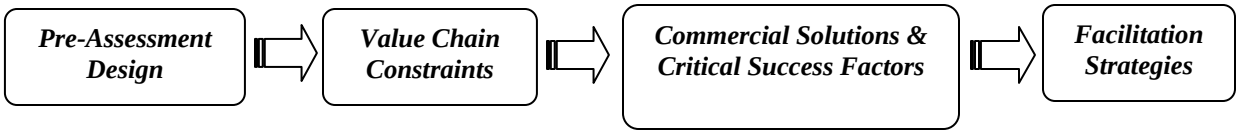
The core team consisted of Henry Panlibuton (Team Leader/AFE Consultant), Maggie Meyer (ACDI/VOCA), and Hussein B. Sutadisastra (local consultant). Additional support and technical input was provided by Judith Payne (USAID/EGAT), Firman Aji and Muhammed Rum Ali (USAID/Indonesia) and Hubert Schmitz (Institute for Development Studies, University of Sussex).

A summary of the research approach taken during the assessment is described below. A description of Indonesia's role in the global cocoa value chain is presented in Section 2, and the general characteristics of the Indonesia cocoa value chain are presented in Section 3. Overall findings of the value chain assessment are presented in Section 4 and proposed recommendations are then presented in Section 5.

1.2 Research Approach

The assessment was conducted using a value chain approach to: identify key constraints to growth and competitiveness of the Indonesia cocoa value chain, identify and assess possible commercially viable solutions to these constraints, and develop initial strategies to facilitate support of a few selected solutions. The assessment approach is shown in Figure 1 below. Specific activities conducted during the assessment are described in Appendix 3.

Figure 1. Value Chain Assessment Approach



In addition to understanding the broad context for the systemic constraints and opportunities for cocoa in Indonesia, the value chain approach provided useful insights on the inter-relationships of participants, general distribution of returns (margins), and structural dynamics of cocoa in Indonesia.

Fortunately, the cocoa value chain in Indonesia is well documented with a wealth of available secondary data. This enabled the team to quickly orient themselves to the value chain and focus its in-country efforts to compile and analyze complimentary primary data. The limited level of effort for this consultancy, however, prohibited in-depth assessments of possible commercially

viable solutions. A few illustrative interventions are proposed but specific program facilitation activities could not be further validated.

Another limitation was the research nature of this exercise and the uncertainty of actual program implementation. While the data gathering purpose of this exercise was made clear during all interviews, many key informants were still anxious to know whether follow-on program support would be forthcoming. Sharing information and voicing opinions was generally not a concern for most interviewees, but for some the implicit hope was to be able to move beyond analytical research into actual implementation.

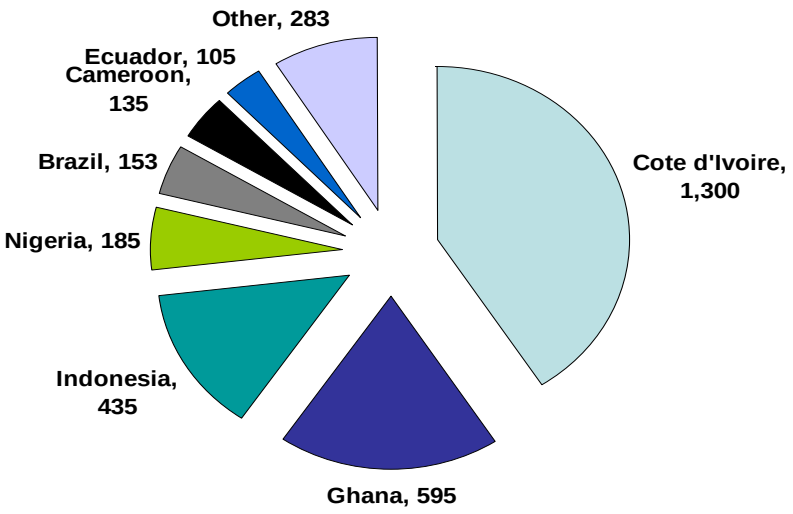
Finally, as a globally traded commodity, farm-gate and CIF prices for Indonesian cocoa are widely available. But given the sensitivity of margins for many private sector participants, especially large multinational companies, this information was not easily gathered or readily presented.

2 Indonesia's Position in the Global Value Chain

2.1 Major Market Segments for Cocoa

With over 426,000 metric tons (MT) of cocoa beans[2] produced in 2003, Indonesia is the third largest producer of cocoa in the world after Ghana and Cote d'Ivoire (see Figure 2). On the island of Sulawesi, smallholder farmers working on plots ranging from 0.5 to 1.5 hectares produce over 80% of the cocoa exports from Indonesia. The remaining Indonesian cocoa production takes place in North Sumatra, West Java, and Papua, with some small production areas in Bali, Flores, and other islands.

Figure 2. World Cocoa Production (Supply): 2003/2004 (in '000 MT)



Source: ED&F Man, Cocoa Market Report , No. 371, March 30, 2004

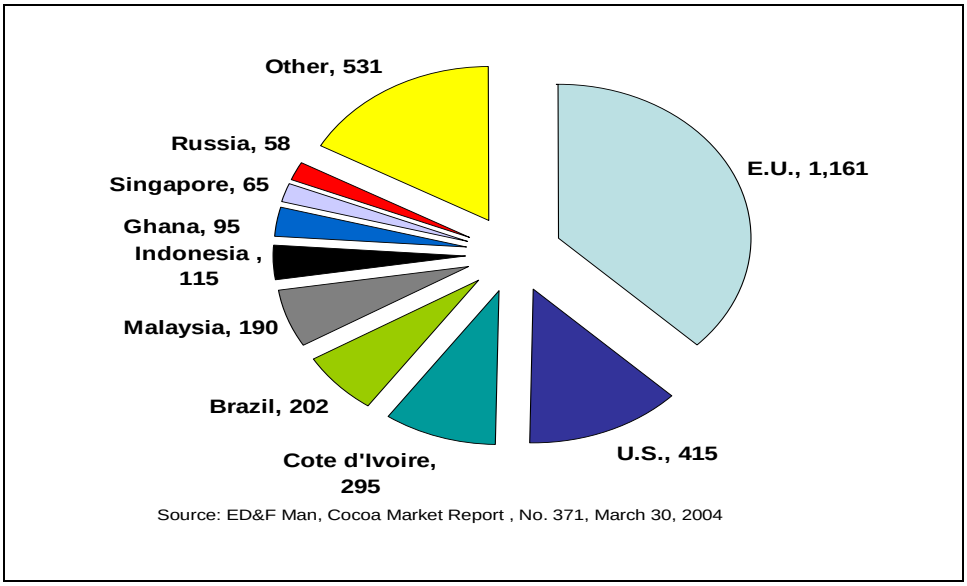
The U.S. is the second largest buyer of cocoa beans in the world, after the European Union, processing over 415,000 MT of beans in the 2003/2004 season (see Figure 3). The U.S. imports 136,000 MT of Indonesian cocoa and is by far the most important market for both cocoa beans and cocoa products from Indonesia. But demand and cocoa processing capacity in Asia is growing rapidly, with a 13.2% annual increase in the 2003/2004 season alone[3].

U.S. demand for Indonesian cocoa has remained relatively static over the past few years but markets in Asia (most notably in Malaysia and Singapore) offer expanded export opportunities for Indonesia. Two new cocoa processing plants, with an annual capacity of 50,000 MT/year each, have recently opened in Malaysia. Interestingly, one of these Malaysian plants is owned

[2] Or cocoa bean equivalents
[3] E D & F MAN, Cocoa Market Report, No. 371, 30th March 2004.

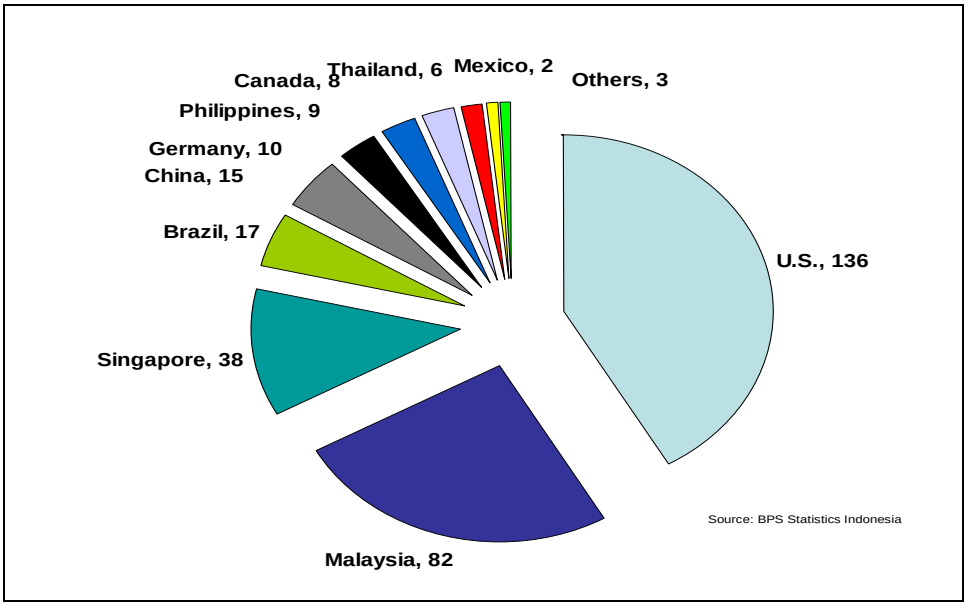
by the largest cocoa processing company in Indonesia – the Ceres Group – which has expanded their operations throughout South East Asia. As a result, demand in Malaysia has increased significantly and it now imports over 82,000 MT of cocoa from Indonesia (see Figure 4).

Figure 3. World Cocoa Grindings (Demand): 2003/2004 (in '000 MT)



Although nascent, processing capacity in China is also growing but is generally regarded as a market for low quality cocoa where bean shells (and other waste material) are incorporated into, not removed from, their grinding process.

Figure 4. Indonesia Cocoa Bean Exports: 2000/2001 (in '000 MT)



The global trade in cocoa is based primarily on the end use of the cocoa bean. Some beans are used primarily for their flavor (to produce cocoa powder), and others are used for their fat

content (to produce cocoa butter). Beans from Latin America tend to have the richest flavor, while cocoa beans from Asia (particularly Malaysia and Indonesia) have little flavor and are used for their fat content (referred to sometimes as "fat beans"). Most large U.S. chocolate manufacturers (e.g. Hersheys, Masterfoods/Mars, etc.) sell in the high volume, mass production North American market where flavor is not as important. Other large manufacturers, in Europe and Asia, produce for more discriminating chocolate consumer markets.

According to a major chocolate manufacturer, approximately 80% of international trade in cocoa beans is based on fat content versus 20% based on flavor content of beans. West Africa produces cocoa beans that have a generally high content of both fat and flavor, which accounts for the global premium paid for cocoa from Ghana and Cote d'Ivoire. Indonesian cocoa beans, on the other hand, are traded at a discount to the standard NY terminal price.

Indonesia's primary competitive advantage in global cocoa trade lies in its ability to supply large quantities of fat beans. Cocoa grown in Indonesia, originally bred in Malaysia, was developed for its high yield (fat) not its flavor. Current cocoa yields in Indonesia range from 400 to 800 kg/hectare, with the potential to increase yields as high as 1 to 1.5 MT/ha. Cocoa yields in West Africa and other major producing countries, on the other hand, are much lower and only average 300 kg/ha or less.

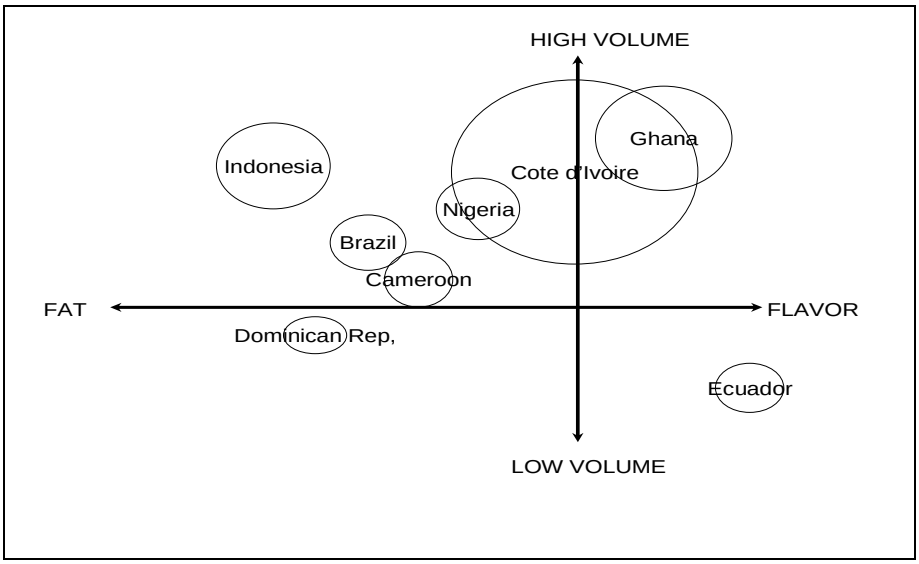
Sulawesi cocoa is traded on the global market as an unfermented, fat, bulk bean (see Figure 5). Processors and manufacturers will use Sulwesi bean as filler, due to its sufficient fat content and lower cost, and blend it with other fermented beans that add flavor. The Dominican Republic also produces unfermented, bulk bean (know as "Sanchez") but its export volume of 40,000 MT is less than one-tenth the size of Indonesia.

Fermentation of cocoa beans[4] can help bring out their inherent flavor, but is not generally done in Sulawesi. Cocoa farmers on some of the other islands in Indonesia (e.g. Papua, Sumatra, etc.) do ferment their beans, but their production is quite small and is mainly sold to local processors rather than exported. There have been efforts to encourage smallholder farmers in Sulawesi to expand production of fermented beans, but commercial incentives for such a widespread shift in production practices are inadequate.

Most global manufacturers and processors have learned to effectively blend unfermented Sulawesi beans with other beans to produce their products to specification. The global demand for these unfermented bulk beans has become relatively inelastic and not significantly affected by changes in price. As the largest producer of unfermented bulk beans, Indonesia currently occupies a strong position with few competitors in this segment of the global market. Thus, the major threats to Indonesia's continued competitiveness in this market segment are internal rather than external. The major challenge is to improve, or at least maintain, local cocoa productivity; not increased competition from suppliers in other countries.

[4] Fermenting is a simple "yeasting" process in which the sugars contained in the beans are converted to acid. This is done after the pods are harvested, heaped, and covered. Fermentation lasts from three to nine days – removing the raw bitter taste of cocoa to develop a more characteristic chocolate flavor when the beans are roasted.

Figure 5. Relative Positioning of Indonesia Cocoa in Global Trade



3 Charateristics of the Value Chain in Indonesia

3.1 Overview of Indonesian Cocoa

Cocoa production in Sulawesi began to grow during the 1980s, fuelled by high global cocoa prices and a significant decline in output from West Africa. In addition, migrant Indonesians working on cocoa farms in Malaysia returned home to southern Sulawesi bringing back planting materials as well as technical skills and capital to invest in cocoa production. Extensive mono-crop production of cocoa expanded in parts of Sulawesi where suitable land was abundant and available. However, as available land decreases and the age of bearing trees increases, more intensive production techniques will be required to maintain and/or expand cocoa farm productivity.

Indonesian cocoa exports are currently valued at approximately $600-700 million per year and provide the main source of income and livelihood for over 400,000 smallholder farmers and their families. Details on the production, supply, and demand of Indonesian cocoa and cocoa products can be found in Appendix 4.

The major functions and participants in the Indonesian and global cocoa value chain are shown graphically in the two maps below (**Figure 6** and **Figure 7** respectively). See Appendix 5 for detailed descriptions of all the value chain participants.

Figure 6. Value Chain Map 1 (Indonesia Cocoa)

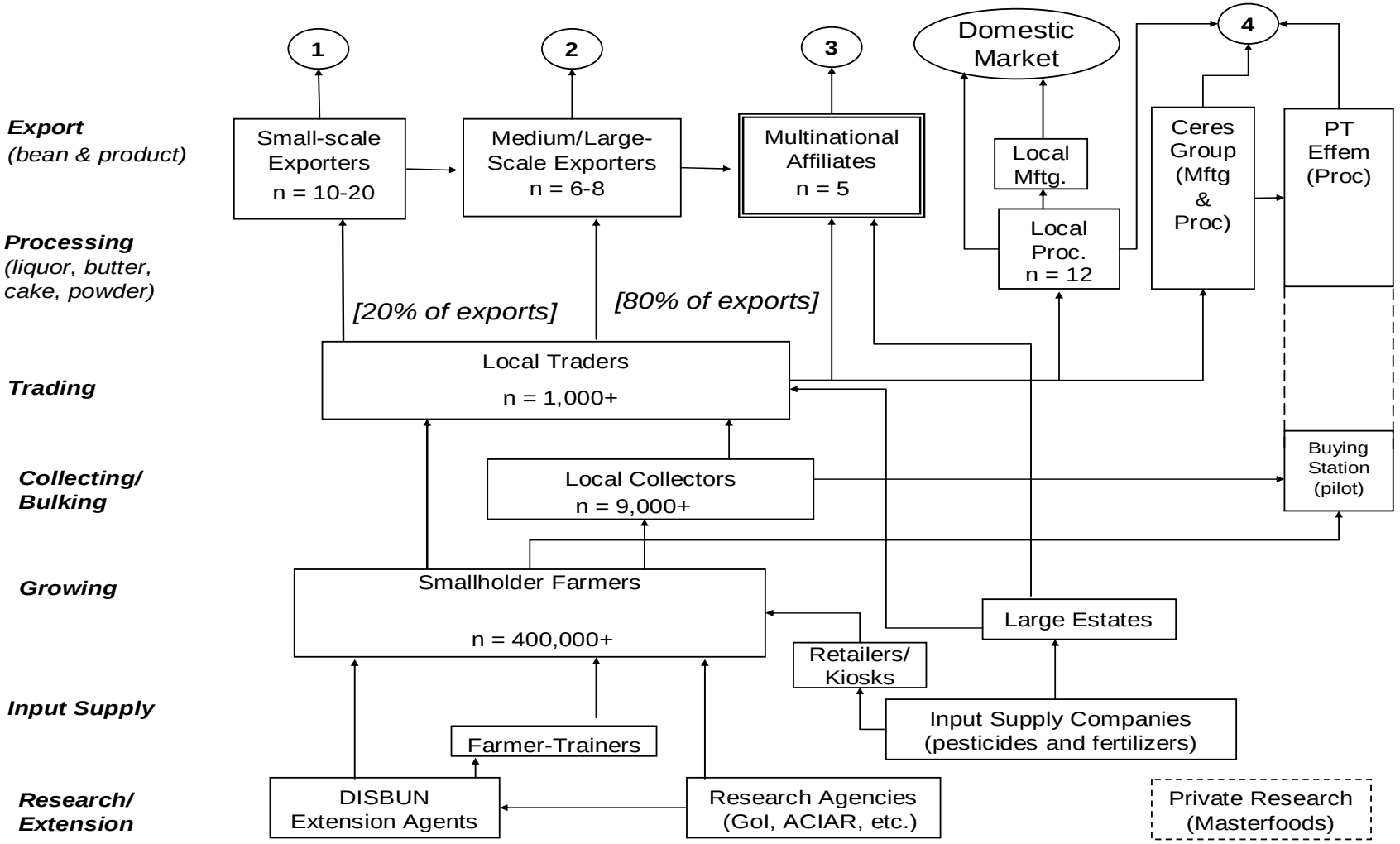
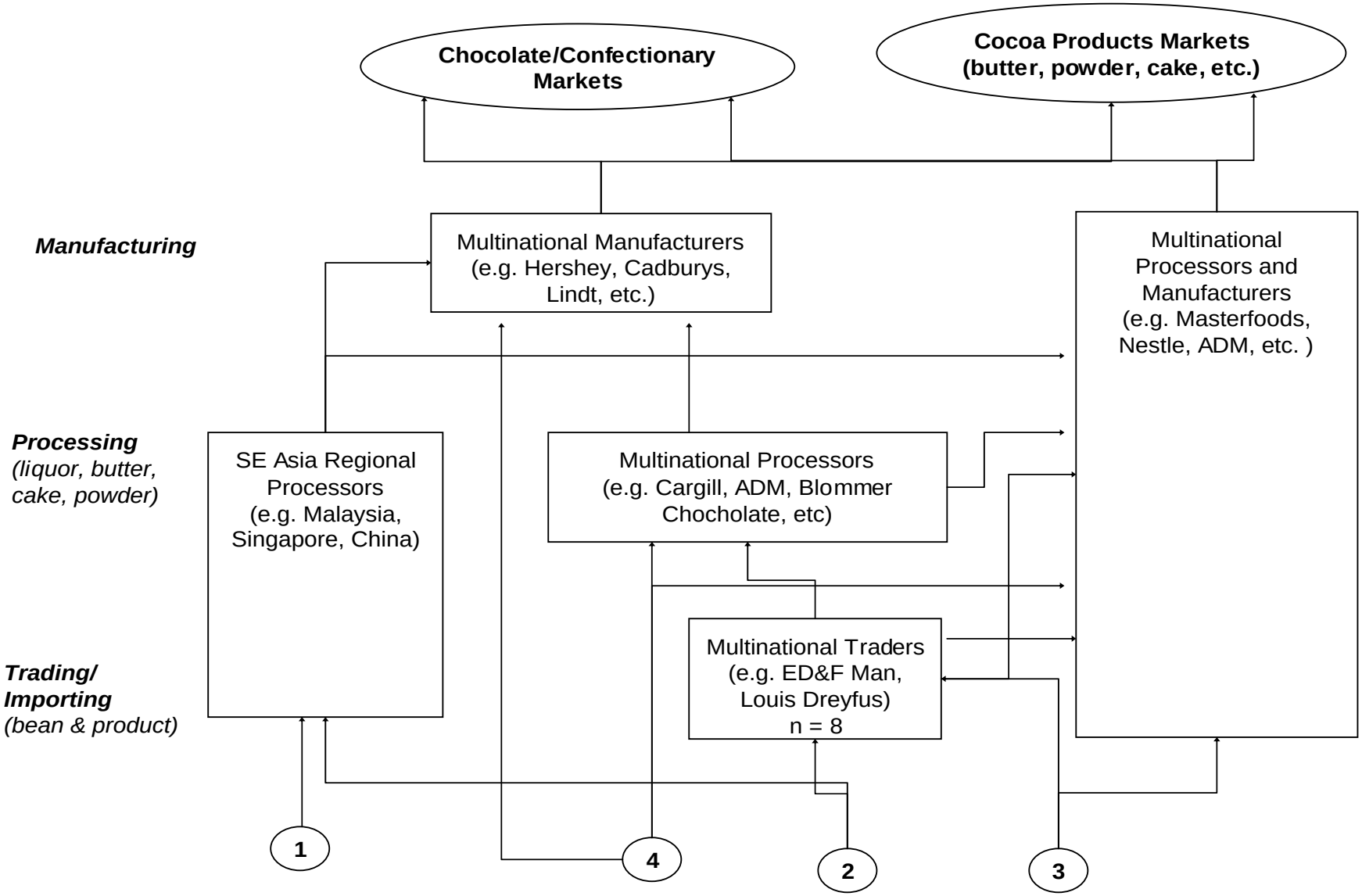


Figure 7. Value Chain Map 2 (Indonesia Cocoa)



3.2 Governance and Power

3.2.1 Market-based Governance – Overall, the Indonesian cocoa value chain can be characterized as having a market-based governance structure with a low degree of open coordination. In other words, there are no players or entities exerting dominant control over the cocoa value chain. Since product specifications are relatively simple, most transactions between buyers and sellers take place at "arm's length", based on supply and demand. The costs of switching to new partners are low for both parties.[5]

The world price of Sulawesi cocoa beans, determined by the NY terminal market, is a key driver for many participants in the value chain. In late 2002 and early 2003, when cocoa prices were at an 18-year high, many exporters and traders entered the market. But when global cocoa prices fell from $2,375/MT to $1,347/MT in 2003/2004—a 43% drop over a ten month period—many short-term speculators and new entrants in the cocoa trade suffered substantial losses. Over the past year, global cocoa bean prices have remained relatively stable (trading between $1,380 and $1,725 per MT this season) which has led to further consolidation of exporters in Indonesia. Approximately 80 percent of total Indonesian cocoa bean exports are now handled by the five largest exporters, all of whom are local affiliates or subsidiaries of multinational companies.

The market-based governance structure of Indonesian cocoa, however, does not reflect equal power relationships in the value chain. While spot market price information is widely available and efficiently transferred, the flow of other product information (i.e., quality and quantity specifications) from global buyers to exporters, intermediaries, and producers is not as transparent. Free Air/Fair Average Quality (FAQ) is an international trading term for standard quality of bulk, unfermented, raw cocoa beans. Although some global buyers have expressed frustration with the inconsistency of Sulawesi beans meeting standard FAQ, most of them continue to buy after applying discounts for the poor quality. As a result, confusing market signals are sent and provide differing incentives for value chain participants at different levels in Indonesia.

3.2.2 Volume and Cash-driven Transactions – Without incentives for exporters, intermediaries, or farmers to differentiate their beans and invest in quality improvements they continue to be driven by volume-based transactions. For some intermediaries, mixing good beans with waste material or poor quality beans is a standard practice to maximize volume and income. The use of inappropriate weights and measures by a few collectors or traders has also heightened the level of mistrust of intermediaries among some farmers. But this practice of volume manipulation will be difficult to discourage or change without adequate commercial sanctions (or incentives) dictated by global processors and manufacturers at the top of the value chain.

Transactions between cocoa farmers and market intermediaries, and between intermediaries and cocoa exporters or processors, are primarily conducted on a "cash and carry" basis—which requires access to sufficient working capital to remain competitive. Smallholder farmers have the option of selling to a large number of local collectors or buyers, but most will sell their cocoa

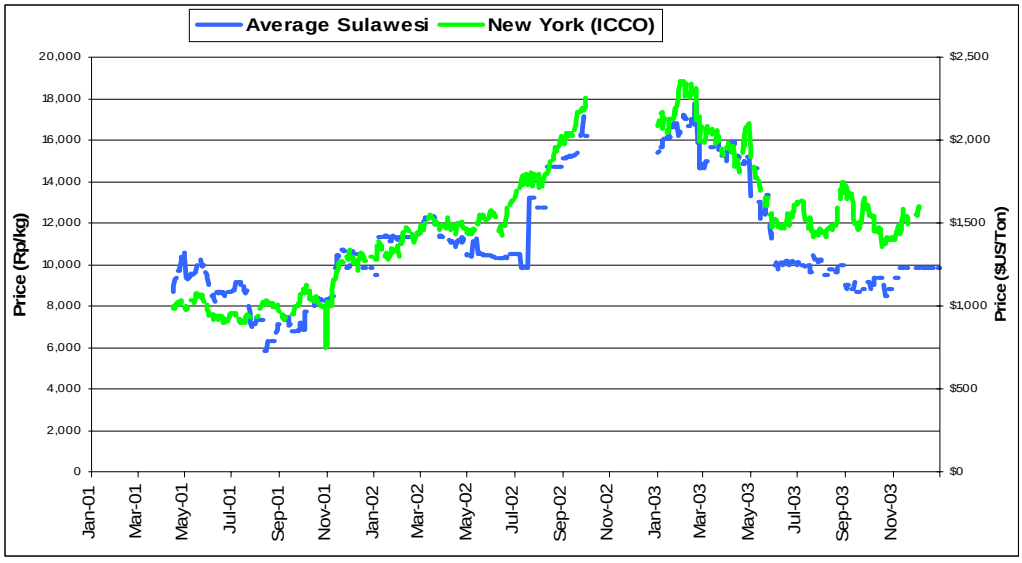
[5] Consideration and classification of value chain governance was based on factors described in "*The Governance of Global Value Chains*" by G. Gereffi, J. Humphrey, and T. Sturgeon; November 4, 2003.

soon after harvest (often without being adequately dried) for immediate cash. Many local collectors and traders rely on advances from exporters or larger-scale buyers to finance these frequent cash purchases. These advances from exporters and between intermediaries, whether in cash or in-kind (e.g., motorcycles, houses, etc), are one of the main tools used to increase leverage and ensure a consistent supply of cocoa. Intermediaries who depend on this source of working capital often become captive suppliers and have few marketing options.

3.3 Margins and the Distribution of Returns

Unlike many cocoa farmers in the rest of the world, Indonesian cocoa farmers receive on average a high percentage of the international price. The farm-gate price for Sulawesi beans can range between 75 to 85 percent of the New York Terminal exchange price. While in West Africa, cocoa farmers as little as 50 to 63 percent of the final FOB price[6] (See Figure 8).

Figure 8. Comparison of Sulawesi and New York (ICCO) Cocoa Price: 2001 – 2003



The highly competitive nature of the marketing system, good transportation and infrastructure, and the relative lack of government interference in the cocoa value chain have helped to sustain this high percentage of the FOB price for cocoa farmers in Indonesia.

With farmers receiving up to 85 percent of the FOB price, the small remaining balance is shared among the many other participants in the value chain. According to one source, the margin between the FOB price and the farm gate price in Indonesia can be broken down into marketing and logistical costs (10%), collector/trader margin (3-4%), and exporter margin (2%). Given these slim margins, the large number of local collectors and traders in the value chain depend on quick turnover and high volume transactions.

The prices that market intermediaries pay are based primarily on a "discounting" process. The daily global price for Sulawesi cocoa is widely known by all participants throughout the value

[6] *Indonesia's Cocoa Boom*, T. Akiyama, A. Nishio, World Bank Policy Research Working Paper, March 1996, p. 10

chain, and serves as the basis for an initial price offer. Once an initial price is established, collectors and traders (as well as exporters) will then engage in a discounting process to reduce the initial price based on certain quality parameters. The net price is then multiplied by the volume of beans sold to determine the seller's revenue (see Figure 9).

Figure 9. Calculating Net Price for Cocoa Beans

Initial Price (based on NY Sulawesi FAQ)
LESS: ***Discount (based on quality specs)***
= Net Price
x ***Volume***
= Income

The basic quality parameters include moisture content, bean count (i.e., number of beans per 100 grams), percentage of waste, moldiness, and clumped or flat beans. At the local farmer and collector level, moisture and general appearance are the most important factors considered in the discounting process. This discounting process (along with a margin that reflects the cost of intermediation) determines the prices paid by market intermediaries.

Since volume is a key driver in the cocoa value chain, as stated above, some market intermediaries will attempt to sell cocoa beans mixed with poorer quality beans or actual waste material (e.g. shells, foreign matter) to increase the volume. The fragmentation and fierce competitiveness of buyers for Sulawesi beans, of almost any quality, continues to reward this opportunistic behavior.

Ultimately, the level of interaction among value chain participants is often based on the actual and perceived amount of trust and risk in the relationship. While most farmers have various selling options, for example, they still value linkages with consistent, transparent, local buyers they can trust. The issue of risk is even greater for the exporters and intermediaries who provide pre-financing to their suppliers.

4 Illustrative Program Strategies

4.1 Identification of Major Constraints and Opportunities

In order to develop possible strategies for continued support of the cocoa value chain, the team first identified the major constraints and opportunities to its continued competitiveness and to further integration of MSEs in the value chain. Based on interview guides developed by AFE, a generic classification of constraint types were used to explore possible value chain issues in categories including:

- Policy and Regulatory Environment
- Organization and Management
- Inter-firm Cooperation & Governance
- Market Access
- Technology and Product Development
- Input Supply
- Infrastructure
- Finance

It should be noted that the team also tried to explore information, communication, and technology (ICT) issues where appropriate. Specific suggestions on ways to incorporate ICT into a value chain analysis process can be found in Appendix 6.

The major constraints identified by the team are presented, in no particular order or priority, in Table 3 below.

Table 3. Summary of Major Value Chain Constraints and Opportunities

CONSTRAINT	DESCRIPTION
Detention of cocoa beans at U.S. ports to meet phyto-sanitary conditions of the FDA increases the cost to exporters which reduces the price they can pay to their suppliers.	– Since 1992, cocoa bean exports to the U.S from Indonesia (as well as Malaysia and Brazil) are automatically detained without inspection at the port of entry by the FDA due to the presence of live insects. – Some exporters claim that the additional time required to fumigate and pass FDA inspection at U.S. ports increases the cost, and decreases the competitiveness, of Indonesian cocoa bean imports.
Local processors are unable to procure adequate quantities of cocoa beans due to the reluctance of some traders/collectors (who are supposed to collect VAT on their sales) to sell to them.	– Traders/collectors are supposed to collect a Value-Added Tax (VAT) when they sell beans to processors. Many do not, and run the risk of being discovered by tax authorities. Therefore, most intermediaries prefer to sell their beans to exporters. – This creates logistical problems for the processors and reduces their efficiency and competitiveness.
The official registration options for rural businesses, including farmer groups, are limited. This restricts their ability to engage in formal commercial activities or transactions.	– Current Indonesian law makes it difficult for farmers groups specifically, and rural enterprises in general, to legally register as entities other than cooperatives or associations. – The designation of “cooperative”, however, has negative connotations in the Indonesian environment and is not appropriate for commercial business operations.

CONSTRAINT	DESCRIPTION
Possible export tax on cocoa beans threatens to increase the exporters' cost and decreases their competitiveness in global trade.	– According to a recent food policy research study, an export tax could decrease the farmgate price of cocoa beans and negatively impact incentives for farmers to continue to grow cocoa. – However, APIKCI (a new association of local cocoa processors and manufacturers) argues that an export tax on unprocessed beans is critical to the continued viability of their industry.
Many smallholder farmers are unable to sell their production in large volume and are therefore unable to benefit from direct sales with exporters and processors, which decreases their income potential.	– There are no well-developed cocoa farmer associations or cooperatives in Sulawesi (some feel that these entities could provide a better price to farmers than existing intermediaries). – Some farmers have started to form groups offering a variety of services, including: technical training, access to inputs, and access to bulk markets for cocoa beans. – Current GoI policies make it difficult to formally register rural enterprises and farmers groups as anything but cooperatives or associations.
Local processors have difficulty in procuring consistent quality cocoa which prevents them from operating at full capacity and decreases the viability of local value-addition opportunities.	– Due to the inconsistency of quality beans, a few local processors have started to explore direct up-country buying stations to supplement their conventional *suppliers. They are* ***interested in buying directly from farmers in order to source more consistent quality rather than buying from traders****.* – Buying direct from producers also reduces the VAT burden on local processors.
Lack of coordination among the government, associations, private sector, and other stakeholders providing support to the cocoa subsector results in inconsistent messages, lack of cost-sharing, and limited synergies.	– Many public and private sector initiatives support cocoa in Indonesia (see Appendix 9) but broad coordination and cooperation among them is lacking. – As a result, technical messages on best practice for cocoa production and post-harvest handling may be inconsistent, dissemination of research and improved technologies is limited, and the sustainability of benefits to participants in the value chain is questionable. – The international cocoa industry recognizes its critical role in the continued viability of Sulawesi bean production and has been very supportive of activities to develop the value chain.
The international market acceptability and demand for Indonesian cocoa beans of various quality does not provide incentives for farmers to invest in improving farm productivity or bean quality.	– While farmers are producing a greater quantity of cocoa, and consequently earning more income for it, they complain that they are not getting any price differential from collectors and traders for improved quality beans. – International importers, on the other hand, have been concerned about Sulawesi beans not consistently meeting current FAQ standards. Some processors and a few exporters have attempted to offer price differentials, up to a 10%, for beans that can consistently meet higher quality specifications. – Price differentials alone, however, do not appear to be sufficient incentive for all farmers to invest in greater farm productivity or bean quality. ***Understanding the socio-economic role of cocoa production in Sulawesi, and perceived risks to cocoa investments, is also necessary****.*

CONSTRAINT	DESCRIPTION
The production of fermented cocoa beans in Sulawesi is limited which reduces value-added opportunities for smallholder farmers	– Almost all of the farmers in Sulawesi produce unfermented, bulk bean for export. While farmers on some of the other islands ferment their cocoa, the global market demand is for unfermented Sulawesi beans. – There is a demand for fermented beans from local processors but their requirements are not currently large enough, nor is there sufficient differentiated pricing, to justify large-scale production of fermented Sulawesi beans.
Cocoa farm productivity in Sulawesi is decreasing due to a number of causes including: widespread infestation of pests and diseases (primarily the Cocoa Pod Borer - CPB), age and variety of existing tree stock, poor soil nutrition, and drought. This results in decreased productivity and income potential for smallholder farmers.	– Indonesian cocoa farmers currently produce an average of 400 to 800 kg/hectare, compared to a potential yield of 1-1.5 MT/hectare. CPB infestation alone is estimated to reduce cocoa production by 60-80 percent. – Many farmers are not aware of, nor do they adopt, improved cultural practices and crop husbandry techniques and remain susceptible to cocoa pests and diseases. – Many farmers lack understanding of cost benefit of fertilizer and therefore do not use it. This decreases their productivity and income potential. – Little attention is paid to farm hygiene or tree maintenance and most farmers dry their beans through sun drying on a road or patio; some use wood stoves for drying during the wet season. – Farmers have little storage capacity and will sell their cocoa beans while still wet, for immediate cash, rather than wait for them to be properly dried (or fermented in some cases). – The majority of cocoa trees are over 20 years old and reaching (or surpassed) the peak of their potential productivity. ***Cocoa tree replacement and/or rehabilitation are critical to the long-term sustainability of Indonesian cocoa production.***
Limited commercial distribution and availability of improved planting materials for smallholder farmers decreases their production yield and income potential.	– Specialized research and development for cocoa does not currently exist in Indonesia. As a result, there is limited availability of appropriate and improved planting materials, soil analysis for cocoa production, and other specific research to improve cocoa productivity. – Input supply companies have also not developed a special fertilizer “package” for cocoa. – Commercial availability of improved tree stock for farmers is limited. The agricultural research agency in Jimber is the only source of improved tree stock in Indonesia, with limited distribution via Disbun agents as a public service. – ***Input supply companies are not currently linked to existing cocoa research*** and do not participate in extension activities for cocoa – although some fertilizer companies do conduct extension activities for other crops. – Farmers lack instruction on the appropriate fertilizers and pesticides to use, when to use them, and in what amounts. Local availability is also a concern, with some farmers having to travel 10 to 15 km away to purchase fertilizer.

CONSTRAINT	DESCRIPTION
Smallholder farmers lack access to acceptable collateral for financial institutions. As a result, farmers are not able to finance the purchase of inputs.	– The only collateral accepted for farmers or rural businesses is a land certificate. Due to the time and expense associated with land certification, many farmers do not have the certificate. – ASKINDO and the Bank of Indonesia are currently providing support to streamline the land certification process for cocoa farmers and to use these certificates as collateral. They are also exploring ways to promote (or reduce the risk) of using other forms of collateral for rural lending from financial institutions.
Processors, exporters, and traders have limited access to working capital loans, which decreases their turnover and income potential.	– Most exporters, traders/collectors, and processors rely on their own resources to finance their working capital needs and have few formal credit options.

4.2 Identification and Prioritization of Possible Commercially Viable Solutions

Based on the key constraints, the team identified possible commercially viable solutions to address these constraints. These potential solutions reflect areas that must be upgraded to ensure greater competitiveness of, and/or integration of MSEs into, the value-chain. The process used to prioritize and short-list possible solutions is described in Appendix 7. This aspect of the value chain assessment ensures that programmatic recommendations will reflect the latest thinking in commercial approaches to enterprise development, including principles of Business Development Services (BDS).

Following a brief assessment of short-listed solutions (see Appendix 8), illustrative facilitation activities to support the value chain were identified. See Table 4 below. A commercial solutions-based approach was used to identify possible program strategies and to address the prevailing outreach and sustainability limitations of many existing cocoa support initiatives (see Appendix 9).

Table 4. Possible Commercially Viable Solutions to Key Value Chain Constraints

Key Constraints	Possible Commercially Viable Solutions
Cocoa farm productivity is decreasing, due to infestation of pests and diseases (CPB), age and variety of existing tree stock, poor soil nutrition, and drought.	*Access to commercial mechanisms to transfer and adopt the needed skills, know-how, and information to improve cocoa productivity*
Smallholder farmers unable to sell their production in large volume and benefit from direct sales with exporters and processors	*Access to up-country buying stations where smallholders can bring large volumes of cocoa beans for direct sale to exporters and processors.* *Access to an auction system for smallholder farmers to sell their beans more transparently*
Lack of incentives for farmers to invest in improving farm productivity or bean quality.	*Provision of enforcement mechanisms to ensure compliance with prevailing quality standards (SNI) for cocoa exports.*

Key Constraints	Possible Commercially Viable Solutions
Lack of access to credit by smallholder farmers to purchase fertilizers decreases their production yield and income potential. Smallholder farmers lack access to acceptable collateral for financial institutions.	*Availability of and access to credit for smallholder farmers to purchase fertilizers*
Processors, exporters, and traders have limited access to working capital loans, which decreases their turnover and income potential.	*Availability of financial services for exporters, traders, and processors based on alternative sources of collateral (e.g. inventory)*
Limited commercial distribution and availability of improved planting materials for smallholder farmers	*Access to affordable and improved planting materials for smallholder farmers*
Official registration options for rural businesses, including farmer groups, are limited Possible export tax on cocoa beans threatens cost and competitiveness in global trade	*Access to lobbying service to expand the legal status options for farmers groups, and rural enterprises in general, to effectively conduct business operations* *Access to lobbying service for exporters to prevent the enactment of an export tax on cocoa*

Had more time been available, the Team would have carried out a more thorough assessment of each of the proposed solutions - looking specifically at who the providers of the solution might be, what constraints they face in providing the solution, and commercial feasibility. The commercial feasibility of all the solutions would also need to be verified and assessed in greater depth. This would have led to the identification of upgrading/facilitation activities that respond directly to the constraints holding back the development of commercially viable solutions in the value chain.

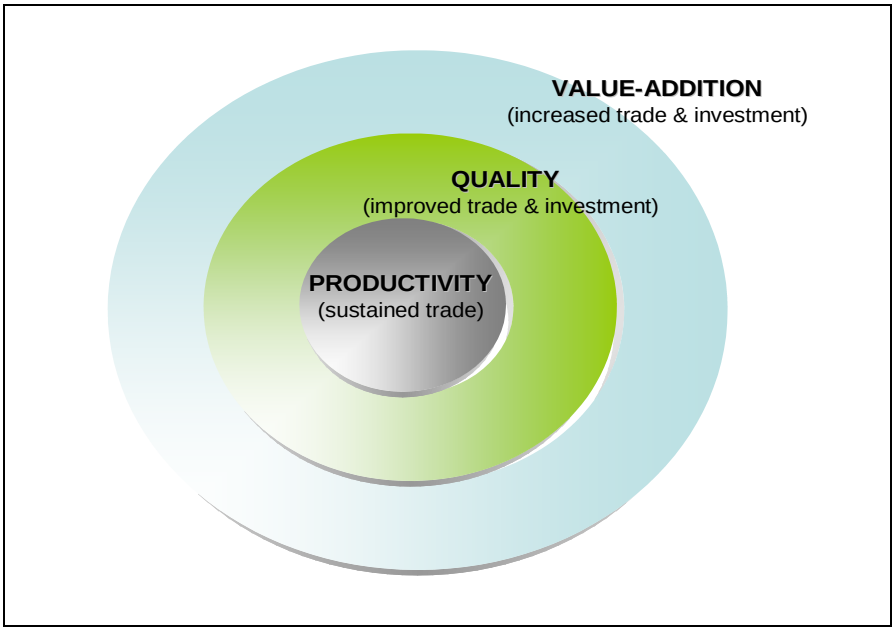
Because the Team lacked the time to do this for all potential solutions, many of the proposed program strategies are more general in nature, and could be further developed and defined. However, illustrative facilitation activities were proposed and generated during the focus group discussions and/or interviews with key participants.

5 Recommendations and Conclusion

Indonesian cocoa is a $600-700 million industry and a major source of private sector trade and investment for enterprises of all scale. But given the many constraints to the value chain identified above, the dominant role of cocoa in sustainably driving economic growth, especially in Sulawesi is by no means assured.

Should USAID be interested in expanding its current level of support to cocoa in Indonesia, it is recommended that programmatic focus areas be prioritized as follows: increased productivity, improved quality, and increased opportunities to add and capture value locally (see Figure 10). All of these reflect the economic growth priorities of USAID Indonesia (i.e., increased trade, investment, and employment) and support the policy priorities of the GoI as stated in its Economic Policy Package: Pre and Post-IMF (also known as the "White Paper").

Figure 10. Illustrative Cocoa Development Framework



Based on the various interviews and discussions with key participants, as well as the secondary data collected and compiled, the over-riding concern was the decreasing productivity of Indonesian cocoa. Global trade in Sulwesi bean is volume based. This means that it depends on large volume production of relatively inexpensive, unfermented bulk beans (used primarily for their fat rather than flavor content). Therefore, it is recommended that efforts to improve cocoa productivity must form the basis for any cocoa development initiative in Indonesia. Increased production via extensive rather than intensive farming practices is no longer viable. Without improved productivity, it will be impossible to sustain (much less increase) the level of global trade in Indonesian cocoa and cocoa products.

From international buyers to smallholder farmers, quality is another critical concern that must also be addressed. The current marketing structure of the value chain (and global demand for low quality/low price beans) does not provide adequate incentives to improve quality. There are a few existing schemes of vertical integration that could be expanded, where appropriate, to introduce commercial quality-based incentives for cocoa supply. It is clear, however, that initiatives to improve quality must be demand-led and emanate from final international buyers. With improved productivity and bean quality, there may be opportunities to not only maintain but to increase global trade and investment of Indonesian cocoa.

There may also be opportunities for further growth and competitiveness of Indonesian cocoa by increased investments in local value addition. This could be accomplished through the commercialization of improved plant varieties or through more efficient process technologies. In either case, the policy and regulatory environment must be improved to facilitate and promote increased investments in value-addition.

It should be noted that there is international and local debate about the feasibility of local processing, since quantity and quality of raw material alone may not be sufficient for Indonesian processors to be viable. A major global buyer stated that unless a processing facility has a minimum capacity of 50,000 MT/per year it cannot effectively compete with the expanded grinding facilities in the Southeast Asia region. With the exception of the Ceres Group, the capacity of the other processors in Indonesia is far below that level—ranging from approximately 12,000 to 20,000 MT per year.

It is not recommended that USAID consider these priority program areas in isolation. A holistic program incorporating all three is possible, but the sequencing of activities should reflect the broad priorities as suggested.

Possible commercially viable solutions to major constraints in the value chain and illustrative program facilitation activities, categorized by the three proposed program areas, are presented in Table 5 below.

Table 5. Summary of Programmatic Priorities and Illustrative Facilitation Activities

Program Priorities/ Possible Commercially Viable Solutions	Illustrative Facilitation Activities
Increased Productivity	
Provision of training and technical assistance in improved cultural practices and other improved crop husbandry techniques	– explore use of media to disseminate best practice message (with commercial sponsorship) – develop alternative (less intensive) models to transfer the needed skills, know-how, and information to improve productivity

Program Priorities/ Possible Commercially Viable Solutions	Illustrative Facilitation Activities
Availability of and access to credit for smallholder farmers to purchase fertilizers	– improve smallholder access to finance for inputs ▪ reduce risk to rural commercial lending via loan guarantee mechanisms, alternative collateral options, etc. ▪ improve land certification process to formalize collateral – support group mobilization to reduce transaction costs and risk
Improved Quality	
Access to up-country buying stations where smallholders can bring large volumes of cocoa beans for direct sale to exporters and processors. Access to an auction system for smallholder farmers to sell their beans more transparently	– explore feasibility of commercial up-country buying and warehousing system ▪ promote existing private sector initiatives by reducing risk for expansion and replication (where appropriate) ▪ assess other ownership structures with emphasis on capacity to ensure commercial operations – introduce transparent grading system to improve quality and support commercial market incentives ▪ could be pilot tested via up-country buying stations – support group mobilization to improve direct sales to large-scale buyers (i.e., exporters & processors)
Provision of formal and informal enforcement mechanisms to ensure compliance with prevailing quality standards for cocoa exports.	– improve systems to ensure broad-based compliance with existing national quality standards for cocoa bean exports (SNI) – improve formal and informal dispute mechanisms (e.g. contracts, industry-based mediation/arbitration services, etc.) to decrease risk
Availability of financial services for exporters, traders, and processors based on alternative sources of collateral (e.g. inventory)	– explore feasibility of commercial financing based on up-country warehousing system ▪ promote possible rural-based warehouse (inventory-based) finance program to reach rural clients
Increased Opportunities for Local Value Addition	
Access to affordable and improved planting materials for smallholder farmers Availability of a dedicated Research & Development facility for cocoa	– increase commercial availability and smallholder farmer access to inputs – promote commercial distribution of improved planting materials that are appropriate for local conditions – support the development of materials to inform farmers on the appropriate use and application of fertilizer for cocoa (for distribution via private sector channels) – improve the capacity of private input supply companies to deliver a range of embedded services – support dedicated cocoa research & development to identify appropriate plant varieties and other inputs

Program Priorities/ Possible Commercially Viable Solutions	Illustrative Facilitation Activities
Access to lobbying service to expand the legal status options for farmers groups, and rural enterprises in general, to effectively conduct business operations Access to lobbying service for exporters to prevent the enactment of an export tax on cocoa	– conduct research on effect of pending legislation (local, provincial, or national) on continued growth and competitiveness of cocoa sector

The team would like to extend its deepest appreciation for the extensive logistical support provided by the ACDI/VOCA Success Alliance staff in South and Central Sulawesi. The team is also thankful for the technical support and guidance from Judith Payne (USAID/EGAT); Art Warman, Firman Aji, and Rum Ali (USAID/Indonesia); Jeanne Downing and Mike Field (USAID/MDO); Olaf Kula (ACDI/VOCA); and Frank Lusby (AFE).

APPENDIX 1:

Scope of Work

A. AMAP BDS Component: B, Market Assessments, AMAP BDS Knowledge and Practice

B. Date Submitted: January 28,2004

C. Name of Contractor: ACDI/VOCA

D. Key Contact Information: Olaf Kula, Program Manager, 202-879-0213, okula@acdivoca.org; Naya Kenman, Deputy Program Manager, 202-383-4988, nkenman@acdivoca.org

E. List of Deliverables (final & intermediate)

Final Products:

1. Desktop Review
2. Findings Report
3. Recommendations on value chain programming

F. Timeline for Deliverables (final & intermediate)

See attached tables.

G. For Deliverables:

Name of Deliverable:	**Cocoa Sector Assessment**
Description of and Rationale for Research Topic:	The primary objective of this activity is to determine constraints and opportunities to growth and expansion of the cocoa sector, and propose strategies to facilitate a more viable and competitive cocoa producing and processing cluster centered in Sulawesi, Indonesia. **Background** The world production of cocoa primarily comes from Africa (mostly West Africa) and Indonesia. Unlike many other crops, cocoa has historically performed better when cultivated in small-holder plots. The regular care and maintenance that is needed has been hard to automate and overly expensive to commercialize. Although African cocoa is considered better tasting, Sulawesi cocoa is faster growing and higher yielding. The combination of more efficient production and primarily smallholder farms has made Sulawesi an interesting site for new investment in cocoa processing and as well as an attractive sector for the stimulation of economic growth with equity. More specifically, large multinational companies like Masterfoods (formerly M&M Mars) and Cargill have invested in Sulawesi, as it is already a large supplier of cocoa butter and powder that is combined with higher quality and better tasting cocoa from other regions. Cocoa production expanded largely in the 1990s and was driven by smallholder farmers. As production and demand increased over recent years, farming

practices did not keep pace. With more cocoa being cultivated, the infestation of the Cocoa Pod Borer (CPB) increased, retarding production and quality and posing a substantial threat to the viability of Sulawesi cocoa production. The Sustainable Cocoa Extension Services for Smallholders (SUCCESS) Alliance project, implemented by ACDI/VOCA, was designed in coordination with interested chocolate industry leaders to mitigate losses caused by CPB by training farmers on basic crop husbandry and integrated pest management. When adopted by farmers, SUCCESS Alliance techniques for controlling CPB, which do not utilize pesticides, have proven effective. Since its inception in 2000, the SUCCESS project has trained over 45,000 farmers in these cultural control methods by using the participatory farmer field school approach. Farmers' adoption rates of the methodology have been high, even when measured six months to a year after training. However, the project only has enough current funding to train approximately 10% of the estimated 400,000 cocoa farmers in Sulawesi, and does not have funding to focus on much follow-up training and extension, which is necessary to ensure long-term adoption of effective crop management techniques and sustainability.

The SUCCESS Alliance project has recognized the need to improve follow-up and extension to effect a lasting change in cultural practices at the farm level and is attempting to involve more local government extension support to further follow up and support the use of recommended practices. . SUCCESS Alliance has recently begun to focus more on long-term sustainability by adding a farmer organization component to their activities. The SUCCESS Alliance has also started to establish a local NGO to possibly carry on sustained cocoa activities in the future.

SUCCESS Alliance has not conducted a full market assessment to understand all the constraints and opportunities within the cocoa subsector. Under the current SUCCESS Alliance GDA project, ACDI/VOCA works with members of the chocolate industry to improve the quality and quantity of cocoa produced in Indonesia. ASKINDO (a local association of cocoa traders), and Masterfoods (with Dutch Government funding called PRIMA) have initiated smaller programs to try to control CPB in other districts. ACDI/VOCA is an industry partner in implementing these new activities, including those that incorporate a broader understanding of both commercial and social incentives at the farm level and processing levels. SUCCESS Alliance has recently awarded additional funding from USAID to implement a farmer organization component. Although this new component will generally support farmer group formation and organizational development among trained cocoa farmers, it is an important aspect to sustainable cocoa production and deserves additional attention on how to build on this initiative.

Based on an initially positive experience working together the partners have communicated an interest in greater coordination, and they have also shown a willingness to invest on an on-going basis to facilitate better farmer-trader and/or farmer-processor relationships.

Constraints

Input and Farm Level -- While there is a strong interest within the industry to address the CPB threat and other quality and production concerns, there are a number of constraints that have limited real progress. In particular, farmers are not well organized and have limited direct, on-going commercial relationships that inform and encourage them to change crop management practices. Even though many farmers trained by SUCCESS Alliance are practicing better crop

	husbandry in their gardens through improved farm level management of cocoa, finance and replacing aging cocoa trees is critical to the long-term sustainability of the commodity. Smallholder farmers need to gain greater leverage and to be able to accept and utilize news skills, know-how, and information as it is transferred through fee-for-service training or embedded in commercial relationships. Farmer groups, whether informal or more formal, like co-ops and associations, have proven effective and sustainable in this regard in other areas. There is also still a lack of commercial relationships between farmers and actual and potential service providers. Outreach of commercial input providers varies, but when extensive outreach exists, farmers do not often have proper cash flow and/or credit to purchase inputs when they are readily available. The three programs that are active do not yet engage with commercial input providers helping them understand how better to sell and target smallholder cocoa farmers. The commercial delivery of inputs not only provides a more sustainable mechanism for accessing inputs, but also an important commercial relationship that can provide information and know-how. Traders – One of the main complaints from farmers trained by the SUCCESS Alliance program is that although they are producing a greater quantity of cocoa and consequently earning more income for it, they are not getting any price differential from traders for the additional increase in quality. Some exporters or traders do offer a price differential on quality but this is not captured by the farmer unless s/he sells directly to the exporter. At the farm gate, farmers generally deal with village collectors or local traders who tend to negotiate with each farmer on the quality and quantity they sell. Farmers have limited leverage in transactions with traders when negotiating on their own. (Nonetheless, cocoa marketing is highly competitive in Indonesia, with fairly thin profit margins, and farmers do receive a high percentage of the world price.) Traders tend to adopt short term rent seeking behaviors and do not see the farmers as being key to their longer term success. There is a very short-term perspective among traders, who do not grade cocoa for quality standards, trying to maximize profits for each transaction. Short-term profit maximization has also encouraged traders to begin adding waste to the cocoa to add weight. While processors have worked to limit the amount of waste, this practice has added additional costs in testing and oversight. The combination of short-term thinking, lack of transparency, and poor business practices has created a bad reputation for traders with processors, and has made the value chain more inefficient and less capable of handling shocks such as with the infestation of CPB. Processors – The processors are primarily large international firms that have limited understanding, ability or time to work with individual farmers. While they are interested in direct sourcing cocoa from farmers because they know the quality will be higher than buying from traders who mix waste with the farmers' beans, they simply do not have the outreach nor is it economically efficient. They also realize that they are not the best suited to facilitate farmer organization or collaboration to organize the sale of cocoa by such groups. At the same time, they are very concerned with the situation of cocoa quality and quantity and have become increasingly concerned over having access to cocoa beans meeting industry standards. The concern spills over to traders who as part of the value chain, affect the supply of quality cocoa. Wider Industry – When looked from an overall industry perspective there is both a lot of opportunity and a number of substantial threats. One threat is the lack

	of integration along the value chain. Sulawesi farmers have several advantages over African farmers, such as a highly competitive and efficient marketing system (no marketing boards), many exporters, low cost of transportation, good infrastructure, low cost of inputs and stable macroeconomic policies, which allow them to greater opportunities if efficiencies along the value chain are improved. The strengths of Sulawesi cocoa (bulk, fast-growing and high yield, but lacking in high-quality flavor) have led to a strategy by many exporters to blend Sulawesi beans with better quality African beans in to better meet the growing demand for chocolate. Increasing efficiency at the broader industry level would require greater coordination and possible vertical integration in some instances. The cocoa industry has a critical stake in sourcing sufficient good quality beans and therefore has been very supportive in developing the capacity of farmers and entrepreneurs in cocoa-producing countries and is likely to remain an important partner in these efforts. The purpose of this assessment is to provide accurate information on opportunities to increase yields, productivity, and efficiency at all levels of the cocoa value chain and the degree to which key services e.g. financial, ICT, infrastructure constrain exploitation of the above opportunities. This activity is a part ACDIVOCA's activities in Component's B and C. The findings and lessons learned from this assessment will contribute to our understanding of the cocoa industry in Indonesia in particular and of how to increase small holder wealth in value chains through a series of activities that promote growth throughout the sector. In so doing, this study responds to hypothesis questions 1,2,and 3 in the AMAP Knowledge and Practice Research Plan for Component C: Intervention Design and Implementation Research. As we adapt value chain tools to field assessments for donors, we expect to develop a refined and streamlined value chain analysis tool which is part of ACDIVOCA's research under Component B.
Description of Research Methodology:	ACDIVOCA will use a value chain approach to analyzing constraints to growth in the cocoa sector which will include those constraints faced by small holder participants, particularly growers. The assessment will include: ▪ Conduct a desktop review of all existing literature on cocoa and the confectionary value chain with a special emphasis on Indonesian and Sulawesi cocoa. ▪ Meet with other donor agencies and key government officials active in cocoa production and processing in Indonesia to gain an understanding of their strategies and approaches, their current plans for new investments, and their perceptions about gaps in assistance. ▪ Interview key private sector buyers, manufacturers, processors, traders, and farmers to determine the constraints, relationships, rents, and other details about the current operations of the value chain, and broader subsector. ▪ Map and assess the effectiveness key non-agriculture and SME activities and non-financial services along the chain, including storage, grading, product assembly, and ICT related services ▪ Analyze barriers to greater cooperation between and among firms and MSEs and identify potential opportunities to increase effective cooperation ▪ Assess the extent to which access to capital constrains innovation and technology adoption, and the set of products and institutional options that can respond to these constraints. Identify opportunities to address these constraints, including the use of DCA guarantees and other mechanism to reduce initial risks. Analyze how the current ACDI/VOCA program could more effectively address

	the constraints to increasing efficiency and productivity in the cocoa industry that benefits large numbers of small-holder farmers and non-farm MSEs.
Relevance to AMAP BDS K&P and Mission Programming:	The primary objective of this activity is to determine constraints to growth and expansion of the cocoa sector, and to propose strategies to alleviate or at least mitigate those constraints. The results of this activity can be used by the USAID Indonesia as well as by lead firms operating within the cocoa value chain. Additional support in developing a strategy to implement recommendations in the assessment may be provided by the Microenterprise Division (MD). The research approach used will be refined and developed into a tool for Component B under AMAP BDS K&P. Lessons learned about the dynamics of interfirm relationships and constraints to growth within the sector will inform the K&P research agenda.
Country Selection & Rationale:	Indonesia, Sulawesi.
Proposed LOE:	**Team Leader** : Henry Panlibuton, AFE, Strategic Planning Specialist, Level One ---2 days preparation, 3 days field training of consultants; 10 days field data collection; 5 days for mission report and Case write-up. Total: 20 days. **Hubert Schmitz**: Strategic Planning Specialist, Level One (non US), 1 day for input into field training of enumerators; 2 days for review and commentary on final report. Total: 3 days. **ACDI/VOCA** Microenterprise Strategic Planning Specialist Level Two. **Maggie Meyer**. 5 days desk review and summary, 13 days field data collection; 2 days contribution to report =20 days 2-3- bilingual TCN Local Consultant Enumerators, Level One or Level Two, tbd 2@ 13 days each= 26 days. **Additional Support** and participation on the research team will be provided by USAID's EGAT/EIT/I e-Commerce/e-Business Advisor, Judith E. Payne, USAID Indonesia staff, and ACDI/VOCA field staff in Jakarta and Macasar. Total LOE: 69 days
Consultant Selection & Rationale:	**Team Leader:** Henry Panlibuton, AFE, is an international development professional with over 13 years' experience in the training, design and implementation of microenterprise and business development service (BDS) programs; subsector and industry analysis; export trade promotion; impact monitoring and performance evaluation; and multi-country project and program management. As a Senior Technical Specialist with Action for Enterprise (AFE), he helped develop and co-author AFE's innovative "subsector/business services" approach to program design and implementation. Applying this approach, he co-facilitated three one-week programs in Kenya and Bangladesh for 60 participants from 15 different countries; and also facilitated workshops on subsector selection and business service assessments in Bhutan. Professor **Hubert Schmitz** is a development economist with more than 20 years of experience in research, teaching, and advisory work. Dr. Schmitz, who currently serves on the research team for the Institute of Development Studies, has expertise in the areas of industrialization and employment, trust and economic performance; industrial clusters and collective efficiency; global

	traders and local producers; local upgrading in global chains. He is also the co-ordinator of the project 'The interaction of local and global governance: implications for industrial upgrading'. Dr. Schmitz has co-developed training materials in Value Chain analysis, conducted value chain analysis of the Indonesian motorcycle industry as well as numerous others in multiple countries. **Maggie Meyer.** Ms. Meyer is the Associate Director and Cocoa Coordinator of the Food for Development Division at ACDI/VOCA. She has been with ACDI/VOCA for two and a half years. Ms. Meyer manages USAID and USDA-funded sustainable cocoa development projects in Indonesia, Philippines, Vietnam, and Ecuador. She coordinates the SUCCESS Alliance partnership and works closely with US and international government donors, members of the cocoa industry, local trader and farmer organizations, scientists and researchers. Ms. Meyer has presented papers on sustainable cocoa development in Southeast Asia at several international industry conferences. **Local consultants tbd.** will be recruited based on familiarity and expertise in the cocoa sector (1) and in value chain approaches to market analysis (1).
Deliverables:	The contractor is expected to submit the following deliverables: 1. Findings report (3 hard copies and electronic copy to USAID/Jakarta and MD **a.** Summary of the main findings in the areas of cocoa production and processing, inter-firm relationships, USAID's current investment, and constraints long the value chain, including policy and financing barriers. **b.** Recommendations on intervention strategies that will inform USAID and lead firms in the cocoa value chain on: **i.** whether or not current investments adequately address the constraints on a sustainable and commercial basis, **ii.** what programming investments can facilitate farmers capturing a more equitable portion of rents (broad based economic growth), **iii.** whether and if so which targeted investments would help to facilitate a more competitive cocoa production and processing value chain in Sulawesi and the surrounding islands, and 2. Debrief to the USAID Mission at the end of the field visit to present the key points and recommendations presented in the written report. 3. Submission of the draft value chain assessment to the AMAP BDS K&P core team to be reviewed. 4. Submission of the final value chain assessment to the AMAP BDS K&P core team.
Expected Submission Date:	Conduct study March –April 2004- Final Report: May 2004.

APPENDIX 2:

Itinerary and Contact Information for Organizations/Individuals Interviewed

DATE	COMPANIES/ORGANIZATION	CONTACT PERSON	ADDRESS/CONTACT NUMBER
	JAKARTA		
19-Mar-04	Dept. of Agricutural, RI	U.K. Anggoro – Director Crop Estate Development	Direktorat Pengembangan Perkebunan, Dept. Agri. RI., Building C, 4th Flr. Room 401, Jl. Harsono RM., No. 3, Ragunan, Pasar Minggu, Jakarta Selatan 12550, Indonesia Tl: (62-21) 781-5682, Fx.: 782-7903, Cel.: 0811994590
22-Mar-04	Mars/Masterfoods (based in Netherlands)	Peter van Grinsven – Sustainable Cocoa Team	Tel: (31) 651 850080
23-Mar-04	APIKCI – Indonesia Cocoa and Chocolate Manufacture Association	Sonny Satari – Chairman Peter Andow – Exec. Dir.	Jl. Danau Sunter Selatan, Komplek perkantoran Royal Sunter Blok F, No. 10, Jakarta Utara Tl.: (62-21) 652-0384; Fx.: 650-8219 Cel.: 08128152274 (Peter Andow)
23-Mar-04	ASKINDO or INCA (Indonesia Cocoa Association)	Ir. Zulhefi Sikumbang Chairman	AEKI Building 3rd Flr., Jl. R.P. Suroso No. 29, Jakarta 10330 Tl.: (62-21) 392-5053; Fx.: 392-5024; Cel.: 0811137221 (Zulhefi)
	CENTRAL SULAWESI		
25-Mar-04	Dinas Perkebunan & Kehutanan (DISBUN- Estate Crop Mission) District Gov. of Parigi Moutong	Ir. H. Mukramin, M. Si Head Mission	District Gov. of Parigi Moutong, Central Sulawesi Jl. Trans Sulawesi, Kelurahan Maesa No. 28, Parigi, Central Sulawesi, Tl.: (62-450)22183/ 22184
25-Mar-04	PT. Effem Country Buying Station	Aciang – Warehouse Mgr.	PT. Effem – country Buying Station/Warehouse, Parigi Mountong, Central Sulawesi
25-Mar-04	Cocoa Village Collector	Linda – (Balinese Trader)	Cocoa Village Collector, Tolai, Central Sulawesi
25-Mar-04	Putra Liong	Liong	Cocoa Trader c/o. Grand Mitra Hotel, Jl. Finono, Parigi Moutong, Central Sulawesi Tl. (62-450) 22089/22090
25-Mar-04	Small Collector	Cocoa collector at Farmer level	Main Street Jl. Tans Sulawesi, Parigi, Central Sulawesi,
26-Mar-04	Head of DISBUN, Donggala		District Gov. of Donggala, Central Sulawesi

DATE	COMPANIES/ORGANIZATION	CONTACT PERSON	ADDRESS/CONTACT NUMBER
26-Mar-04	Dept. Industry and Trade, Palu Province, Palu.	Aman Juhali SE Deputy Mission	Palu, Central Sulawesi
26-Mar-04	Chambers of Commerce and Industry(KADIN),CentralSulawesi	H. Muhidin Moh. Said – Chairman of KADIN	KADIN, Central Sulawesi Province, Jl. Ir. H. Juanda No. 29, Palu, Central Sulawesi Tl.(62-451) 428-824, Fx.: 428-823 Email: kadinprovpalu@telkom.net
26-Mar-04	PT. Olam		Palu, Central Sulawesi
26-Mar-04	Farmer Group, Sindue Subdistrict ACDI VOCA Alumni	Farmer Group (25 members)	Sindue, Subdistrict, Central Sulawesi
26-Mar-04	Cocoa Farm Demplot	Farmer Demplot	Sindue, Subdistrict, Central Sulawesi
26-Mar-04	PT. Mitra Celebes Sejati (Palu)	Jeffri	PT. Mitra Celebes Sejati Jl. Trans Sulawesi Palu-Pantoloan, Km. 16 Taipa Palu, Central Sulawesi Tl.(62-451) 491-726, Fx. 491-800
27-Mar-04	Focus Group Discussion	Farmers, Exporters/Traders, ASKINDO, Gov. officials	Palu, Central Sulawesi.
27-Mar-04	Citra Tani Radio	Rudi – Director	Palu, Central Sulawesi
	SOUTH SULAWESI		
25-Mar-04	Farmer Group	ACDIVOCA Farmer Alumni	Cempa Toa, Subdistrict Suppa, South Sulawesi
25-Mar-04	Farmer Group	ACDIVOCA Farmer Alumni	Amassangan, Subdistrict Suppa, South Sulawesi
29-Mar-04	Bank Perkreditan Rakyat (BPR) City Council of Makassar	H. Bakhtiar A. Bong SE	PD BPR City Council Makassar, Jl. Gunung Bawakaraeng No. 154, Makassar 90145 Tl.: (62-411) 424-283; Fx.: 424-284 Cel.: 081342731221
29-Mar-04	Bank Indonesia	Ika Wijaya	Jl. Jend. Sudirman, Makassar Tl. (62-411) 315-188; Cel.: 0811463519
29-Mar-04	Bank Rakyat Indonesia (BRI)	Denny Rohman	Jl. Jend. A. Yani, Makassar, Tl.: (62-411) 313-174
29-Mar-04	Pupuk Sriwijaya	Sulkifli Basir	Jl. A.P. Pettarani, Makassar Tl.: (62-411) 440129
29-Mar-04	PT. Sucofindo	Dahlan Dacca Operations Manager	PT Sucofindo, Agricultural Strategic Business Unit, Graha Sucofindo Makassar, Jl Urip Sumoharjo No. 90A, Makassar 90232, Tl:(62-411)451-890, Fx:451-796
29-Mar-04	University Hasanuddin	Prof. Sofyan Djaamal & Dr. Yusuf Maamun	Makassar
29-Mar-04	Unicom	Jasper Prins	KIMA IV Kav.M3 - Daya Makassar Tl (62-411) 514273 ; Cel.: 0812 418 1311

DATE	COMPANIES/ORGANIZATION	CONTACT PERSON	ADDRESS/CONTACT NUMBER
30-Mar-04	ADM Cocoa	Philip Chung	PT.ADM Cocoa , Jl. Kapasa Raya 12/3 Komplek Gudang CV. Mojong, Makassar 90244 Tl.: (62-411) 515-775; Fx.: 515776 Email: philadm@indosat.net.id
30-Mar-04	PT. Mitra Celebes Sejati CONTINAF	David Tk Ngu	Jl. Kapasa Raya No. 24, Makassar, South Sulawesi Tl.: 62-411) 511910; Cel.: 514981; Cel.: 0811410680
30-Mar-04	PT. Olam	Murali V.	PT. Olam Indonesia, Jl. Kima 4 Kav.6/7, Makassar Tl.: (62-411) 511695; Fx.: 512372; Cel.:0811417875 Email: muralv@olamnet.com
30-Mar-04	PT. EFFEM Indonesia	Noel D. Janetski- Pres.Dir.	Jl. Kima 10 Kav. A6 Daya, Makassar, South Sulawesi Tl.: (62-411) 515702; Fx.515704; Cel: 08124184335 Email: noel.janetski@ap.effem.com
31-Mar-04	ASKINDO/INCA, Makassar	Drs. La Odi Mandong & Andi Faik	ASKINDO, Makassar Jl. Rusa 45B, Makassar, South Sulawesi Tl.: (62-411)878604; Fx.: 878566; Email: askindo@indosat.net.id
31-Mar-04	Bank Niaga	Rahmad A. Haris Branch Manager	Jl. Jend. A. Yani, Makassar Tl. (62-411) 318718
31-Mar-04	PT. Bakti Persada Perkasa	Rudy Saldy SE, Director	Jl. Tol Ir. Sutami, Tl.: (62-411)437059; Fx.:516188
31-Mar-04	PT.Cargill	Ruud Engbers	Kima 9 Kav.L7B Daya, Makassar, South Sulawesi Tl.: (62-411)514361
31-Mar-04	CV. Tri Karya	Muhammad Akbar	Jl. Pengayoman Ruko Mirah C 26, Makassar, South Sulawesi Tl.: (62-411)422287
1-Apr-04	Group Discussion	ASKINDO, Exporters, Suppliers, ACDIVOCA, Cocoa Village Model	
1-Apr-04	International Finance Corporation A Member of The World Bank Group	Bruce Wise – Program Manager	Graha Pettarani Building 5th Flr., Jl. A.P. Pettarani No. 47, Makassar, South Sulawesi Tl.:(62-411) 425280/84; Fx.:425269; Cel.:08123852006
2-Apr-04	PT. Maju Bersama Cocoa Indonesia	Wilson Balleta & Chin	Jl. Kima 8, Kav. Ss-21, Kawasan Industri Makassar, Makassar 9011, South Sulawesi, Indonesia Tl.: (62-411)554267; Fx.: 554245
United States			

DATE	COMPANIES/ORGANIZATION	CONTACT PERSON	ADDRESS/CONTACT NUMBER
6-May-04	Masterfoods/Mars U.S.A	Roger Dehnel	Tel: 908-850-2107 roger.dehnel@effem.com
10-May-04	World Cocoa Foundation	Bill Guyton, President	World Cocoa Foundation tel: 703-790-5011 Bill.Guyton@worldcocoa.org
??-May-04	Hershey Foods	Dave Stuart	717-534-5075 dstuart@hersheys.com

APPENDIX 3:

Details of Assessment Activities

STEPS IN ASSESSMENT APPROACH	ACTIVITIES	DATA RESOURCES
(1) Pre-Assessment Design		
Design Assessment Framework	– reviewed scope, objective, and level of effort for assessment and design framework accordingly	– scope of work
Schedule initial interviews with value chain participants	– finalized schedule for interviews and focus group discussions of key participants	–
Orient and brief team members	– reviewed general framework and approach – reviewed interview techniques and structured interview guides with team members	– structured interview guide
(2) Identification of Key Value Chain Constraints		
Review existing data	– compiled and researched all relevant documents and reports regarding Indonesian cocoa specifically, as well as its current position within the global cocoa value chain in general	– internet research – telephone interviews – initial team meetings
Map value chain actors and their inter-relationships	– developed and refined initial value chain maps which graphically present key functions, major participants, and their inter-relationships within the value chain	–
(3) Assessment of Commercial Solutions (Critical Success Factors)		
Identify solutions	– Identified (potential) commercially viable solutions to address value chain constraints	–
Prioritize solutions	– conducted a short-listing exercise of possible solutions	– short-listing matrix – team meetings
Assess and validate feasibility of solutions	– carried out assessment with existing/potential solution providers and users to determine if they could be offered in a sustainable manner.	–
(4) Development of Facilitation Strategies		
Recommend activities to upgrade/facilitate growth & competitiveness	– identified possible support initiatives, based on constraints to provision and use of solution – validated information from the commercial solution assessment – solicited feedback from key private sector participants on possible initiatives to support the targeted value chain solutions	– focus group discussion (FGD) with key participants

APPENDIX 4:

Summary of Indonesia Cocoa

Details on the production, supply, and demand of Indonesian cocoa and cocoa products are shown below.

Summary of Indonesia Cocoa (Production, Supply, and Demand)

Commodity	2001	2002	2003
Area Planted ('000 ha)	700	710	720
Area Harvested ('000 ha)	470	480	490
Bearing Trees	470	480	490
Non-Bearing Trees	230	230	230
TOTAL Tree Population	700	710	720
Beginning Stocks	3,593	2,170	3,495
Main Production	249,086	280,000	265,000
Mid & Other Production	150,612	170,000	161,000
TOTAL Production (MT)	**399,698**	**450,000**	**426,000**
Bean Imports	24,641	20,000	21,075
Liquor & Paste Imports	2,850	2,500	2,500
Butter Imports	29	25	25
Powder, Cake, Choc. Imports	5,843	5,500	5,200
TOTAL Imports (MT)	**33,363**	**28,025**	**28,800**
TOTAL SUPPLY (MT)	**436,654**	**480,195**	**458,295**
Bean Exports	326,463	350,000	333,800
Liquor & Paste Exports	7,951	8,400	8,000
Butter Exports	42,636	44,800	9,000
Powder, Cake, Choc. Exports	42,434	44,500	39,000
TOTAL Exports (MT)	**419,484**	**447,700**	**419,800**
Domestic Consumption	15,000	29,000	35,000
Ending Stocks	2,170	3,495	3,495
TOTAL DISTRIBUTION (MT)	**436,654**	**480,195**	**458,295**

Source: Indonesia Cocoa Report 2002, Global Agriculture Information Network (GAIN), USDA/FAS, Jakarta

APPENDIX 5:

Detailed Description of Value Chain Participants

Below is a brief description of the major functions and participants in the Indonesia cocoa value chain, which are shown graphically in two value chain maps (**Figure 6** and **Figure 7** respectively).

Research/Extension:

There is one major agricultural research station in Indonesia, funded by the Government of Indonesia and located in **Jember**, Java. This station provides limited research and training for the cocoa sector, and does not have outreach or activities in Sulawesi, or links to extension activities. There is little research funded by other donors or the private sector. **ACIAR** has conducted small-scale research on improved varieties for pest and disease resistance, and is now testing these varieties with the SUCCESS Alliance. **PT Effem**, a local cocoa processing subsidiary of Masterfoods/Mars Inc., also has a small seed garden where limited research is conducted.

Cocoa extension falls under the direction of Dinas Perkebunan (Disbun), the Department of Estate Crops. Due to decentralization, each district office of Disbun in Sulawesi now controls its budget and activities independently, including extension work. Most Disbun extension agents are not specialists in cocoa, and due to budget constraints and lack of education and training, the services that district Disbun agents provide to cocoa farmers are limited. Under the SUCCESS Alliance (implemented by ACDI/VOCA), some **Disbun extension agents** and a small cadre of **farmer/trainers** have been trained to lead best practice trainings using the farmer field school methodology for cocoa farmers in their area.

Other public-funded extension programs include the **Cocoa Village Model** (implemented and funded by the Indonesia Cocoa Association – ASKINDO), and the **PRIMA** project (implemented by PT Effem, with Dutch funding).

Input Supply:

The major inputs for smallholder cocoa production are seedlings and planting material, tools, fertilizers, and pesticides. Most farmers obtain seedlings and planting material from their own or neighboring farms. There are few community or commercial nurseries for cocoa. There are two large **fertilizer/input supply companies** in Indonesia, including PUSRI, who distribute their products via a network of wholesalers/distributors and **local kiosks and retailers**. Per government decree, each of these companies is now only able to operate in designated geographic areas of the country. Cocoa farmers typically buy their tools, fertilizers and pesticides from these small retail operations in nearby towns. However, there is limited access to inputs for farmers who do not live near towns.

Growing:

There are approximately 400,000 **smallholder farmers** in Sulawesi, who farm an average of less than 1.5 hectares each, and produce bulk, unfermented cocoa. Most labor on cocoa farms is provided by family members with little outside hired labor. Average yield on these farms varies

from 400 to 800 kilograms per hectare. Cocoa is the primary cash crop for most Sulawesi farmers but they also grown rice, maize, and other food crops. These other crops – particularly rice – have greater social and cultural importance that cocoa and farmers often spent more time on these crops and less on cocoa. Some **larger estates** also grow cocoa but supply less than 10% of the total production in Indonesia.

Collecting/Bulking:

Local Collectors are primarily farmers or rural entrepreneurs who travel to farms with a motorbike (or sometimes a truck) and purchase cocoa beans from farmers once or twice per week during the two harvest periods. The scale of these purchases is small and turnover is rapid. If they purchase wet beans, collectors will often full-dry them, but their storage capacity is still limited. Before harvest, some collectors provide cash advances (or pre-financing) to farmers, while some provide housing or transportation in exchange for beans. Collectors usually sell to larger traders either in towns or markets. Some collectors truck their beans directly to Makassar, and small number sell directly to exporters or processors.

PT Effem has also established an upcountry **buying station** in Parigi, Central Sulawesi to pilot test a direct supply chain with farmers. By offering slightly higher base prices and a relatively more transparent procurement process, PT Effem hopes to provide incentives to consistently supply cocoa of higher quality. Based on their experience, other local processors and large-scale exporters are exploring the possibility of vertically-integrating as well.

Trading

Traders purchase cocoa beans from collectors or, to a lesser extent, directly from farmers. They make most purchases at collection points (towns and markets) up-country and arrange for transport of the beans to the main cities of Makassar or Palu. Specific data was not available, but there are an estimated 9,000 traders in Sulawesi with most buying between 1,000 to 5,000 MT of cocoa per year, depending on cash flow and availability of working capital.

Traders primarily sell their cocoa beans to exporters in Makassar or Palu, although a smaller amount flows to local processors. There are a smaller number of traders who sell only "export-ready" beans and are expected to adhere to a higher quality standard. Traders receive daily price information from New York and Makassar via fax or phone. Although ASKINDO is a national association for the entire cocoa industry, the leadership and most members are traders which constitute its primarily constituency.

Processing (local):

Cocoa processing, or grinding, entails the transformation of dried beans into a variety of processed cocoa products, including: cocoa paste or liquor, cake, powder, and butter. Approximately 10% of Sulawesi cocoa production is processed locally. Most local processors primarily process Sulawesi beans, although some also purchase smaller amounts of fermented beans from Sumatra, Java, Papua or Papua New Guinea. Processors buy beans primarily from traders and collectors and most have about 20 consistent suppliers. Processors have strict quality standards and will discount their suppliers accordingly (see Section 2.3 for details on the discounting process).

There are approximately twelve **local cocoa processors** in Indonesia located in Sulawesi (Makassar) and Java (Surabaya, Jakarta, and Bandung)—producing cocoa butter, cocoa powder, and/or cake. But over half of them, mostly located in Java, are either non-operational or operating below capacity. These facilities have become inoperable for a variety of reasons, including taxes, lack of working capital, lack of good equipment, lack of quality beans, and lack of efficient management.

In Sulawesi, the largest processors are PT Effem and Unicom (a subsidiary of a Dutch-owned cocoa trading company) with an average capacity of 10,000–15,000 MT per year. Unicom exports semi-finished cocoa products to its parent factories in Europe for further processing and packaging. PT Effem primarily sells products to Masterfoods manufacturing plants in the U.S, Brazil, and other parts of Southeast Asia—as well as to Ceres Group, the major local manufacturer. Both PT Effem and Unicom are hoping to expand their processing capacity. In addition, there are plans by separate local entrepreneurs to start-up a new cocoa processing facility in Palu and in Makassar later this year.

Local processors are charged with a 10% VAT tax on the sale of their cocoa products and an income tax, which has recently been reduced from 2.5% to 0.5%. A new association called APIKCI was recently established to primarily represent cocoa processors and manufactures but its membership is still limited.

Manufacturing (local):

Manufacturing is the process of producing final finished chocolate products. There are a number of **local small-scale manufacturers** producing for the domestic market and sold to middle-upper class consumers in Indonesia. Overall domestic consumption is low (i.e., approximately 35,000 MT annually). The **Ceres Group** is the only fully integrated cocoa manufacturer and product exporter in Indonesia. The Ceres manufacturing plant is located in Java but recently expanded their processing operations internationally, with a new 50,000 MT capacity facility in Malaysia. Ceres produces a variety of higher quality chocolate products for export to other regional Asian markets as well.

Exporting:

Exporters must fumigate cocoa beans before shipping and typically sell to importers on an "FOB" ("free on board") port of embarkation basis for future shipment. There is currently no export tax on cocoa beans although the GoI is considering it. Exporters also have quality standards and discount for poor quality, although standards vary depending on the specific requirements of their international buyers.

There are 10-20 local **small-scale cocoa bean exporters** that are largely based in Makassar, with a few exporting from Palu. These exporters buy beans from collectors and traders who deliver their warehouses, and then sell primarily to regional buyers for processing. The **medium- to large-scale exporters** also sell to regional buyers with a few selling to U.S-based buyers as well. Both the small- and medium/large-scale exporters have found it increasingly difficult to compete with the multinational affiliate exporters. As a result, many have begun selling directly to the larger multinational exporters rather than continue to export directly themselves.

The five main **multinational affiliate exporters** in Sulawesi are EDF & Man, Olam, Cargill, ADM, and Continaf. These exporters purchase bulk beans from collectors and traders, sort and grade them for quality, and then sell them to buyers, primarily in the U.S., Malaysia, Singapore, and Brazil for processing. Most of their procurement comes from Sulawesi but some also source beans from other parts of Indonesia.

Multinational exporters will typically have a core group of 20-30 traders but will buy from any supplier who meets their requirements. Some multinational exporters have started to explore upcountry buying activities to obtain better quality directly from farmers, but most prefer to have traders bring the beans to their warehouses in Makassar or Palu.

There is an Indonesian national quality standard for exports of cocoa beans, developed by the National Standards Board of Indonesia (SNI), but it is currently only voluntary. If exporters or buyers require certification of their beans then the inspection is performed by one of two companies (Sucofindo or PanAsia) who will test a sample of the beans against the quality standards for bean count, waste level, mold, and moisture content. The inspection companies then issue a certificate to the exporter ensuring that the beans meet the Indonesian quality standard. However, the legitimacy of these inspection certificates is still questioned by some international buyers.

BPSMP, a division of the Ministry of Trade and Industry, has recently been charged with oversight and regulation of the inspection agencies to help ensure that the Indonesian SNI standard is being upheld. This is a new process which is not yet obligatory and will be implemented gradually. To date, government enforcement of the standard has been extremely limited.

Importing/Trading:

Several large multinational processors and manufactures use **international agents**, based primarily in New York or London, to source beans or cocoa products. The biggest cocoa bean exporter in Indonesia is the local affiliate of ED&F Man—one of the largest cocoa and commodity traders in the world.

Most cocoa is globally traded on the New York and London commodity exchanges. Since the U.S. is the biggest buyer of Sulawesi beans, most of the Indonesian cocoa trade passes through the New York exchange which serves as the basis for Sulawesi bean prices. Physical trade does not pass through the exchange. It is the mechanism used by international importers and traders to establish current commodity prices.

Processing (regional/international):

Many of the multinational affiliate exporters in Indonesia are subsidiaries of, and directly supply beans and products to, their **multinational processors** including Cargill and ADM. The processed cocoa products are sold to manufacturers in the U.S., Asia, Latin America, and Europe. Blommer Chocolate Company is the largest cocoa processor in North America and is a major importer of Sulawesi bean.

Manufacturing (international):

Multinational manufacturers are dedicated chocolate producers and are generally located close to their final consumer markets. Most of the chocolate products manufactured from Sulawesi beans are sold to consumers in the U.S, Western Europe, and in more well-developed countries of Latin America and Asia.

U.S. manufacturers are the largest international buyers of processed cocoa butter from Sulawesi, purchasing about 40% of total exports, followed by European and Southeast Asian buyers. The market for Sulawesi cocoa powder is split fairly evenly between buyers in the U.S, Southeast Asia, and Europe.

Many of the large manufactures will source cocoa from international traders, but some deal directly with exporters themselves or have representatives in cocoa producing countries. Hershey Foods, one of the biggest buyers of Sulawesi cocoa, is the largest chocolate manufacturer in the world. Other major manufacturers who source Indonesian cocoa include Lindt, Cadburys, etc.

There are also **integrated multinational processors and manufacturers** who produce their own cocoa products for use in the manufacturing of chocolate. Two of the largest ones, ADM and Masterfoods/Mars, have significant presence and representation in Indonesia.

APPENDIX 6:

ICT considerations for Value Chain Assessments [7]

Why Integrate ICT into Value Chain Assessment Approach?
The goal of integrating ICT into the approach is to make sure that the full range of ICT tools and services are considered as parts of the solutions to identified problems in the value chain.

How to Integrate ICT into the Value Chain Assessment Approach?
There are four recommended ways to integrate ICT into the value chain assessment approach:

1. Identify ICT as an explicit component in the assessment approach itself.
2. As part of the orientation/training for the assessment team, inform the team what types of constraints ICT tools and services may address; the wide range of ICT tools and services; and provide concrete examples of how ICT has been used successfully to address such constraints.
3. Include ICT related topics in the Interview Guide.
4. Make sure these ICT related tasks are identified as part of any Statement of Work to conduct a value chain assessment.

Further details on each of these recommendations are presented below.

[7] These recommendations have been prepared by Judy Payne (USAID/EGAT/EIT/IT) who participated on the value chain assessment team and provided technical support on ICT-related issues.

1. Include ICT in Value Chain Assessment Team Orientation.

Step in Assessment Approach	ICT Component	Example
1. Conduct sector analysis -- Identify key constraints along the chain from producer through global buyers.		
• Review existing data	From existing data, to the extent possible, identify any ICT applications (e.g., software, Internet-based or not; SMS applications, etc.) used by each of the players in the chain internally or with other players. Also, to the extent possible, identify to what types of ICT types of players have reasonably priced and reliable access. If possible, conduct phone interviews during the desk review to probe global buyers especially regarding software applications they use. See *ICT inputs to Interview Guide*.	USAID has ICT Assessments of most countries. See EGAT/EIT/IT team for pointers to such documents. These will often have information on access and pricing of types of ICT, e.g., land line and cell phones; radio; TV; Internet access; stand-alone computers via access centers.
• Map key actors and their inter-relationships.	If helpful, develop an ICT overlay for the value chain diagram. This is especially helpful when access to information across the chain is a constraint.	The overlay would literally be laid over the value chain showing breakdowns in communications – no or very slow communications or a mismatch of access to ICT or particular applications. For example, some traders might use cell phones to communicate with each other and exporters but remote traders might not have cell phones so be in a weaker position in the chain. See sample of an ICT overlay in Appendix A.
• Validate and prioritize key constraints.	Include gathering information on access to and pricing of ICT tools and services to understand which ICT tools/services are options for which players in the chain.	In the field, ask questions about what types of ICT each player uses; whether pricing is reasonable. For example, some farmers may watch TV regularly while others may be too remote and only listen to short-wave radio. Similarly, in towns, find out pricing for cell phones, Internet access if relevant and appears to be a constraint for some players. Asking questions to global buyers regarding how they transact and communicate with other suppliers (what software applications they might use) may give ideas regarding constraints faced by players in the developing country that have no knowledge or access to such efficient communications and transaction channels and so are inefficient suppliers.

Step in Assessment Approach	ICT Component	Example
2. Identify commercially viable solutions.		
• Prioritize possible solutions to constraints.	Include ICT related solutions related to access or applications & across ICT types: radio, TV, computer, phone, Internet.	See examples in table showing constraints and ICT solutions by ICT type. (In recommendation value chain team orientation material.)
• Assess and validate feasibility of solutions.	Same as above step. See Interview Guide.	Pay special attention to what players facing constraints actually use today. Also ICT providers may have ideas regarding innovative ICT solutions taking advantage of new, lower cost technologies such as WiFi, Voice over IP (VoIP), or text messages over cell phones.
3. Identify facilitation activities.		
• For prioritized, feasible solutions, identify and recommend activities to facilitate them.	Look for and talk to in-country ICT providers or point to them in program design activities. In most USAID countries, there are at least a small cadre of innovative ICT providers who may just need some TA to improve their skills handling new ICT tools or applications. Watch out for regulatory hurdles if you are thinking of VoIP or WiFi or even interconnectivity between cell phone providers. Also make sure to specify physical conditions of the users of the proposed ICT solution and maintenance requirements.	A big hurdle for ICT usage is commercial sustainability. If you need help on this step, contact EGAT/EIT/IT team. They have plenty of ideas and examples of how ICT solutions can be implemented in sustainable ways.

2. Include ICT in Value Chain Assessment Team Orientation.

As part of the orientation/training for the assessment team, inform the team what types of constraints ICT tools and services may address; the wide range of ICT tools and services; and provide concrete examples of how ICT has been used successfully to address such constraints.

3. Include ICT Related Topics in the Interview Guides.

This section provides guidance on types of questions might be asked as part of the assessment to identify ways ICT may address priority constraints. As with the general interview guide for this approach, the questions are only guidance – how they are actually posed is up to the interviewer.

Objectives: The analyst needs to pursue three types of questions in order to identify where ICT tools and services might address constraints.

1. What types of ICT each significant player in the value chain uses today or could use (that is, it is accessible to the player and the player is willing to use) at a reasonable price.
2. Ways ICT is already being used to address constraints in the value chain and with what effect (success?); and ways that might be extended.

What internal software applications players at the global level use. Many, of not most, firms in developed countries rely heavily on software applications for internal management and operations and, increasingly, to conduct business with their suppliers and customers. It is important to know how these applications affect their relations to customers and suppliers. If players in developing countries are more difficult to deal with because they do not provide information in the same format or via the same media, they are less competitive. That means the global player has to handle them with exceptional and probably more costly processes.

Example 1: In the apparel industry, many large apparel businesses design on-line and transmit their designs electronically to those that cut and assemble the apparel. They also track progress on assembly and shipment electronically via electronic transactions. If a group of apparel assemblers in XYZ country can't receive and handle designs electronically nor report their progress, they are at a competitive disadvantage.

Perhaps a bit more probing may be needed with interviewees regarding innovative ways ICT might help improve relationships along the value chain. Many people do not think in these terms so may find it more difficult to think of possibilities. That is why it is so important that the interviewees are made aware of some of the possibilities during the team orientation.

Example 2: Most large global distributors use networked business applications to conduct business with their key large suppliers and customers. This is fundamental to how they operate and not only increases their process efficiencies but saves them significantly in inventory and transportation costs. They simply do not inventory inputs any more or very little. Firms with heavy or large products sometimes use "rolling" inventory. For example, timber companies load their stock on trucks and route them on the fly to customers as they travel across the country as orders come in electronically from construction firms. Manufacturers do this as well. If suppliers in a developing country do not use these core applications, it becomes much more costly for a global buyer to turn to them at all. Suppliers in developing countries must become part of this ***virtual*** *value chain.*

Whom to Interview

Most ICT related questions can be posed to the usual interviewees – all the

players along the value chain plus important "horizontal" players such as financial institutions, transport and input suppliers. For global manufacturing, retail or export players, though, you may need to track down someone who knows internal software applications better or how software applications are used routinely with other suppliers. For example, if you talk only with the person who knows how the company deals with furniture suppliers from Bolivia, that person may not be aware that they are handled in an exceptional way, given they have no access to the Internet or some software application.

Tip: You may also want to track down ICT experts – perhaps consultants – in the global sector you are assessing. These experts may not focus at all on any players in developing countries. But they can give you important insights into the types of software applications and communication that are becoming fundamental for the global players in the sector. Some global customers may compensate for the lack of ICT capabilities of suppliers in developing countries, putting these suppliers at a disadvantage unbeknownst to them. See the boxes on the prior page for examples of how this might affect those in developing countries. Being left out of the ***virtual value chain*** will increasingly mean being left out of the value chain completely.

4. Include ICT Related Tasks in Value Chain Assessment Statement of Work

Any Value Chain Assessment Statement of Work needs to explicitly call for integrating ICT into the assessment as is described in this paper. In fact, this paper could be provided as an attachment to the SOW to show how the ICT "lens" will be a part of assessment from start to finish – in team orientation, interviews, and analysis.

This means that the firm selected for the SOW must be able and willing to do this. This will not and *should not* require a separate "ICT" member of the assessment team. That would only mean that ICT is meant as an add-on, not integrated into the work as needed. All team members can quickly be oriented from an ICT perspective.

APPENDIX 7:

Short-listing of Commercially Viable Solutions

A summary of the major value chain constraints and potential commercially viable solutions (critical success factors) needed to address them is shown below.

Key Constraints and Possible Commercially Viable Solutions

KEY CONSTRAINTS	POTENTIAL COMMERCIALLY VIABLE SOLUTIONS / CSF
1. Detention of cocoa beans at U.S. ports to meet phyto-sanitary conditions of the FDA increases the cost to exporters which reduces the price they can pay to their suppliers.	– Availability of an FDA-approved inspection system to provide pre-shipment inspection services for cocoa bean exports to the U.S.
2. Local processors are unable to procure adequate quantities of cocoa beans due to the existence of a Value-Added Tax (VAT) tax on beans sold to them by traders and collectors. As a result, most suppliers will prefer to sell their beans to exporters.	– Access to lobbying service to reduce or eliminate VAT assessed on beans sold by traders and collectors to local cocoa processors.
3. The official registration options for rural businesses, including farmer groups, are limited. This limits their ability to engage in formal contract agreements with traders.	– Access to lobbying service to expand the legal status options for farmers groups, and rural enterprises in general, to effectively conduct business operations.
4. Possible export tax on cocoa beans threatens to increase the exporters' cost and decreases their competitiveness in global trade.	– Access to lobbying service for exporters to prevent the enactment of an export tax on cocoa
5. Many smallholder farmers are unable to sell their production in large volume and are therefore unable to benefit from direct sales with exporters and processors, which decreases their income potential	– Access to up-country buying stations where smallholders can bring large volumes of cocoa beans for direct sale to exporters and processors. – Access to an auction system for smallholder farmers to sell their beans more transparently
6. Local processors have difficulty in procuring consistent quality cocoa which prevents them from operating at full capacity and decreases the viability of local value-addition opportunities.	– See possible solutions for No. 5. above
7. Lack of coordination among the government, associations, private sector, and other stakeholders providing support to the cocoa subsector.	– Access to a coordination body to facilitate and help coordinate various cocoa development initiatives in the country.
8. The international market acceptability and demand for cocoa beans of various quality, does not provide incentives for farmers to invest in improving farm productivity or bean quality.	– Provision of enforcement mechanisms to ensure compliance with prevailing quality standards (SNI) for cocoa exports.
9. The production of fermented cocoa beans in Sulawesi is limited which reduces value-added opportunities for smallholder farmers	– Access to market for fermented cocoa beans for smallholder farmers.

KEY CONSTRAINTS	POTENTIAL COMMERCIALLY VIABLE SOLUTIONS / CSF
10. Cocoa farm productivity in Sulawesi is decreasing, due to a number of causes including: widespread infestation of pests and diseases (primarily the Cocoa Pod Borer - CPB), age and variety of existing tree stock, poor soil nutrition, and drought. This results in decreased productivity and income potential for smallholder farmers.	– Provision of training and technical assistance in improved cultural practices and other improved crop husbandry techniques
11. Limited commercial distribution and availability of improved planting materials for smallholder farmers decreases their production yield and income potential.	– Access to affordable and improved planting materials for smallholder farmers –
12. Smallholders lack understanding of cost benefit of fertilizer use which decreases their productivity and income potential.	– Access to training and awareness for smallholders on cost/benefit of fertilizer use
13. Processors, exporters, and traders have limited access to working capital loans, which decreases their turnover and income potential.	– Availability of financial services for exporters, traders, and processors based on alternative sources of collateral (e.g. inventory)
14. Lack of access to credit by smallholder farmers to purchase fertilizers decreases their production yield and income potential.	– Availability of and access to credit for smallholder farmers to purchase fertilizers – Access for smallholder farmers to acceptable collateral sources (i.e., land certificates) to enable them to apply for loans from financial institutions.

The team then conducted an exercise to prioritize the possible commercial solutions to the key constraints using a "Short-Listing Matrix" which shows the relative rating (i.e., high, medium, low) of each proposed solution against two critical selection criteria. Any solution falling within a pre-determined "not attractive" range could be considered as low priority, while solutions rated with high potential in both criteria are considered more "attractive" and of higher priority consideration.

The following criteria were used to determine the relative priority of the possible commercial solutions:

- *Potential for Growth and Expansion of the Value Chain*: the possibility of the proposed solution resulting in increased growth and expanded trade, investment, and/or competitiveness of the cocoa value chain.
- *Potential Number of Smallholder Farmers that would benefit or increase participation in the value chain*: the increased number of smallholder farmers benefiting or participating in the value chain as a result of the proposed solution. This could also be a measure of outreach as well as potential employment opportunities.

The results of the short-listing exercise are presented below.

Short-Listing of Possible Commercial Solutions

Potential for Growth and Expansion of Cocoa Industry

High	7	11	8, 10
Medium	1, 2	3, 6, 12, 13	5, 14
Low	4, 9		
	Low	Medium	High

Potential No. of Smallholders that would Benefit or Increase Participation in the Value Chain

Assessment of Targeted Solutions

Determining the feasibility of the highest priority solutions was the next phase of the assessment. In addition to the information collection from interviews and secondary research, two focus group discussions (FGDs) were held with selected value chain participants in Palu and Makassar. The objective of the FGDs was to validate the identified constraints and possible commercial solutions and, more importantly, to begin a dialogue with relevant stakeholders on how specific solutions could best be supported and commercially sustained.

For some of the participants, the FGDs offered them a rare opportunity to share their views and opinions on how to address prevailing problems with other value chain participants. The goal was to move beyond the usual discussion of constraints to a constructive public-private sector conversation on how the constraints can be sustainable mitigated and addressed within a commercial private sector context.

APPENDIX 8:

Illustrative Assessments of Commercially Viable Solutions

When conducting value chain analysis, it is also important to complete an assessment of possible commercially viable solutions to the major value chain and subsector constraints. Due to the limited level of effort available for this assessment, full assessments of the various solutions were not completed but, based on data available and compiled in Indonesia, illustrative examples are presented below.

Illustrative Example 1

Commercially Viable Solution: Training and technical assistance for smallholder farmers in "best practice" methods to improve crop production.

These best practice techniques include improved pruning, frequent harvesting, improved farm sanitation, fertilizing/nutrient management, tree rehabilitation (e.g. grafting of improved tree stock), shade management, biological controls, and appropriate use of pesticides.

Subsector Constraint (addressed by solution):

The quantity of Sulawesi cocoa production has started to decrease over the past few years. While there are many reasons for this decrease, it is recognized that increased infestation of the cocoa pod borer (CPB) is a major factor. Other factors which limit the production of smallholder farmers include: age of trees, drought, farmer behavior and lack of cocoa extension, black pod (fungal), vascular stem die-back, and other pests and diseases.

As a result of pest infestation and poor crop management techniques, smallholder farmers have experienced lower yields and decreased quality (e.g. increased waste, clumping, mold, bean count, smaller/flatter beans, and higher moisture) which has decreased their income potential.

Existing Providers of the Solution

There are a number of mechanisms currently being used to delivery training and technical assistance in cocoa best practice to smallholder farmers, including:

(i) SUCCESS Alliance
(ii) PRIMA
(iii) ASKINDO Cocoa Village Model
(iv) Disbun Extension Agents

It should be noted that the sustainability and outreach of all the existing service providers are severely limited. The cost recovery of all of the providers currently depends on external (public/donor) funding. The commercial provision of best practice training and technical assistance is not done and the capacity to scale-up existing provision will also be a challenge.

Proposed Potential Provider(s) of Commercially Viable Solutions:

- Individual Private Sector Companies
- input supply companies (e.g. Pusri)
- collectors/traders
- processors (e.g. PT Effem, Unicom)
- exporters (e.g. Continaf, Olam)
- Farmer trainers
- Sulawesi Cocoa Research Center/Institute
- (does not currently exist, but could be developed)

Constraints to Provision and Use of the Solution (for targeted providers and users):

It will be important for all providers to coordinate their activities at some level in order to avoid sending mixed or conflicting best practice messages to smallholder farmers.

Promotion and dissemination of a general best practice campaign could also facilitate delivery of a consistent message to farmers.

Provider-specific constraints include:

Exporters
- production training and technical assistance is not their core business

Input Supply companies
- production training and technical assistance is not their core business
- the training and technical assistance provided by private sector may be too narrowly focused (i.e., appropriate use of fertilizer) and not significantly result in sustainable cocoa production for smallholder farmers

Processors
- production training and technical assistance is not their core business

Farmer trainers
- lack of technical and management capacity to properly train and provide technical support to smallholders
- perception by other farmers that they know better than the farmer-trainers
- production and dissemination of appropriate farmer-to-farmer training materials (from Success) is limited
- there is a need to determine how farmer trainers could recover the cost of providing this training and conduct this as either a full-time or part time activity

Collectors/Traders
- the association is not structured to conduct extensive training programs for smallholders
- perception of lack of trust by many in the industry; seen as only interested in their core trader constituency
- technical capacity to provide best practice training is limited
- few technical staff to expand the outreach of training and technical assistance

Sulawesi Cocoa Research Institute/Center
- does not currently exist
- would need to operate commercially to recovery costs for certain activities

User Constraints (Smallholders)
- Lack of working capital to pay for training up front
- Lack of understanding of cost-benefit of the training
- Receive mixed/conflicting messages from different sources

Illustrative Example 2

Commercially Viable Solution: Access to and availability of appropriate cocoa production inputs for smallholder farmers.

This service would entail both the availability cocoa production inputs including the optimal mix of fertilizer for cocoa, improved tree species and plant varieties, harvesting tools, etc. Training of smallholder farmers in the appropriate use of these inputs would be critical. A variety of financing options for farmers to access these inputs must also be considered.

Subsector Constraint (addressed by solution):

There is little or no availability of a variety of inputs necessary to fully utilize best practice techniques and improve cocoa production for smallholder farmers. In addition, they have not been able to access these inputs if available because of the cost and seasonality of cocoa farmer income.

Proposed Provider(s) of Solution:
- input supply companies (e.g. Pusri)
- financial institutions (e.g. Bank Indonesia, BPRs, etc.)
- farmers groups (FFS alumni)

Constraints to Provision and Use of the Solution (for targeted providers and users):

Input Supply Companies (e.g. Pusri)

- the appropriate mix of fertilizers for optimal cocoa production is not currently available
- the default risk of direct input pre-finance for smallholder farmers is high; input supply companies have little or no access to farmer collateral to reduce this risk
- rural outreach of some input supply companies is limited

Financial Institutions (e.g. Bank Indonesia, BPRs, etc.)

- there is a lack of rural financial intermediation (savings and/or credit services) for cocoa farmers throughout Indonesia
- rural network of financial institutions is not widespread
- technical capacity of staff to understand and process agricultural loans is limited

Farmers Groups (FFS alumni):

- lack of financial management skills (e.g. record/bookkeeping, preparation and use of financial statements, portfolio analysis, risk management) to engage in input supply provision and distribution
- there is a need to determine how farmers groups could recover the cost of providing this service

APPENDIX 9:

Current Investments (Public and Private) in Indonesian Cocoa

There are a variety of on-going and pending investments to support Indonesian cocoa—seven of them are public sector projects and three are private sector initiatives.

Summary of Public and Private Sector Investments

SPONSOR	INVESTMENTS IN COCOA
Bi-lateral/Other Donors	USAID: Success Alliance
	German Business Association: ASKINDO Capacity Building
	ACIAR & Australian Government: improved genetics research
Government	District-level "Kimbun" projects [Dispun]
	National cocoa IPM & "condomization" [Dispun]
Multi-lateral Donors	IFC: Pensa Project (cocoa within agribusiness component)
	ADB: Tree Crop Productivity Enhancement (design phase)
Private Sector/Other	Masterfoods/WCA: Prima Project – Noling
	ASKINDO: Cocoa Village Model Project – Mamuju; with Bank Indonesia
	Bank Niaga: Warehouse Receipts Program – Makassar

Whether private or public-sector supported, most of these investments lack outreach to most of the 400,000 smallholder cocoa farmers and/or are heavily dependent on external funds to continue.

Bi-lateral Donor Investments in Cocoa

USAID Success Alliance: Since October 2002, as a Global Development Alliance-supported initiative, USAID/Indonesia has been supporting the cocoa value chain through the SUCCESS Alliance project, implemented by ACDI/VOCA. Originally funded by USDA, this program provides training to over 35,000 smallholder farmers in Sulawesi in best practice cocoa production techniques (called the "PsPSP" method) to combat Cocoa Pod Borers (CPB) using the farmer field school model.

Using the methodology of farmer field schools, the Success Project is facilitating intensive four-month training programs for smallholder farmers throughout Sulawesi. It is recognized, however, that the outreach and sustainability of the training and technical assistance is currently limited.

There may be opportunities to explore additional methods to expand the dissemination of the PsPSP messages via media including radio and television, if appropriate. During the assessment, the team held discussions with a local radio station in Central Sulawesi (Radio Citra Pertanian) which is one of the few private stations dedicated to agricultural-based programming. They broadcast in AM, FM, and short-wave and expressed openness to new programs. Print media could also be better exploited to disseminate the PsPSP methodology. The general distribution

of technical brochures may not be effective, but using exporters and intermediaries in the dissemination process may give the message more commercial importance.

Local private sector sponsorship of expanded media dissemination should also be pursued where appropriate. During interviews and the FGDs, initial discussions with some input supply companies and exporters regarding possible commercial sponsorship of quality cocoa messages were generally positive.

By the end of the program in 2005, the SUCCESS Alliance plans to reach over 80,000 farmers in Sulawesi, Papua, North Sumatra, and Bali—providing training to improve crop husbandry and integrated pest management to control CPB. The specific training curriculum in the various provinces is also being expanded to include use of bio-controls, farmer-led research, genetic selection and side-grafting, and community nurseries.

The Success Alliance already has strong relationships with its existing private sector partners (including Masterfoods/Mars, Hersheys, and the World Cocoa Foundation) who provide technical assistance and additional funding for small research and training activities, including research and testing for bio-controls and clonal varieties.

Australian Government: ACIAR, with funding from the Australian government and Masterfoods, has begun conducting small-scale research to identify appropriate genetic varieties for Sulawesi cocoa farmers. This research has focused primarily on yield and pest and disease resistance.

Multi-lateral Donor Investments in Cocoa

IFC/PENSA Project: The International Finance Corporation (IFC) has recently begun a business development project in Eastern Indonesia, called PENSA. This five-year, $21 million program started in March 2003 and works in five program areas: (i) trade and export promotion, (ii) financing, (iii) extractive industry linkages, (iv) business policy, and (v) agribusiness linkages.

The agribusiness linkages component of PENSA is based in Makassar and will focus its activities in the South Sulawesi province only. Cocoa is one of three subsectors they have targeted under this component—emphasizing technical assistance to the cocoa sector and enabling environment for agribusiness. A summary of PENSA's planned cocoa support activities are presented below.

Logframe for IFC/PENSA program (Agribusiness Linkages)

Component	Sub-Component/Activities
Technical Assistance to the Cocoa Sector	➢ support and monitoring of current initiatives o improved productivity and quality in supply chain ➢ feasibility study for up-country procurement, warehousing, financing system o attraction of finance for Industry Development o liaise with other donors on cocoa investment projects o promote commercial cocoa investment opportunities o assess level of support for Cocoa Dev. Fund

Component	Sub-Component/Activities
Enabling Environment for Agribusiness SMEs	➢ micro-finance for small farmers/entrepreneurs o strengthen farmer groups to access microfinance o liaise with existing MFIs operating in South Sulawesi ➢ finance for agribusiness SMEs o support agribusiness SMEs in business plan and feasibility study development o assist SMEs access financial institutions and apply

It should be noted that the PENSA program is very new and while they plan to work in the areas listed above, they are still only in the planning stage. PENSA has expressed interest in working with USAID and/or other donors to implement programs in the cocoa sector so there are definite opportunities for possible programmatic synergy and leverage.

Asian Development Bank (ADB): Sustainable Tree Crop Productivity Project: The ADB is preparing a project to increase the incomes of smallholder tree-crop farmers and to remove constraints on tree-crop subsector productivity. The project will improve support and regulatory services, targeting the poor, through district-level interventions. Specific objectives include:

(i) restructuring of support services for the smallholder subsector;
(ii) promotion of diversified and sustainable farming systems among small tree-crop farmers; and
(iii) provision of infrastructure to encourage the development of integrated tree-crop production, marketing, processing, and manufacturing, through private sector investment, state-owned enterprises, and cooperatives.

It is not clear how much project support will ultimately be targeted at cocoa, but the PENSA program is maintaining involvement during these preparatory phases to ensure that cocoa is explicitly incorporated.

Government of Indonesia Investments in Cocoa

Dinas Perkebunan (Dispun): Dinas Perkebunan, the Department of Estate Crops, is implementing several small projects to provide training to farmers. Disbun of South Sulawesi plans to implement an IPM Cacao training program for over 6,000 farmers. Nationally, Dispun will also begin a "condomization" program to promote the use of plastic sheathing to reduce the spread and vulnerability of cocoa trees to pests and diseases.

Since activities and budgets are now controlled at the district level, however, plans of the provincial Disbun to implement this program are dependent on districts providing funding and staffing.

Kimbun Program: Since 2002, Dispun has also been establishing local district-level "Tree-Crop Industry Stakeholder Development Program (KIMBUN)" areas to improve cocoa production and provide access to finance for farmers. The lending component of KIMBUN is based on a solidarity group model, with no interest terms. To date, the outreach of this program has been very small. Given its concessionary lending terms, the sustainability of the program's activities are dubious.

Private Sector Investments in Cocoa

Masterfoods PRIMA: Masterfoods/PT Effem, with funding from the Dutch government, is currently implementing a small two-year cocoa research program called PRIMA. Under the PRIMA project, Masterfoods is providing intensive technical training in IPM and best practices to 1,000 farmers and laborers in the village of Noling (South Sulawesi). Collectors and traders working in the Noling area. have also been trained under the PRIMA project. Masterfoods is now monitoring and evaluating the effect of this intensive training on the quality of cocoa being produced throughout Noling.

ASKINDO Cocoa Village Model: The national cocoa association, ASKINDO, is implementing an integrated cocoa development program for a specific community in the Mamuju District of South Sulawesi. The "cocoa village model" is taking a broad livelihoods approach to its training and technical support – focusing on the social, economic, and cultural dimensions not only cocoa production. The program is addressing issues of access to finance (via improved land certification in collaboration with the Bank of Indonesia), crop diversification, as well as improved cocoa crop management.

Bank Niaga: For the past two years, this bank has been conducting a pilot warehouse receipt program (where farmers/traders warehouse beans and then receive a bank loan that uses the warehoused beans as collateral), to offer fixed asset-based lending products to its higher-end clients. To date the program has only had 5-6 clients participate (with 2 in Sulawesi), mostly higher-end exporters with substantial clout and influence, but the concept of inventory-based credit is one that could benefit the wider cocoa industry if it could be made more accessible to other participants in the value chain.