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**USAID/GHANA TRADE &
INVESTMENT REFORM PROGRAM
(TIRP) INCREASED PRIVATE
ENTERPRISE PERFORMANCE
(IPEP) COMPONENT
FINAL REPORT**

July 25, 2005

This publication was produced for review by the United States Agency for International Development. It was prepared by AMEX International, Inc.

Contract No. 641-C-00-98-00236

Submitted by



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Submitted to

USAID/Ghana
Office of Trade, Agriculture and Private Sector
Department of State
Washington, DC 20521-2020

**USAID/GHANA TRADE &
INVESTMENT REFORM
PROGRAM (TIRP) INCREASED
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PERFORMANCE (IPEP)
COMPONENT
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ABBREVIATIONS

ANRE	Division of Agriculture, Natural Resources and Rural Enterprise (Office of Sustainable Development, Bureau for Africa, USAID)
ATRIP	Africa Trade and Investment Policy (USAID/Washington–funded program)
CBI	Center for the Promotion of Imports from Developing Countries (Netherlands)
ECOWAS	Economic Community of West African States
EU	European Union
EurepGAP	Euro-Retailer Produce Working Group Good Agricultural Practices
FAWAG	Furniture and Wood Products Association of Ghana
GEPC	Ghana Export Promotion Council
GIPC	Ghana Investment Promotion Center
GTZ	German Agency for Technical Assistance
IPEP Component	Increased Private Enterprise Performance Component (TIRP)
IPM	integrated pest management
ISO	International Organization for Standardization
ISO 9000	ISO’s 9000 family of standards
MoFA	Ministry of Food and Agriculture
NTE	nontraditional export
PAMPEAG	Papaya and Mango Producers and Exporters Association of Ghana
SIAL	International Food Exhibition (France)
SIPPO	Swiss Export Promotion Organization
SME	small or medium-size enterprise
SPEG	Sea-freight Pineapple Exporters of Ghana
TA	technical assistance
TIPCE	Trade and Investment Program for a Competitive Export Economy
TIRP	Trade and Investment Reform Program
USAID	U.S. Agency for International Development
VEPEAG	Vegetable Producers and Exporters Association of Ghana
WABNET	West Africa Businesswomen’s Network
WAG	Wood Workers Association of Ghana

EXECUTIVE SUMMARY

The U.S. Agency for International Development's (USAID's) initial 54-month, US\$6.9 million contract with AMEX International, Inc., to implement the Increased Private Enterprise Component of the Trade and Investment Reform Program (TIRP/IPEP) started on July 1, 1998. AMEX was joined in this contract by three subcontractors: Development Alternatives, Inc.; Fintrac; and Maxwell Stamp. The initial contract-completion date, December 31, 2002, was subsequently extended, first to December 2003 and then to August 2004.

AMEX's success in bidding for TIRP/IPEP greatly facilitated the transition from the predecessor Trade and Investment Program. Mobilization was therefore very efficient, without any of the difficulties usually encountered in project start-ups. Except for relocation of the field office in June 1998, TIRP/IPEP was fully operational within days of contract signing.

The overall objective TIRP/IPEP was to assist the private sector to reduce managerial and technical constraints and promote development and growth in Ghanaian business enterprises. Specifically, the core objectives of IPEP were as follows:

- Establish linkages between larger-scale enterprises and small and microenterprises

- Increase the management capacity of production and marketing enterprises
- Increase use of improved technologies
- Increase access to market information and capacity to market selected domestic and nontraditional products
- Increase private-enterprise access to finance

The approach to technical assistance provided by AMEX/IPEP was based on the “push-pull” concept. This approach began with the identification of “lead” firms, which had the greatest potential for increasing economic generation together with significant multiplier effects. Technical assistance was provided to these lead firms to improve productivity, reduce costs, and, in effect, “push” them into competitive international markets. The lead firms, in turn, were encouraged through their linkages to related microenterprises to “pull” these enterprises into the production-marketing chain.

Such combinations of lead firms with microproducers and microprocessors were anticipated to result in the desired economic growth. The TIRP/IPEP technical assistance focused on the following objectives:

- Building business linkages

- Increasing private-sector access to finance
- Increasing management capacity in production and marketing
- Increasing the use of improved technologies
- Increasing access to market information and capacity to market selected domestic and nontraditional-export products

Project-management activities were implemented under seven broad headings:

1. Agriculture and agribusiness
2. Value-added wood
3. Garments, textiles, and handicrafts
4. Marketing and business development
5. Other sectors
6. Training and study tours
7. Africa Trade and Investment Policy (ATRIP) Grades and Standards Program (added in the third quarter of 2000)

TIRP/IPEP staff and consultants worked with over 80 companies in three sectors:

1. Agriculture/agribusiness
2. Value-added wood products
3. Garments/textiles and handicrafts

A total of 50 milestone targets were defined, with USAID’s concurrence, as necessary to enable AMEX/IPEP to achieve the expected objectives and outcomes. AMEX was able to measure, collect, and track achievements for all 50 milestone targets. Milestones were achieved or exceeded for all except 3 of the 12 broad categories:

1. Number of lead firms identified (73 percent)
2. Build business linkages (128 percent).
3. Increase private-sector access to finance (203 percent).
4. Number of firms assisted (203 percent)
5. Number of firm operators trained (242 percent)
6. Export earnings increased (95 percent)
7. Increase management capacity in production and marketing (242 percent).
8. Increase use of improved technologies (242 percent).
9. Increased market research and business development (166 percent)

10. Training and study tours (97 percent)
11. Support the development of and adherence to ATRIP grades and standards (164 percent)
12. Support the development of and adherence to grades and standards (115 percent)

At the end of the contracts, outstanding technical issues included assistance to remote areas and deeper within the private sector; continual training and education for management and labor, as well as follow-up; qualifications and experience of project and management personnel; extension of awareness of and adherence to international grades and standards and food safety requirements; awareness of new technologies in equipment, systems and processes; documentation, accounting, and monitoring of firms’ activities and systems; widening of program scope; strengthening and restructuring of associations; private-sector collaboration ; financial access; extension of activities in the north and creation of linkages with the south; improvements in the business environment; research and development; market information

and research; representation in export markets; and local production of manufacturing inputs.

Lessons learned included the importance of collaboration and participation; the potential of outgrower production for poverty alleviation; isolated firms’ greater need for technical assistance; the effectiveness of demand-driven technical assistance; the costs and benefits of skilled operations and management personnel; small and medium-size enterprises’ difficulties in accessing financing; the importance of adopting international standards; the benefits of crop diversification and intercropping; trade associations’ limited presence in the north; the importance of marketing as well as sales; the benefits of training and follow-up; the need for literacy training in the north; the need to adapt manufactured products to regional markets; the value of market information and research; and the role of repeated international training and study tours to build connections and overcome importers’ reluctance to do business.

OVERVIEW

In July 1998, the Government of Ghana and the U.S. Agency for International Development (USAID) began implementing a new Trade and Investment Reform Program (TIRP) in support of USAID's Strategic Objective No. 1, Increasing Private Sector Growth. The Project Assistance portion of TIRP sought to address technical and training needs of both the Government and the private sector related to increasing productivity, marketing, and investment.

TIRP built upon the success of its predecessor, the Trade and Investment Program, by emphasizing nontraditional exports (NTEs), a substantial portion of which were agriculturally based products, because of the importance of these goods and related services to accelerated, broad-based growth.

USAID/Ghana's strategy was based on the Agency's mission of sustainable development and was directly supportive of four of the Agency's goals: (1) broad-based economic growth achieved, (2) sustainable democracies built, (3) world's population stabilized and human health protected in a sustainable fashion, and (4) environment managed for long-term sustainability. The overall goal of the country strategy was broad-based, sustainable economic growth, with three subgoals: (1) improved productive capacity, (2) reduced population growth, and (3) continued democratic reform.

Strategic Objective No. 1 (Increased Private Sector Growth) was

elaborated in response to the Mission's overall goal and the requirements for achieving that goal. It was also formulated in response to the challenge laid down by the Government of Ghana in its Vision 2020 to achieve a balanced economy and a middle-income country status and standard of living by the year 2020.

In its analysis, USAID identified four major constraints on economic growth: (1) economic policies and regulations that continued to impinge on Ghana's productivity and competitiveness, (2) mechanisms for policy change that had failed to keep pace with democratization, (3) weak mobilization of resources through the financial system, and (4) weak managerial and technical knowledge and capacity of private enterprises.

This led to the formulation of two results packages. Results Package 1, Improving the Policy Environment and Financial Intermediation, dealt with the first three of these constraints; Results Package 2, Improved Private Enterprise Performance, focused on the last.

Within these results packages were arrayed Intermediate Result 1.1, Increased Productive Capacity of Private Enterprises, and Intermediate Result 1.2, More Efficient and Lower Cost Marketing Systems. These intermediate results were to be accomplished by providing assistance to improve policies; improve availability of and access to finance; increase access to and use of technology and information; increase the skills of managers, private

entrepreneurs, and policy makers; and improve the quality and efficiency of support services.

Results Package 2 (Increased Private Enterprise Performance) was implemented partially through a competitively-awarded USAID institutional contract to AMEX International, Inc., which provided technical assistance (TA), advisory services, and training to private enterprises and business organizations, while a grant was provided to TechnoServe, a U.S. private voluntary organization, to provide direct assistance to microenterprises. TechnoServe worked in parallel and in linkage with the activities undertaken by AMEX. CARE International, which worked primarily with small-farmer groups, was a subgrantee of TechnoServe.

The initial USAID contract with AMEX, which started on July 1, 1998, was for 54 months of TA at a cost of US\$6.9 million. Its purpose was to implement the Increased Private Enterprise Performance Component of TIRP (TIRP/IPEP). The initial contract-completion date, December 31, 2002, was subsequently extended, first to December 2003 and then to August 2004.

AMEX's success in bidding for TIRP/IPEP greatly facilitated the transition from the predecessor Trade and Investment Program. Mobilization was therefore very efficient, without any of the difficulties usually encountered in project start-ups. Except for relocation of the field office in June

1998, TIRP/IPEP was fully operational within days of contract signing. A new Chief of Party and one Deputy Chief of Party were mobilized from the United States, but AMEX was able to carry over one Deputy Chief of Party and most of the professional staff from the Trade and Investment Program's Export Assistance Component. Approximately a month after initial mobilization, assumptions proposed during the bidding process were validated during the two-day Orientation and Start-up Workshop. Shortly thereafter, the First Year Work Plan was prepared and approved by NTE stakeholders, which included private-sector client firms in agriculture, value-added wood, garments, textiles, and handicrafts, as well as public-sector officials, the banking community, and other donors.

AMEX was joined in this contract by three subcontractors:

1. Development Alternatives, Inc., Bethesda, Maryland
 - Worked on agribusiness, Sea-freight Pineapple Exporters of Ghana (SPEG), and many client farms
 - Staffed one Deputy Chief of Party (1999–2001)
 - Study and TA on postharvest handling and early work on the Euro-Retailer Produce Working Group Good Agricultural Practices (EurepGAP)
2. Fintrac, Washington, D.C.
 - Focused on marketing and market research and hosted the GhanaTrade World Wide Web site (<http://www.ghanatrade.org/>)

- Worked with the Federation of Associations of Ghana Exporters and selected farms
3. Maxwell Stamp, London, United Kingdom
 - Provided focused market-research services

At the conclusion of TIRP/IPEP, AMEX was awarded a short-term contract (August 16–December 15, 2004) to work on selected policy papers and to conduct a study of the pineapple industry, focusing on production of MD2 pineapples, with members of the Partnership for Food Industry Development. The policy papers and the pineapple study were to be made available to the contractor awarded the new Trade and Investment Program for a Competitive Export Economy (TIPCE).

OBJECTIVES

The overall objective TIRP/IPEP was to assist the private sector to reduce managerial and technical constraints and promote development and growth in Ghanaian business enterprises. Specifically, the core objectives of IPEP were as follows:

- Establish linkages between larger-scale enterprises and small and microenterprises
- Increase the management capacity of production and marketing enterprises
- Increase use of improved technologies
- Increase access to market information and capacity to market selected domestic and nontraditional products
- Increase private-enterprise access to finance

APPROACH

It is generally accepted that given Ghana's low supply base, microenterprises must be linked into the production-marketing chain of NTEs in order to increase the nation's productive capacity and to have an impact on incomes and employment. Therefore a principal focus of TIRP/IPEP was the promotion of linkages between microenterprises and enterprises of larger scale in mutually profitable and sustainable business relationships.

The approach to TA provided by AMEX/IPEP was consequently based the "push-pull" concept. This approach began with the identification of "lead" firms, which had the greatest potential for increasing economic generation together with significant multiplier effects. TA was provided to these lead firms to improve productivity, reduce costs, and, in effect, "push" them into competitive international markets. The lead firms, in turn, were encouraged through their linkages to related microenterprises to "pull" these enterprises into the production-marketing chain.

Such combinations of lead firms with microproducers and microprocessors were anticipated to result in the desired economic growth. The TIRP/IPEP TA focused on the following objectives:

- *Building business linkages:*
 - Selecting a limited number of medium to large innovative or

lead firms (clients) involved in such areas as horticulture, floriculture, seafood, value-added wood products, garments, textiles, and handicrafts for TA to push them to a higher level of performance and international competitiveness

- Ensuring that activities supported were accomplished in an environmentally sound manner
- Linking small and microenterprises (supported by TechnoServe) as outgrowers, pulling them into the supply chain
- *Increasing private-sector access to finance:*
 - Supporting the efforts of businesses to prepare bankable projects
 - Providing training in financial management, analysis, and business planning
 - Assisting firms in sourcing loan and equity funds
 - Collaborating with the Ghana Investment Promotion Center (GIPC), the Ghana Export Promotion Council (GEPC), and other institutions to promote foreign and domestic investment

- *Increasing management capacity in production and marketing:*
 - Assessing the adequacy and appropriateness of technology used in management, production, and marketing
 - Promoting improved management techniques through training, workshops, seminars, and firm-level assistance
 - Improving quality-control systems
 - Improving packaging and labeling standards
 - Providing assistance in development of effective marketing plans
- *Increasing the use of improved technologies:*
 - Providing TA and training in product design, quality-control standards, and production management and packaging
 - Promoting joint-venture operations that encourage technology transfer and skill upgrades
 - Encouraging improved environmental and pest management technology
 - Assisting in choices of machinery and equipment

- *Increasing access to market information and capacity to market selected domestic and NTE products:*
 - Developing a comprehensive market information system that includes daily market information (e.g., product prices, sourcing, volumes)
- Developing effective electronic marketing systems (e.g., Web sites, online data, e-commerce)
- Encouraging the development of effective marketing intermediaries (e.g., brokers, freight forwarders, agents)
- Encouraging greater use of market information (e.g., Internet)
- Collaborating with GEPC and GIPC in the development of export programs

PROJECT SCOPE

Project-management activities were originally implemented under six broad headings:

1. Agriculture and agribusiness
2. Value-added wood
3. Garments, textiles, and handicrafts
4. Marketing and business development
5. Other sectors
6. Training and study tours

In response to a letter from the USAID/Ghana Contracts Office dated 4 May 2000, AMEX/IPEP presented a Work Plan and Cost Proposal. The request was made in anticipation of a possible modification to the TIRP/IPEP contract to add work that was complementary to what the project team was already doing and that provided a logical and useful extension to the team's efforts.

Additional resources provided to finance this modification were used to hire an additional local staff member, contract with local providers of short-term TA, increase the level of effort of AMEX/IPEP subcontractor Development Alternatives for the provision of international short-term TA, and provide a minimal amount of additional operating expenses and office equipment. Consequently, a seventh sector heading—Africa Trade and Investment Policy (ATRIP) Grades and Standards Program—was added in the third quarter of 2000.

The ATRIP Grades and Standards Program was a three-part effort:

1. Development and adoption of grades and standards for horticulture exports and training of export-company personnel in their implementation (managing the use of restricted chemicals to ensure environmentally sound

use and residue levels within specified limits)

2. Identification and refinement of integrated-pest-management (IPM) practices and promotion of their adoption by small- and large-scale commercial farmers (identifying safe and effective means of controlling insect-borne problems, such as whitefly-transmitted diseases)
3. Introduction of the International Organization for Standardization's 9000 family of standards (ISO 9000) quality-management systems to industrial, agribusiness, and timber-products industries (training farms for EurepGAP certification after it became clear in late 2001 that there should be an increase in emphasis on EurepGAP certification to meet the requirements of major supermarkets in the European Union [EU]).

KEY MILESTONES AND EXPECTED OUTCOMES FOR MEASURING SUCCESS

TIRP/IPEP staff and consultants worked with over 80 companies in three sectors:

1. Agriculture/agribusiness
2. Value-added wood products
3. Garments/textiles and handicrafts

AMEX and USAID/Ghana identified expected outcomes to measure success over the life of TIRP/IPEP under six objectives:

1. *Build business linkages:* Link 100 lead firms horizontally and vertically to 1,270 individual entities composed into clusters of microenterprises, support groups of clusters, industry alliances, mentoring units, spin-offs, and franchises of production processes or services.
2. *Increase private-sector access to finance:* Assist 250 firms in sourcing and obtaining finance (50 bankable projects).

3. *Increase management capacity in production and marketing:* Train 600 firm operators primarily through courses and seminars, determining subjects in conjunction with other TIRP service operators.

4. *Increase use of improved technologies:* Provide guidance to 50 firms regarding new appropriate machinery and equipment, processes, and other technologies; this will include assistance to GIPC, GEPC, and other Ghanaian institutions.

5. *Increase access to market information and the capacity to market selected domestic and NTE products:* Assist firms in generating an additional US\$60 million during the life of TIRP/IPEP.

6. *Support adherence to the ATRIP Grades and Standards Program:* Focus on the development and adoption of grades and standards for horticulture exports, train export-company personnel in

their implementation, identify and refine IPM practices, promote the adoption of IPM practices by small- and large-scale commercial farmers, and introduce quality-management systems consistent with ISO 9000 to industrial, agribusiness, and timber-products industries in the country. Specific milestones were to conduct 6 field training workshops each in IPM and in postharvest handling, conduct 4 ISO 9000—awareness workshops, develop and install 21 ISO 9000—compliant quality-management systems, and conduct 9 ISO 9000 good-agricultural-practice analyses. “ATRIP grades and standards” later became simply “grades and standards.”

A total of 50 milestone targets were defined, with USAID’s concurrence, as necessary to enable AMEX/IPEP to achieve these expected objectives and outcomes.

ACHIEVEMENTS AND PROGRESS

AMEX was able to measure, collect, and track achievements for all 50 milestone targets. These are presented below, grouped under 12 broad categories. Milestones were achieved or exceeded for all except 3 of the 12 broad categories:

1. Number of lead firms identified (73 percent)
2. Build business linkages (128 percent).
3. Increase private-sector access to finance (203 percent).
4. Number of firms assisted (203 percent)
5. Number of firm operators trained (242 percent)
6. Export earnings increased (95 percent)
7. Increase management capacity in production and marketing (242 percent).
8. Increase use of improved technologies (242 percent).
9. Increased market research and business development (166 percent)
10. Training and study tours (97 percent)
11. Support the development of and adherence to ATRIP grades and standards (164 percent)
12. Support the development of and adherence to grades and standards (115 percent)

Table 1 presents the details of TIRP/IPEP milestones and achievements.

TABLE I. PERFORMANCE OF THE INCREASED PRIVATE ENTERPRISE COMPONENT AGAINST MILESTONES

Objective/Sector/Area	Performance Milestone		
	Target	Achieved	% Achieved
1. Lead firms identified (No.) (TOTAL)	99	72	73
Agriculture/agribusiness	64	28	44
Valued-added wood	10	14	140
Garment/textile/handicraft	25	30	120
2. Business linkages (No.) (TOTAL)	1,657	2,122	128
Agriculture/agribusiness	1,015	1,484	146
Valued-added wood	207	163	79
Garment/textile/handicraft	435	475	109
3. Firms assisted (No.) (TOTAL)	749	1,525	203
Agriculture/agribusiness	485	1,038	214
Valued-added wood	110	197	179
Garment/textile/handicraft	154	290	188
4. Firm operators trained (No.) (TOTAL)	750	1,818	242
Agriculture/agribusiness	555	1,137	205
Valued-added wood	95	417	439
Garment/textile/handicraft	100	264	264
5. Export earning increased (US\$ million) (TOTAL)	96.5	91.61	94.9
Agriculture/agribusiness	68.0	63.31	93
Valued-added wood	14.6	14.74	101
Garment/textile/handicraft	13.9	13.56	98
6. Increase management capacity in production and marketing (No.) (TOTAL)	183	366	200
Agriculture/agribusiness	104	174	167
Valued-added wood	43	82	191
Garment/textile/handicraft	36	110	306
7. Increase use of improved technologies (No.) (TOTAL)	50	121	242
Agriculture/agribusiness	35	56	160
Valued-added wood	5	57	1140
Garment/textile/handicraft	10	8	80

Objective/Sector/Area	Performance Milestone		
	Target	Achieved	% Achieved
8–22. Market research/business development (No.) (TOTAL)	374	621	166
Install marketing information system	1 ^a	1	100
Provide system training	1	2	200
Produce information product	1	1	100
Develop Web sites	1	2	200
Develop promotional material	2	4	200
Support GIPC corporate planning	2	1	50
Lending directory report	2	2	100
Develop business plans	40	41	102
Prepare bankable projects	50	40	80
Expand marketing capability of enterprises	100	202	202
Develop market intermediaries	18	29	161
Firms using new market information system	100	230	230
Develop new furniture lines	2	2	100
Develop new garment lines	4	4	100
New-to-Ghana buyers	50	60	122
23–39. Training and study tours(No.) (TOTAL)	127	123	97
Agribusiness and other sectors	32	30	94
Franchising training	4	2	50
Quality-control workshop	3	3	100
Apprenticeship seminar	8	8	100
Technology workshop	7	7	100
Good-agricultural-practices/IPM training workshop	10	10	100
Value-added wood	12	11	111
Wood Industry Training Center training	2	0	0
Technology workshop	10	11	111
Garments	14	19	135
Pattern/sample training	3	4	133
Shop-floor training	3	2	67
Management training	8	13	163
Apprenticeship seminar	1	1	100

Objective/Sector/Area	Performance Milestone		
	Target	Achieved	% Achieved
Marketing/business development	12	9	75
Software training	2	6	300
Web-site maintenance training	5	3	60
GIPC staff workshops	5	0	0
Study tours	31	19	61
Access to finance	26	35	134
Business planning workshops	24	31	129
MAS International INC. (banks) workshops	2	4	200
40–47. ATRIP grades and standards (No.) (TOTAL)	53	87	164
IPM activities	8	37	462
Field-test IPM systems	1	1	100
Field training workshops	6	35	583
Prepare investment profile for neem extraction	1	1	100
Postharvest handling activities	11	21	190
Field training workshops	6	14	233
Companies with improved pack-house facilities	5	7	140
ISO 9000 systems activities	34	29	85
ISO 9000 awareness workshops	4	9	225
ISO 9000 good-agricultural-practices analysis	9	9	100
Develop and install ISO-compliant quality management systems	21	11	52
48–50. Grades and standards (No.) (TOTAL)	2,540	2,928	115.3
IPM technology (persons trained)	1,000	1222	122
Good agricultural practices (persons trained)	1,500	1622	108
Firms/outgrowers EurepGAP certified	40	84	210

AGRICULTURE/AGRIBUSINESS SECTOR

A total of 28 lead firms were identified in the agriculture/agribusiness sector, representing a 44 percent achievement of the milestone target. Assistance provided by AMEX/IPEP staff working with these lead firms resulted in 1,484 business linkages (146 percent of target) and 1,038 instances of constraint-reducing TA (214 percent of target). A total of 1,137 firm operators were trained (205 percent of target), contributing to increased export earnings of US\$63.31 million (93 percent of target).

Overall project-staff TA resulted in a total of 174 instances of increase in management capacity in production and marketing by firms, representing 167 percent achievement of the milestone target. Fifty-six instances of increased use of improved technologies were also recorded (160 percent of target).

The following are highlights of the TA delivered to firms that contributed to the above results.

- TIRP/IPEP facilitated the formation of a new product association—the Papaya and Mango Producers and Exporters Association of Ghana (PAMPEAG)—to move the export industry forward and assisted the 125 member farmers with a capacity-building workshop on improving product development for export.
- Three client firms expanded cashew cultivation by a total of 650 acres. These estates will come into fruition and reach the export market by the year 2006.

- TIRP/IPEP supported the establishment of a biotechnology company, Ghana Bioplantlet Ltd., as a public-private concern to commercialize the rapid multiplication of planting materials through the use of tissue-culture technology. The laboratory is located in Kwabenya, near Accra, at the Ghana Atomic Energy Commission. The commission represents the interests of the public, whereas SPEG members represent the interests of the private sector. The AMEX agricultural team facilitated the development of a business plan to the firm's application for a USAID grant of US\$175,000, which was used to leverage working capital of US\$250,000 from the private sector.
- In collaboration with CARE International, TIRP/IPEP prepared a production manual for use as a training tool to build the capacity of smallholders to produce chilies to meet EU specifications.
- Seven smallholders belonging to the Prudent Exports pineapple outgrowers were selected to receive input support amounting to €50 million each (translating to a total of €350 million [US\$40,000 equivalent]). Ecobank Ghana Ltd. was the participating institution involved in the linkage to expand pineapple production. The selected smallholders' production expanded by 30 to 40 percent. They also established sucker bases, which rendered them self-sufficient in suckers for

expansion. A near-20 percent reduction in production cost will accrue to these farmers.

- A total of 32 business plans, market studies, and feasibility studies were accomplished:
 - Twenty-one business plans and bankable projects were developed. These were either presented to financial institutions for funding or used by the firms as management guides. TIRP/IPEP staff actively participated in the loan negotiations with several clients.
 - Nine subsector and market studies were undertaken at the request of a number of firms, including Darko Farms Ltd. (study focused on the poultry industry in West Africa) and Golden Wed Ltd. (study focused on the vegetable oil market in Ghana).
 - Two project-feasibility studies were undertaken, for Pwalugu Tomato Factory and for the Network Cooperative Farmer Organisation (for the establishment of poultry farm).
- The Farm Management Apprenticeship Program trained 110 students, drawn from the four public universities in Ghana. It equipped them with employable skills and placed most of them in the agricultural sector of the economy, as farm managers, export coordinators, project officers, entrepreneurs, and development consultants.

- Juaben Oil Mills secured a World Bank concessionary loan of about US\$700,000 to support the production of about 1,000 hectares of oil-palm plantation under an outgrower scheme benefiting over 600 farmers directly and about 3,000 dependants.
- TIRP/IPEP also assisted Juaben Oil Mills Ltd. in acquiring a 10-metric-ton-per-hour, state-of-the-art boiler and steam turbine to meet peak demand for steam and to supply power fueled by solid waste. The application of solid waste as fuel will eliminate waste-disposal problems and thus reduce environmental pollution. TIRP/IPEP cost-shared TA for the installation of these improvements.
- Wienco Fibers, with internal auditors with the requisite knowledge of the process and preparation of ISO 9000 documentation and certification, was assisted to install a new solar-drying technology, replacing the unreliable sun-drying method and reducing the drying cycle from 5 days to 2 or 3 days per batch.
- Tongu Fruits completed the redesign of an improved production layout, segregating different stages in the production flow in conformity with good manufacturing practices, thereby reducing the risk of product contamination and increasing product safety and customer satisfaction.
- Tropical Cable and Conductors Ltd. was supported by AMEX/IPEP on a 60-40 cost-sharing basis to secure the services of a third-party auditor, which enabled the firm to obtain ISO 9000 certification after two years of preparation.
- Through development of the a computerized activity-cost-tracking system—the FarManager program—TIRP/IPEP improved management information systems for 11 leading firms (Eno Farms, Milani, Afrique Link Ltd., Equatorial Capital Ventures Ltd., Farmapine Ghana Ltd., Volta River Estate, Dansak Farms Ltd., Prudent Exports, Georgefields, Jei River Farms, and Directors Choice Ltd.), enabling them to generate reports on costs, employee information, vehicle use, and production and harvesting schedules. Use of this program led to prompt management decision making and helped in the overall management of these firms.

VALUE-ADDED WOOD PRODUCTS SECTOR

A total of 14 lead firms were identified in the value-added-wood-products sector, representing a 140 percent achievement of the milestone target. Working with these lead firms, AMEX/IPEP staff provided assistance that resulted in 163 business linkages (79 percent of target) and 197 instances of constraint-reducing TA (179 percent of target). A total of 417 firm operators (439 percent of target) were trained, contributing to increased export earnings of US\$14.74 million (101 percent of target).

Overall project-staff TA resulted in 82 instances of increases in management capacity in production and marketing by firms, representing

191 percent achievement of the milestone target. Fifty-seven instances of increased use of improved technologies (1,140 percent of target) were also recorded.

The following are highlights of the TA delivered to firms that contributed to the above results.

- TIRP/IPEP staff provided TA to 191 entities in production marketing and quality control, exceeding the milestone target of 107 by 84 (178 percent of target).
- Among the client firms, 30 were linked to potential importers of wood products from Ghana.. Fourteen exported consistently, mostly to Europe and the United States. Twelve were occasional

exporters, to West Africa, Europe, and the United States. The total increase in exports recorded was US\$16 million, against a milestone target of US\$14.6 million (106 percent). Exportable wood products were classified as follows:

- *Primary:* Logs, air-dried lumber, and kiln- and air-dried boules (traditional exports)
- *Secondary:* Kiln-dried lumber, veneers, and plywood (NTEs)
- *Tertiary:* Moldings, profile boards, furniture parts, flooring, and other products (NTEs)

- TIRP/IPEP staff assisted several client companies in equipment-procurement processes through the provision of TA in evaluation for suitability and price as well as in plan layout, installation, test runs, and training of technicians in operations and maintenance.
- TIRP/IPEP presented library reference materials (videos and textbooks) to the Wood Industry Training Center. Work was carried on in conjunction with the Ministry of Education and the Woodworking Sector Development Program of the EU and the Wood Industry Training Center to develop curricula for training woodworking technicians in Ghana's vocational, technical, and polytechnic institutions.
- TIRP/IPEP supported the development and implementation of new accounting procedures and manuals for BMK Particleboard Ltd., Precision Plus Ltd., and 17 small carpentry enterprises in Kumasi, providing training in basic accounting principles and practices.
- AMEX/IPEP consultants drafted an apprentice-staff-management manual for members of the Professional Wood Workers Association, to improve management of the master-apprentice relationship. The Professional Wood Workers Association later merged with the larger Wood Workers Association of Ghana (WAG), which embraces all the small-scale furniture enterprises in Ghana. TIRP/IPEP provided support for organizing WAG and trained its members.
- In collaboration with the Ghana Standards Board and other stakeholders, TIRP/IPEP developed two new specifications: (1) Ghana Standard GS 197, Specification for Wooden Doors, and (2) Ghana Standard GS 194, Specification for Wooden Frames for Doors, Windows, and Ventilators.
- TIRP/IPEP promoted common application of new technologies, such as solar dryers, among small firms (such as Neocraft Ventures, Ehwia, AR) and particularly encouraged them to contribute in kind (land, labor, materials) in the construction of these solar dryers and sharing in their use.
- TIRP/IPEP assisted clients in buyback arrangements. An example of such an arrangement is a client firm's agreement with an overseas equipment supplier to exchange equipment for manufactured goods, such as parquet flooring. In addition to facilitating equipment purchases, such arrangements created and promoted business relationships between partners.
- TIRP/IPEP promoted and encouraged the use of handwoven fabrics produced by associations in northern Ghana as upholstery material by furniture manufacturers. This was an example of programs in two sectors collaborating and cooperating for the benefit of their clients.
- Five firms (Bibiani Logging & Lumber, Kumasi Logging and Lumber, Ehwia Wood Products, Sunstex Company Ltd., and Fosua Descendants Ltd.) received TIRP/IPEP assistance in forming the Kumasi Wood Cluster to develop new products from lesser-used species of wood and from bamboo for traditional and new markets and also to share costs and resources to undertake certification of their forest concessions and factory operations. Through the Netherlands' Center for the Promotion of Imports from Developing Countries (CBI), the Kumasi Wood Cluster was granted funds by a Dutch nongovernmental organization, the DOEN Foundation, to obtain the certification and facilitate international trading of its wood products.
- Six business plans were written and four subsector studies were undertaken by AMEX/IPEP project staff. Four of the business plans received US\$4.6 million in expansion- and working-capital financing. Seventeen small furniture-manufacturing firms received training in basic accounting principles, and five of them improved their record keeping in order to enable them secure funds from nonfinancial credit institutions.
- Twenty-five firms attended a one-day ISO 9000 awareness training program conducted by TIRP/IPEP, in collaboration with SGS Ghana.
- Fifteen firms completed an ISO 9002 quality-management-principles program. If implemented, the principles presented by the program would confer a number of benefits—both external (higher perceived quality of products, increased

customer satisfaction, competitive edge on other firms and products, increased market share, and entry into new markets) and internal (improved documentation; greater quality awareness; increased operational efficiency, productivity, and profitability; and reduced waste).

- AMEX/IPEP consultants carried out ISO 9000 gap analyses at two firms, Omega Wood Products and Scanstyle-Mim Ltd., to identify gaps existing in their quality-management systems, and recommendations were made for corrective actions that would result in effective resource utilization, reduction of waste, and increases in customer satisfaction.
- Special university graduate internship training was mounted for 26 recent graduates to prepare them for employment in middle-level positions in industry.
- Specialized Timber Products Ltd. was assisted to promote kiln-dried lumber, moldings (of solid and finger-jointed pieces), and various laminated boards made from three lesser-used wood species: chenchen, koto, and esa.
- TIRP/IPEP provided coordination in Ghana for a U.S. workshop organized by the Division of Agriculture, Natural Resources and Rural Enterprise (ANRE), Office of Sustainable Development, Bureau for Africa, USAID. The purpose of the

workshop was to expose selected Ghanaian wood-processing firms and agencies to U.S. markets for wood and wood products. Focus areas included standards and specifications, distribution channels, and trade regulations and practices.

- AMEX/IPEP consultants conducted a survey of the U.S. and Canadian wood-product markets. The findings were presented in a comprehensive report that described how Ghanaian firms could increase their share of those markets and determine product opportunities in the value-added sector. The report stated that in 2001, Ghana provided relatively small portions of U.S. and Canadian tropical-wood-product imports in rotary veneer (7.5 percent), sawn timber (3.1 percent), and plywood (1.5 percent). Tertiary wood imports were negligible.
- Simple solar dryers were used commercially in Ghana for the first time with TA provided by AMEX/IPEP staff and consultants. The technology was cost-effective for handicraft manufacturers and small and medium-size enterprises (SMEs) that used wood as a raw material. A seven-cubic-meter-capacity solar dryer that could reduce moisture content to about 14 percent was installed at cost of about US\$4,000. The *Operating Manual for Solar Heated Drying Kilns* was published, and 14 technicians

were trained in operating and maintaining the dryers.

- Firms were trained by project consultants and staff in the principles and processes of high-quality finishes for furniture. They were then given practical training in applying these modern finishing techniques. A total of 120 operators were trained in the Upper East, Upper West, Ashanti, and Greater Accra Regions. TIRP/IPEP collaborated with a local firm that introduced the use of local materials along with essential imported items to construct spray booths at minimal costs.
- Working with the Ghana Standards Board and the Forestry Commission, TIRP/IPEP staff introduced new grades and standards: Ghana Standard GS 194:2000 (for wooden frames for doors, windows, and ventilators) and Ghana Standard GS 197:2000 (for wooden doors).
- The use of the northern fabric, which had hitherto been limited to the sewing of smocks, was successfully extended to furniture upholstery. The TIRP/IPEP textile program trained northern weavers to improve weaving, extend looms, select and combine dyes, improve jointing, and make other adaptations that improved the quality of the fabrics to enable the TIRP/IPEP wood sector to promote them for furniture upholstery.

GARMENTS, TEXTILES, AND HANDICRAFTS

A total of 30 lead firms were identified in the garment, textile, and handicraft sector, representing a 120 percent achievement of the milestone target. Assistance provided by AMEX/IPEP staff working with these lead firms resulted in 475 business linkages (109 percent of target) and 290 instances of constraint-reducing TA (188 percent of target). A total of 264 firm operators were trained (264 percent of target), contributing to increased export earnings of US\$13.56 million (98 percent of target).

Overall project-staff TA resulted in a total of 110 instances of increase in management capacity in production and marketing by firms, representing 306 percent achievement of the milestone target. Eight instances of increased use of improved technologies were also recorded (80 percent of target).

The following are highlights of the TA delivered to firms that contributed to the above results:

- TIRP/IPEP workshops and direct company assistance led to better cut and overall better construction, resulting in better patronage of ready-to wear merchandise. Use of fine fabrics and design and styling adaptation combined with improved construction to give successful showroom operations for more than 60 percent of the client firms in Accra, Kumasi, and Takoradi.
- Only about 10 percent of firms had showrooms before joining the sector program. Over the life of the project, the proportion of firms having showrooms

expanded to over 50 percent, with some having two or three. Firms that did not have showrooms benefited from the guidance and direction of the sector program to establish and operate showrooms, and these operations improved and expanded.

- Through the TA of TIRP/IPEP, northern handwoven fabrics gained recognition for apparel and other uses, such as upholstery. Sales of these products in the northern regions increased considerably, leading to increased profits.
- At the end of the activity, the personal as well as the professional atmosphere in the garment-and-textile sector improved considerably. As operators formed personal and professional bonds, copying of design and poaching of staff and customers were greatly reduced. Table 2 provides examples of some of the strong links that have been established among client firms.
- With TIRP/IPEP guidance, direction, encouragement, and sometimes cost-sharing support, more than 60 percent of all program participants staged solo fashion shows or participated in group presentations both in Ghana and outside the country. Clients gained confidence from putting together impressive collections, in accordance with accepted industry norms, and the enthusiastic response of audiences both at home and abroad propelled them forward.
- A significant number of client firms gained the capability to present themselves and their products to prospective and potential customers in an impressive and professional manner.
- The impact of the handicraft-sector program activities on the industry was the movement toward the development of exclusive specialty products. As producers received positive market responses to these new products, they were encouraged to indulge their creative abilities and channel them into the production of items demanded by the market.
- At the end of the activity, 40 percent to 50 percent of the firms in Accra, 20 percent to 30 percent of the firms in Kumasi, and 10 percent to 15 percent of the firms in Takoradi and Cape Coast had engaged qualified competent personnel to oversee and handle operations in production, marketing and sales, and financial management.
- Many design firms' proprietors relieved themselves of the burden of running their businesses single-handedly. Client managers reported that they now ran more efficient operations, with better control, increased productivity, and increased profitability.

TABLE 2. LINKAGES CREATED IN THE GARMENT-AND-TEXTILE SECTOR

Linked Firms	Nature of Linkage
Adoma Sarpong/Fidele Couture	Joint production, marketing and supply of products to the African American Museum of Philadelphia, U.S.A.
Salma Garments/Fidele Couture	The entire order of Fidele for Essence-by-mail was produced at the production facility of Salma Garments, with Salma herself making all the patterns for that order and personally supervising the production process
Salma Garments/Charisma Fashion	Salma made the patterns for Charisma's order for Essence
Cadling Fashions/Elinams Collection Cadling/Treasure Leisure	Cadling has introduced Elinams Collection and Treasure Leisure to her Kenyan buyer, who is now being supplied by all three firms.
Winglow/Jem Afrik/Cadling Damaris/Charisma/Erbon Salma/Fidele/Cute Collection	Firms formed production alliances for sourcing and producing large-volume orders
Defolk/Charisma	Defolk purchased and merchandised Charisma products
Defolk/Elinams Collection	Defolk purchased and merchandised Elinams products
Defolk/Damaris	Defolk purchased and merchandised Damaris products

- The public responded to the new-look smock fabric with pleasure and enthusiasm. The positive reaction was immediately translated into orders for the fabric for the production of the items that had been showcased in 2003, and demand continued to grow.
- At the close of the project, 25 firms each in Accra, Kumasi, Tamale, and Bolga and 20 in Cape Coast and Takoradi had benefited from the basic management training of the sector program. About 10 firms in Accra and Kumasi went on to receive more advanced management training from the Empretec Ghana Foundation, the facilitator of the basic training courses.

PRODUCT DIVERSIFICATION

AMEX/IPEP staff worked intensively with handwoven- and smock-fabric producers in the Northern, (Tamale and Daboya), Upper East (Bolga), and Upper West (Wa and Nandom) Regions to improve the woven quality and other aspects of their fabrics to render them attractive and suitable for the production of clothing and interior-decor and lifestyle items.

The major achievements in this product-development effort were as follows:

- Increase in strip widths: from 3–4 inches to 7–9 inches for narrow loom and from 15 inches to 35 inches for broadloom

- Reorientation of the color schemes to give them a wider aesthetic appeal for the production of new items

Project sponsorship enabled 12 weavers to exhibit sample fabrics and products to a wider audience, including architects, interior decorators, purchasing agents for institutions and organizations, furniture manufacturers, and fashions designers, at the International Building Exhibition, held at the Accra International Conference Center August 27 to 30, 2003. Orders for fabrics continued to come in through the end of the project, increasing production and earnings.

Twenty weavers from Tamale, Daboya, Bolga, Wa, and Nandom who came to Accra for the exhibition, most for the first time, gained valuable market information

through interaction with visitors to the booth, and they gained a better understanding of preferred quality, colors, patterns, and price points. This new body of information

informed their efforts in product development in response to market requirements and preferences, which should lead to increased sales, production, and earnings.

MARKET RESEARCH AND BUSINESS DEVELOPMENT

A total of 15 milestone targets were designated for market research and business development, and all but 2—prepare bankable projects and support GIPC corporate planning—were achieved or exceeded.

The following are highlights of the TA delivered to firms that contributed to the above results:

- Relationships developed with some major players in the export-development community, such as GEPC, the Federation of Associations of Ghana Exporters, CBI, the Swiss Export Promotion Organization (SIPPO), and the World Trade Organization, were strengthened, and joint programs were planned and executed for the benefit of the Ghanaian export community.
 - Export volumes of pineapples, for example, increased from a modest 10,000 metric tons in 1994 to an impressive 50,000 metric tons by 2003.
 - At the end of the project, about 20 importers/buyers from the EU were doing business in Ghana.
- Eighteen profiles of sectors (including hotels, lodges, and sites; property development; agroprocessing; seafood processing; jewelry; cotton and textiles; apparel; ethnic beauty

products; transport services; ceramic tiles; wood processing; and floriculture) were compiled and presented to GIPC to serve as guides for investors. They were hosted on the GIPC Web site (<http://www.gipc.org.gh/>).

- A total of 150 firms (75 in the agriculture sector, 40 from the value-added-wood sector, and 35 in the garment sector via Website creation) were assisted to expand their marketing capabilities through TIRP/IPEP's TA.
- The provision of Internet facilities in the library made access to market information—especially prices on the international market—easier, enabling clients to schedule their production cycle to meet demand and increase profitability.
- AMEX collaborated with the International Finance Corporation's African Project Development Facility and with International Development Ireland to design and offer training in a broad range of topics for bankers and business entities. Selected financial institutions—such as CAL Merchant Bank, Ecobank, Merchant Bank, Standard Chartered Bank, Barclays Bank, Agricultural Development Bank, Social Security Bank, Prudential Bank, and Ghana Commercial Bank, as

well as rural banks and other financial institutions both in the south and in the north—participated in a number of workshops.

- A Financial Lending Directory that provided a comprehensive listing of funding sources and application requirements for SMEs in Ghana was developed in collaboration with the National Banking College of Ghana. It was distributed to TIRP/IPEP client organizations and to regional libraries.
- Two interesting products were developed in working with northern broadloom weavers (all women): kitchen and table napkins. The sector program recognized that the weavers possessed the skill for the production of these items, but this had previously not been exploited fully because the weavers did not have a ready market for these products in the north. The market response was encouraging, and as it continued to grow steadily, the weavers gave free rein to their creative abilities, producing napkins in new and exciting patterns and colors. As the market for these items grows and develops, the weavers should rise to the challenge of increasing and improving production for an eager market.

TRAINING AND STUDY TOURS

A total of 17 milestone targets were designated for training and study tours, and all but 5 (franchise training, Wood Industry Training Center training, shop-floor training, Web-site-maintenance training, and GIPC staff workshops) were achieved or exceeded.

Summarized below are highlights of the TA delivered to firms that contributed to the above results.

AGRICULTURE: TRAINING OF VEGETABLE FARMERS IN NEW TECHNOLOGIES

- Upon a request from the Vegetable Producers and Exporters Association of Ghana (VEPEAG) and Afrique Link, 759 farmers were trained, mainly in nursery-bed construction, nursing of seeds correctly to minimize loss, good agronomic practices in vegetable growing, and safe and effective use of agrochemicals. The major problems in the nursery were the following:
 - Overseeding
 - Etiolated seedlings resulting from too much shade in the nursery
 - Transplanting of overaged seedlings
 - Mixed cultivars in the field
 - Poor fertilization
 - Wide planting distances or spacing for chilies and okra
- Farms were grouped together based on nearness, and participants met at a central farm where the training took place.

Among the topics treated under agrochemical use were the following:

- Safe and effective use of crop-protection products
 - Personal protection when using pesticides
 - Safe transport of crop-protection products
 - Safe warehousing of crop-protection products
 - Understanding agrochemical pictograms
 - Record keeping
- AMEX/IPEP spearheaded Ghana's participation in the Berlin Fruit Logistica exhibition in Berlin. Members of SPEG and other clients in collaboration with other organizations, such as GEPC, were assisted on four occasions (2000 through 2004) to attend. Their participation in the exhibitions culminated in attracting importers of fruits into the country, and these linkages significantly increased the volume and value of fruits exported. The booth and the presentation improved each year; 2004 was further cost-shared in collaboration with Michigan State University's Partnership for Food Industry Development.
 - TIRP/IPEP collaborated with GEPC and the SIPPO program to cost-share support for the participation of four to six small producers in Fruit Logistica in 2003 and 2004.

- Other shows that benefited clients in the agriculture subsector were the Birmingham Ethnic Foods Show in the United Kingdom and International Food Exhibition (SIAL) 2000 in France as buyers were identified and contracts were established for the supply of products.

VALUE-ADDED WOOD

- A total of 433 firm operators were trained under TIRP/IPEP in the wood subsector in various areas of operation, including production planning and management, marketing, and quality control.
- Awareness of the potential that the Economic Community of West African States (ECOWAS) presented for the expansion of wood products was created by assisting client firms to participate in regional fairs while TIRP/IPEP staff published reports on surveys carried out in Benin, Burkina Faso, Senegal, and Nigeria. Collaborating institutions were the Timber Industry Development Division of the Forestry Commission, the Association of Ghana Industries, the Ghana Timber Millers' Organization, and the Furniture and Wood Products Association of Ghana (FAWAG).
- A reconnaissance of the North America, including the West Coast of United States, was undertaken by six firms, the Ghana Timber Millers' Organization, and the Forestry Commission's Timber Industry Development Division. This visit

resulted from recommendations that urged producers to travel to the marketplace and tell U.S. and Canadian importers, distributors, and end users what species and products were available from producers in Ghana. The delegation attended the 2004 International Wood Products Association Convention in Anaheim, California, where the Forestry Commission sponsored an exhibition describing Ghana's forest resources and the species and products available from Ghanaian mills. TIRP/IPEP cost-shared airfares, and participants paid most of their own hotel and food costs, plus local transportation.

- Two hundred technicians from eight regions (Greater Accra, Volta, Eastern, Western, Ashanti, Brong-Ahafo, Upper East, and Upper West) were trained in the use of portable power tools.

GARMENTS

- TIRP/IPEP assisted over 60 percent of the clients in the garment-and-textile subsector on a number of fairs and shows around the world, such as the International Black Buyers and Manufacturers Expo and Conference in Washington, D.C., U.S.A.; Ambiente Frankfurt in Germany; the American and African Business Women's Alliance in Botswana; Gajelta in Kumasi, Ghana; Central Expo in Cape Coast, Ghana; the West Africa International Business Linkages Textile and Apparel Program, U.S.A.; the Annual Philadelphia International Art Expo, U.S.A.; and the General Assembly of the West Africa

Businesswomen's Network (WABNET) in Conakry, Guinea. Clients' attendance at these shows led to high volumes of sales and contracts to supply merchandise to various buyers.

MARKET RESEARCH AND BUSINESS DEVELOPMENT

- AMEX/IPEP organized a study tour for members of SPEG to South Africa and Côte d'Ivoire; clients cost-shared this activity. During the trip, SPEG members gained firsthand experience in a wide range of subjects, including the following:
 - Principles of association building
 - Rules governing conduct of members
 - Services that associations render to members
 - Materials on ethics, conduct of memberships, sources of funding, and membership structures and tiers
 - Quality-control procedures and standards
 - Acts and regulations applied to exports of fresh pineapples
 - New techniques employed by farmers in Graham's Town, South Africa

Issues relevant to the future objectives of fresh-fruit-terminal management were identified. These included the following:

- Traceability
- Precooling facilities

- Bar coding for easy identification of fruit-shipment problems
- Logistics arrangements and protocols

AFRICA TRADE AND INVESTMENT POLICY GRADES AND STANDARDS

- Three EurepGAP-awareness workshops, involving 106 participants, were held in northern Ghana (Kumasi, Sunyani, and Tamale).
- Twenty-one on-farm EurepGAP training and farm visits were made.
- Nine IPM field training sessions were held for a total of 265 farmers and workers; 245 of the participants were from Farmapine, and the rest were from Pioneer Quality, Georgefields, and Greenspan.
- A workshop on good agricultural practices for pineapple was held for 12 participants from Chartered Impex, Milani Farms, Greenspan, Horizon, and Gannat.
- Twenty workers participated in a workshop on postharvest handling run by AMEX/IPEP in collaboration with the German Agency for Technical Assistance (GTZ).
- Equatorial Capital Ventures at Peki Agbatey followed AMEX/IPEP's recommendation of nursing in seed trays to reduce transplanting shocks.
- Thirty-three farmers of Farmapine were trained in knapsack calibration. They had

been EurepGAP audited and were awaiting their certificates at the end of TIRP/IPEP.

- Four farms—Chartered Impex, Prudent, Horizon, and Unifruit—were preaudited and found to have good records that would qualify them for EurepGAP certification.

- A member of the AMEX/IPEP staff was used as a resource person on EurepGAP at a seminar on exporting fruits and organic foods to Switzerland and the EU organized by SIPPO for 30 participants.
- Two members of the AMEX/IPEP staff had

certificates and were recognized to conduct public EurepGAP courses based on EurepGAP materials.

- AMEX International, Inc., was listed on the EurepGAP Web site (<http://www.eurep.org>) as an associate member.

AFRICA TRADE AND INVESTMENT POLICY GRADES AND STANDARDS

A total of 12 milestone targets were designated for the category of ATRIP grades and standards (later expanded to grades and standards in general). With the exception of milestone targets related to developing and installing ISO 9000–compliant quality-management systems, all other milestone targets in this category were achieved or exceeded.

The following are highlights of the TA delivered to firms that contributed to the above results:

- Thirteen clients—Volta River Estates, Koranco, Jei River, Georgefields, Milani, Farmapine, Prudent, Chartered Impex, Pioneer Quality, Dansak, Equatorial Capital Ventures, Golden Exotics (formerly Paradise Farm), and Gannat—were EurepGAP certified.
- Over 80 percent of farms used record forms designed by IPEP staff in collaboration with GTZ and the Plant Protection and Regulatory Services Department.
- Through the initiative of TIRP/IPEP, Ghana became the African country with the third-largest (after South Africa and

Egypt) number of certified growers: 84.

- A total of 759 farmers were trained in nursery-bed construction, nursing of seeds correctly to minimize loss, good agronomic practices in vegetable growing, and safe and effective use of agrochemicals.
- Extensive training in on-farm food safety and postharvest handling was provided to 171 workers in the pineapple, mango, and papaya industries.
- Volume 4 (selected fruit crops, mango, papaya, and pineapple) of the *Hand Book of Crop Protection Recommendations in Ghana—an IPM Approach* was published under the auspices of the Ghanaian German Integrated Crop Protection Project (Ministry of Food and Agriculture [MoFA] Plant Protection and Regulatory Services Department–GTZ) with support from AMEX, the Horticulturalists Association of Ghana, and SPEG.
- Field-training workshops were conducted for 127 pack-house workers in on-farm packing and risk and basic food hygiene,

resulting in the reduction of rejects.

- Nine EurepGAP-awareness workshops were held throughout the country. Six of these, for 219 participants, were held in northern Ghana (Sunyani, Kumasi, Tamale, and Bolgatanga). The purpose of the EurepGAP-awareness workshops was to equip farmers with the necessary information on the international community's requirements.
- Collection of neem seeds, which are used for organic insecticide for spraying cacao, was commercialized. The Cocoa Research Institute, Tafo, was the major customer, buying over 24 metric tons annually for use on farms in the Eastern Region.
- A total of 633 farmers were taken through IPM practices in the production of fruits and vegetables, leading to reductions in seedling losses at nurseries from 50 percent to about 5 percent without the use of pesticides in the nursery. Farmers became aware of the restrictions of maximum residual levels and the need to conform to them.

ISSUES AND CHALLENGES

This section focuses on the issues and challenges identified by TIRP/IPEP clients and technical staff.

AGRICULTURE AND AGRIBUSINESS

PROMOTION OF LINKAGES AMONG FIRMS AND OUTGROWERS

Promotion of linkages among firms and outgrowers contributed to the following:

- Increased participation of outgrowers in the export supply chain and hence increased earnings for both SMEs and larger firms from increased participation in the local, regional, and external markets
- Reduced operational costs and increased economies of scale and improved use of technology
- Increased opportunities for sustainable initiatives for linkages between small and large firms
- Demand-driven comprehensive linkage programs, incorporating supply-chain management, access to finance, and capacity-building TA

INCREASED ACCESS TO FINANCE

Assistance under TIRP/IPEP to increase access to finance (assisting firms to source finance from financial institutions) focused both on the firm/business operating unit and on financial institutions. The following issues were encountered in the course of TIRP/IPEP:

- *Business units:*
 - Inability of firms to diagnose their financing requirements

- Inadequate knowledge of the various sources of finance, their areas of specialty and the nature of financial assistance provided, and application and disbursement requirements and procedures
- Lack of knowledge about basic record keeping and financial management
- Inadequate accountancy and taxation advice
- Erroneous perceptions about banking.
- *Banks and financial institutions:*
 - General lack of in-depth understanding of the nature of NTE businesses, which led lending institutions either to reject loan applications made by clients and others in the sector or to fail to develop repayment schemes suited to the cash flows of the applicants, resulting in repayment default for most applicants—especially start-ups or infant companies
 - Perceived high-risk nature of the agriculture sector—rate of default
 - Adequate training for bank staff having been trained, but little or no training for rural bank boards, which make the loan decisions

INCREASED MANAGEMENT CAPACITY OF PRODUCTION AND MARKETING ENTERPRISES

On several occasions TIRP/IPEP assisted exporters, especially VEPEAG and its members, to identify new buyers in Europe only to see them fail to deliver goods that met the requirements and satisfied the buyers in terms of volume, quality and frequency. Among the causes were the following:

- Weak production base
- Poor or difficult access to quality seeds or planting material of specific varieties (MD2)
- Lack of good planting materials
- Lack of new varieties of products to place on the market
- Poor postharvest handling
- Lack of proper cost-tracking practices

The following needs were evident at the end of the project:

- Increase the odds in favor of success for projects and investments yet to be undertaken
- Assess and streamline the operational costs of firms as a means of increasing income and restructuring their operational cash flows
- Agricultural input support to cover the following:

- Pineapple sucker development and procurement
- Basic farm equipment, including spraying machines, plastic mulch, and plastic drums to hold water
- Agrochemicals (fertilizer, herbicides, and essential pesticides)

IMPROVED USE OF NEW TECHNOLOGY

TA was needed by Juaben, Tatlock, and Dekpor farms and Afrique Link, Wienco, Praise Exports, and Nkulenu Industries for the following:

- Improving steam-generation volume and efficiency and energy reliability and conservation
- Solid-waste and effluent disposal and environmental conservation

- Efficient reduction in moisture content of shell fiber for higher operational output
- Updating technology for improving the solid-liquid filtration process in oil processing
- Application of tools for the production and availability of monosex fingerlings for aquaculture production
- Improving the production, quality, availability, and reliability of commercial feed for aquaculture production
- Assistance in the choices of investments in appropriate technologies and plants for food processing
- Empowering farmers in the application of biocides and

natural control factors in as a tool for good agricultural practices

- Improving the feeding regime and increasing the efficiency of conversion of feed in aquaculture production
- Improving transport and material handling from raw-material sources through operations to finished products
- Ensuring the efficient and effective operation and management of improved technology and systems
- Ensuring ISO and Hazard Analysis and Critical Control Point compliance of various companies in the processing industry

VALUE-ADDED WOOD

PROMOTION OF LINKAGES AMONG FIRMS AND OUTGROWERS

Client firms were exposed to some of the commercial advantages in horizontal linkages, including networking among themselves and vertical linkages with lead firms, in such areas as the supply of logs and lumber to lead firms for milling, kiln drying, and processing for export, while lead firms provided marketing, engineering services, and manpower support to SMEs.

TIRP/IPEP sought to assist lead firms to explore the possibility of contracting out aspects of their orders to SMEs with suitable machinery, raw materials, and skilled operators for production in order to

meet large volumes or varying products on orders, as well as to provide the necessary coordination and supervision of production, shipping, and quality control, when they worked with linked firms.

Linkages were created through the following activities:

- Identifying opportunities for promoting commercial linkages and challenges
- Presenting these opportunities to interested producers, manufacturers, processors, suppliers, exporters, and buyers through workshops and other forums

- Building a database of transaction linkages created in selected NTE subsectors
- Collecting information on input supply sources and potential users and disseminating it to interested parties to foster linkages

INCREASED ACCESS TO FINANCE

Wood-processing firms required financial intermediation in one form or another for forest plantation development, downstream (value added) processing, management and financial restructuring, business restructuring and expansion, and product and market development.

Assistance was provided to them in the following areas:

- Collecting and providing information on sources of finance through financial directories and other sources
- Assisting firms to correctly diagnose their financing requirements and present them to banks and other lenders
- Conducting capacity-building workshops on proper record keeping, accounting, and taxation advice and financial management as an input for business plans
- Conducting industry-best-practices-awareness workshops

for bankers and other potential lenders

- Writing business plans and assisting firms to access funds

INCREASED MANAGEMENT CAPACITY OF PRODUCTION AND MARKETING ENTERPRISES

The absence of credible management, production, and quality-management systems was experienced in almost all export-manufacturing firms in the value-added-wood sector. Many companies were managed by one or two people who had management or technical experience; the level of management and technical capacity within firms

was very thin: one or two people in each area. This limited their capabilities in marketing and other areas.

IMPROVED USE OF NEW TECHNOLOGY

Improving efficiency and increasing productivity in wood processing through better skill training and the use of improved technology was an opportunity and a challenge. The biggest limitation on technology was financing: Companies did not have the resources or access to resources to purchase the technology they needed to solve production challenges or to increase efficiencies.

GARMENTS, HANDICRAFTS, AND TEXTILES

PROMOTION OF LINKAGES AMONG FIRMS

An example of promotion of linkages among firms in the garment, handicraft, and textile sector came about in late 2003, when the attention of program activities began to focus on the northern smock fabric. It was observed that the smock fabric was used mainly for the production of men's smocks, whereas the broadloom version was used for women's outfits. There was virtually no growth in the industry, and operators had been at the same levels of operation for considerable periods.

The sector program held several discussions with the weavers and loom fabricators to explain what was needed, and why. Through a series of experiments, the width was increased to between 9 and 15 inches. At the end of TIRP/IPEP, experimentation

to widen the looms and increase the fabric width further was ongoing.

A series of training workshops were held for the weavers, where they learned about patterns, colors, and designs, about what roles they would play in determining the most appropriate use of the fabric, and even about whether the products would fit into the high or the low end of the market.

They also learned about the seasonal trends in the export market destinations and how their products had to be in harmony with those market demands in order to sell more. Other issues that had to be made clear concerned interior decoration, including the color bands within which decorators work and the need for making it easy for them to choose and use smock fabric.

The next issue tackled was fabric strength, because TIRP/IPEP was

promoting the fabric for use in furniture upholstery, which must be able to take a great deal of wear and not tear. Thread count had to increase, and the weave had to be tightened. Experimentation was ongoing at the end of the project.

To increase sales, the characteristics of the fabric had to change in the following ways:

- Increase the width of narrow-loom fabric (which was 2½ to 4 inches)
- Increase the thread count to make the fabric stronger
- Reorient patterns and colors to make them suitable for the new uses described above

The new-style smock fabric had to be given exposure, promoted, and marketed for the new end uses. TIRP/IPEP carried out a continuing promotion and marketing of the

smock fabric. Every opportunity was used to give it exposure and create awareness of the new, diversified uses.

The sector program sponsored the production of items featuring the new uses of the smock fabric in furniture upholstery, interior decor, and lifestyle items, such as pillows and cushions, lampshades, bedspreads and quilts, table linen, and high-fashion clothing. The initial response among other program clients was very encouraging, and this confirmed TIRP/IPEP's initial premise that improved characteristics would render the northern smock fabric very versatile, with a corresponding increase in demand, leading to increased production and earnings. The next effort was the public exposure of the fabric in its diversified usage to the broader Ghanaian market.

The vehicle for this promotion was the August 2003 International Building Exhibition in Accra, which attracted real-estate developers, producers, and vendors of building materials and interior-decor items and businesses connected with the construction, furnishing, equipping, and decoration of buildings for living and working.

INCREASED ACCESS TO FINANCE

Participating client firms in the garment, handicraft, and textile sector program were owned, established, and operated by individuals who generally had little or no technical knowledge of accounting and financial matters. A close look at their operations revealed that even though these proprietors worked very hard, their

earnings were not commensurate with their labors; their lack of knowledge was one of the principal reasons for this unfortunate situation.

Financial management in their operations was virtually nonexistent. They were unable to access financial facilities available from the banks and nonbank financial institutions because their operations did not include the financial systems required by the financial institutions. The issues that were identified by the sector program were therefore as follows:

- The need for financial management and the role it plays in business operations
- The need for basic education and orientation in the principles of sound financial management
- Sources of and access to information on financial facilities available and the requirements for accessing them

INCREASED MANAGEMENT CAPACITY OF PRODUCTION AND MARKETING ENTERPRISES

PRODUCTION

TA and support for production in the garment-and-textiles sector was built around addressing the primary concerns of the industry, the principal ones being the following:

- Knowledge and understanding of how the choice of fabrics, design and styling, accessorizing, and other features determine the categories of clothing, their price points, and the market segment where they are offered for sale

- Building collections for presentation and sale
- Sizing and size specifications for best fit
- Design and styling for various seasons in the U.S. market
- Consistent construction quality for successful domestic and export operations
- Costing and pricing
- Production planning and process flows for efficient operations

Issues that were identified prominently in the textile subsector are described below.

End Use

The status quo used to be that producers of batik, tie-dye, and screen prints produced their fabrics according to their original patterns and colors and the end users produced a variety of products from these fabrics and offered them for sale. Consumers were also obliged to take whatever was offered and turn it into the desired end products. These products ranged from clothing through drapery to upholstery. Suitability and desirability of using the same fabric for all these different end products was the challenge.

Patterns and Colors

Another challenge was the patterns and colors that were used, especially in the batik/tie-dye industry. There was a sameness that blocked the products from breaking out of the low end of the market.

Base Fabrics

The base fabrics used to produce these dyed and printed fabrics also limited market potential. Gray baft

was the predominant fabric, sharing the field with some bazin and polyester. These are coarse, low-quality, low-price fabrics, and therefore the end products could not break into the high end of the market.

Fabric Width

Operators in the sector generally used base fabrics whose width ranged from 36 to 54 inches, which was too narrow for optimum utilization in the production of drapery and upholstery. The fabric had to be joined to obtain the required width, and where this was not done imaginatively or the pattern did not allow it to be done well, the result was a low-end product, lacking the aesthetics demanded by high-end patronage.

Equipment

The equipment used generally in the batik/tie-dye industry was crude (wooden and foam blocks and cones), and the results lacked the sharpness and definition of high-quality products.

Dyes

Operators used dyes that were not the internationally approved and nontoxic, because the approved dyes were too expensive for them to use in their low-price products. The industry was thus caught in a vicious cycle; because the end products were low-end, low-price products and operators could not afford to use better dyes, which would raise the prices of the products and render them unmarketable.

BUSINESS DEVELOPMENT

The following issues constrained business development:

- Lack of knowledge and training in basic business management; resulting in inefficiency, losses, and unprofitable operations
- Unprofessional attitudes of all categories of personnel, including designers and proprietors

TA and support from the sector program to address production, marketing, and sales issues were delivered mainly on an individual, one-on-one basis, usually at client firms' operational facilities. Such TA was found to be the most effective and most beneficial for the client firms, because they were all at different levels of evolution and development. Even though the same issues existed industry-wide, they varied in intensity and extent from firm to firm.

TIRP/IPEP assistance and support provided by the sector program was specific and relevant, and it addressed the peculiarities that characterized each firm. This mode of TA delivery also enabled the sector program to have the desired direct impact on the operations of the participating client firms.

Assistance and support for the business-development segment of operations was delivered via classroom instruction, which was found to be the most effective means of achieving the desired goal: impartation and absorption of new knowledge. It was the easiest and quickest way to reach large numbers

of people with the same message; because all the firms were more or less at the same level of knowledge, this method worked quite well.

The sessions were facilitated by institutions and individuals with the required expertise in the subject areas, and the adult-teaching methods allowed a great deal of interaction and participation, small-group discussions, multiple handouts, and case studies and the sharing of experiences and best practices as illustrations of the various concepts treated.

HANDICRAFTS

The handicraft segment of the sector program worked in close collaboration with Aid-to-Artisans Ghana, which was the primary agency providing TA to the handicraft industry. TIRP/IPEP provided TA and support mainly for marketing and sales activities of some mainstream products and supported and encouraged the development and marketing of a few specialty products. Support for mainstream products was focused on marketing assistance for selected firms, such as Unique Ceramics Centre, which benefited from assistance to participate in trade shows in the United States and Japan; Matamiss Ceramics (local presentations); Artivity (shadow boxes), for trade shows in Botswana and the United States; and Mbogo-Selassie, Kottage Originals, Edson Sculptures, Artivity, and Accents & Art, to develop a marketing video for presentation to TARGET in collaboration with Gettrade.

IMPROVED USE OF NEW TECHNOLOGY

Technology in the industry in Ghana was old, and upgrading required information and awareness that was available from trade shows. Most owner-operators in companies had never seen modern garment production and therefore were unaware of the state of the art. As one client reported near the end of the activity, she had been to the United States three or four times per year, mostly at her own expense, touring garment-manufacturing companies, but it was not until she was in a position to purchase new equipment for her Presidential Special Initiative activity that she came to understand the functioning of many of the machines.

Most garment-production companies were small (20 to 40 operators of machines) and therefore did not have access to finance for capital investment. They could buy new sewing machines, but usually were unaware of other equipment that they could purchase to increase their efficiency and productivity.

MARKET INFORMATION AND RESEARCH

MARKETING AND SALES

The following issues constrained marketing and sales:

- Inadequate knowledge and appreciation for labels: their purpose and use

- Production and use of marketing tools: brochures, catalogs, handbills, and hangtags
- Establishment and operation of showrooms
- Planning, preparation, and staging of fashion shows, exhibitions, and presentations for domestic and export markets
- Advertising and use of media and channels in new creative ways

AFRICAN GROWTH AND OPPORTUNITY ACT: NEED FOR TRAINING

FIDELE COUTURE AND THE BOUTIQUE MARKET

The TIRP/IPEP client firm Fidele Couture gained access to the very lucrative specialty boutique market through initial orders for 300 pieces of assorted clothing (US\$25,000) and 400 lifestyle items (US\$8,000) by Netukisha Books & Gifts (New Jersey) and for assorted clothing (US\$3,000) by Trade Secret (Washington, D.C.). These orders were remarkable in that they were initial orders for both the retailers and the producer. Because the retailers intended to have a long-term relationship with Fidele, they arranged to introduce the exclusive collection through special shows.

The collection was produced and shipped on October 13, 2002, for shows scheduled at the Jacob Javits Center in New York City on October 19, 20, and 25, 2002. Unfortunately, the items could not be cleared through U.S. Customs

because the visa stamp issued by the Ghana Customs, Excise, and Preventive Service had the wrong visa number (too many characters and not in the stipulated alphanumeric format). TIRP/IPEP engaged with the problem on Monday, October 21, after losing two days over the weekend. It assisted Fidele to persuade the Ghana Customs official in charge of the African Growth and Opportunity Act to issue another visa stamp, but it was also incorrect.

By the time TIRP/IPEP was able to resolve the confusion and get the items cleared out of U.S. Customs and delivered, the dates for the shows were past. This incident created a crisis of confidence, and the budding relationship may have been damaged beyond repair. Up to the end of the year, Netukisha had not paid for the order, claiming that the sales opportunity was lost, and Trade Secret was threatening to return the order.

This mishap adversely affected Fidele Couture's operations in two ways: (1) It may have lost what promised to be a lucrative long-term relationship, and (2) its reputation and credibility with fabric suppliers were severely damaged, because it was unable to pay for fabric on time. The producer's confidence in the official system was destroyed, and TIRP/IPEP's efforts to get client firms to ship through the formal channel suffered a setback. Through the end of the project, TIRP/IPEP continued to work with clients to salvage this unfortunate situation.

GRADES AND STANDARDS

DEVELOPING SKILLS AND CAPABILITIES IN GRADES AND STANDARDS

Two members from SPEG (Mr. Steve Mintah) and VEPEAG (Mr. Anim Somuah of Agromite Farms) were sponsored to attend EurepGAP international workshops. TIRP/IPEP staff participated in five EurepGAP international workshops and seminars and contributed to the sound modification of the EurepGAP protocol. AMEX became an associate member of EurepGAP and had the benefit of getting firsthand information on EurepGAP. Also, nine awareness workshops, involving 351 participants, were held throughout Ghana. Participants were drawn from among research institutions, universities, GEPC, MoFA, farmers, and other stakeholders.

TRAINING IN ON-FARM FOOD SAFETY AND POSTHARVEST HANDLING

Over 20 training sessions, involving 171 workers, were held for pineapple, papaya, banana, and mango producers. The following topics were discussed under postharvest handling and quality controls:

- Pineapple, mango, and papaya maturity indices
- Pineapple, mango, and papaya quality indices
- Defects in pineapple, mango, and papaya fruits
- Harvesting and handling of fruits and vegetables

- Maturity indices for pepper and okra
- Grading by weight and external qualities
- Common faults in packing and palletization

Food-safety issues mainly concerned proper hand washing, personal hygiene, and health and sanitation.

The following observations were made:

- There were differences in quality indices among farms. Although some farms packed very short crowns, others did not pack. Also, some pack houses brushed the bases of fruits to remove mealybugs, whereas others did not brush, even though ants and mealybugs might be seen on the fruits.
- Some pack houses lacked scales to check weights. Hand sizing in some cases resulted in plus or minus 200 grams.
- Due to poor lighting, night packing could lead to mixing of colors in boxes or pallets.

INTEGRATED PEST MANAGEMENT: PINEAPPLE FARMS

The number of questions asked indicated greater enthusiasm for training in agrochemicals than for that in sorting and grading. The majority of the agrochemical participants were men, whereas the majority of sorters and graders were women. Many trainees admitted that they were “killing themselves softly,” as one worker put it, through the

improper application and handling of chemicals.

The following points came out of the training:

- Storekeepers were too close to agrochemical stores and hence inhaling chemical fumes.
- Some field staff “finger tested” (dipped a finger in a solution and then tasted it) chemicals prior to attending a training program.
- Few wore protective clothing or used equipment properly (they did not clean items fully).
- Most field staff were illiterate, so training had to be done with pictures, lectures, and frequent and repeated demonstrations.

TRAINING AND STUDY TOURS

EUREPGAP: AWARENESS CREATION

TIRP/IPEP participated in several EurepGAP meetings in the course of the contract. Staff attended EurepGAP meetings in Italy in 2001; in Johannesburg, South Africa, in 2002; and in Madrid, Spain, in 2003. SPEG sponsored a participant at two of these events at its own expense. The Ghanaian representatives were some of the only black Africans attending these meetings of 200 to 400 people.

At the Madrid meeting it was proudly noted that Ghanaian farmers were obtaining EurepGAP certification and that a double standard for Africa, as proposed by representatives from other African countries, was not needed. Ghanaian representatives influenced the

direction some changes in the EurepGAP standards and requirements.

OTHER TRAINING AND STUDY TOURS

Integrated Tamale Fruit Terminal collaborated with TIRP/IPEP to

bring 10 outgrower lead farmers to Accra in 2004. Each leader, including the Woman Farmer of the Year, represented 10 other outgrowers, and each outgrower had 100 mango trees under production. Most were illiterate and had never traveled to

Kumasi or Accra; this was a major visit to see mangoes and papayas being shipped by members of the recently formed Mango and Papaya Association.

OUTSTANDING TECHNICAL ISSUES

Below are some of the outstanding technical issues that remained unresolved at the end of TIRP/IPEP.

AGRICULTURE AND AGRIBUSINESS

- TA or intervention for firms located in remote areas and with a good prospect for socioeconomic impact should be given a high priority.
- Awareness and understanding of the scope of project objectives and activities should be created among individuals and groups to show the project's relevance to their needs and to elicit subsequent patronage and commitment.
- The frequency of assistance and follow-ups to firms must be intensified where recipients have demonstrated ample commitment and willingness in response to the TA regime.
- Project-management personnel must have both a sound track record of experience and sound qualifications in the field of the project and the program, and they must show a clear understanding of the scope of the objectives and the deliverables.
- TA in ISO 9000 awareness, gap analysis, and adoption should be extended to identifiable firms that are ISO 9000 ready through private-sector collaboration and cost-sharing arrangements.
- Project-management efforts should extend to more private firms with a management-information-system/accounting computer module as a tool for improved flow and management of information.
- Documentation and continual updating of critical aspects of firms' activities and systems must be pursued aggressively to ensure effective application and sustainable impact.
- The graduate-farm-apprenticeship program in place is limited in scope to agriculture production. The training program should be reengineered and intake should be expanded to cover food-science graduates to develop the correct and requisite human-resource skills that will suit the need of agroprocessing industries.
- More collective effort should be expended to strengthen and restructure existing groups and associations, involving all stakeholders, to enhance the benefits and services to their memberships.
- Both in-house/in-plant training and other capacity-building activities should be tailored and made available through the private sector to all businesses that have the potential to export.
- It is imperative that technical staff or advisers follow up, assess, and review periodically the scope of activities of TA to clients to ensure that the required impact is achieved.
- Future TA should incorporate financing packages or creative strategies to address the challenges of target firms.
- Future projects should identify opportunities for joint ventures, tolling, and buyback financing packages with credible investors to assist in negotiating deals to address financial challenges.
- Firms should be sponsored on a cost-sharing basis to attend fairs and exhibitions on processing equipment and technology in some middle-income countries to assess technology options, sources, and costs.
- The way forward includes helping clients to improve their production and management capabilities and to streamline their accounting procedures and business records, which will ease access to credit facilities and facilitate relationships with banks.
- The northern sector has large tracts of arable land with liberal endowments of rivers and sunshine. Given that Tamale Airport is much closer to major EU buyers, the future of nontraditional-horticultural-export development ought to be

concentrated in the north. Future projects should consider opening offices in the north in order to have maximum effect with tailored interventions.

- There is a need to encourage trade associations operating in the south to widen their nets to include potential members in the north. This will transfer knowledge and create linkages between the north and the south. An example of this potential is mango marketing: The climate in the northern Ghana favors the production of quality mangoes

for the fresh-fruit market, whereas the climate in the south does not, but the south can be the location for processing.

- There is a need to build and strengthen the capacities of trade associations, governmental agencies, and providers of business-development services operating in the north to enable them to serve clients better.
- The creation of a lending directory was successful and useful to the industry, but the multiple efforts to get the

financial institutions take it up and review it themselves proved futile. For sustainability, any subsequent review or publication should be entrusted to a body (e.g., the National Banking College) that has some supervisory authority over the banks to ensure that the directory is updated.

- Successful outgrower models should be replicated for nonbankable smallholders' operators in an effort to develop them into bankable projects and increase their access to finance.

VALUE-ADDED WOOD

- The timber industry has yet to appreciate the benefits of division of labor and subcontracting, even though kiln drying, trucking of goods, and plantation development in some areas have set the stage. The commercial benefits of subcontracting and outsourcing can be assessed by undertaking empirical studies of viability and then disseminating the information through business education and awareness creation.
- Several client firms are downsizing operations and undertaking more downstream value-added operations to respond to dwindling raw

materials. Greater investment would require a more conducive business environment (policies, administration of laws and regulations, etc.), including skilled manpower and affordable capital.

- Forest plantation development must increase in volume, but, more importantly, it must be scientific and it must make commercial sense.
- Continual training, education, and monitoring are essential to sustaining the changes effected in client firms by TIRP/IPEP in collaboration with the Forest Commission and its Timber Industry Development Division

and the Wood Industry Training Center. These agencies and the trade associations therefore must persist in their development and service roles.

- Research and development must be brought into the mainstream of management of the timber firms. The Forest Research Institute, the Wood Industry Training Center, and the Timber Industry Development Division have greater roles to play in modernizing the industry and reducing waste to make it more productive and profitable.

GARMENTS, TEXTILES, AND HANDICRAFTS

- More must be done to accelerate growth and development of the garment industry. TA and support would facilitate and speed up the pace of development; this is necessary for the next 5 to

10 years, after which time the leaders in the industry may be strong enough to spearhead continuing efforts and pull along the smaller firms.

- Machine operators and marketing and sales personnel, especially in the operating firms, need training and skills upgrading. The proprietors of the firms also need continuing training in

business management and in awareness and use of evolving technology to upgrade the technology (production, marketing and sales, administration, and financial management) used in their operations.

- Operating firms need assistance to access current market information to guide them in building their garment collections in order to ensure good patronage.
- A core of industry leaders has emerged that has the requisite design talent, construction quality, and professional business practices to facilitate credible operations in the upscale segments of the international market. The services of consultants, sales representatives, and agents based in the market centers would be especially necessary for access, penetration, and sustained activities in the United States, southern and western African countries, the Caribbean, and Brazil.
- There is an encouraging evolution in the development of fine fabrics for the production of specialty items for the upscale domestic market and also for export. Institutional assistance is required to sustain and increase these developments in the textile sector in the

short term to attract and encourage investments in the importation and distribution of wide base fabrics (for drapery and upholstery) and approved, nontoxic dyes and paints. In the longer term, the local production of essential inputs, such as batik and tie-dye fabrics, for the domestic and ECOWAS markets should be encouraged.

- A formal subsector study similar to that carried out for handwoven fabrics would provide the requisite information on which investment decisions could be based in order to address bottlenecks in the textile subsector.
- It appears that there is a real opportunity for savings-and-loan institutions and other nonbank financial institutions to step into the financial-access gap in the north and provide needed services.
- TA programs in the north would become more beneficial if they included or facilitated adult literacy programs, especially for women. TIRP/IPEP identified a potential training period each day: between 3 and 5 P.M.
- The market for the “new” products that have been developed in the north must

develop and grow in order to sustain the operations of the producers.

- TA enables trade- and industry-show participants not only to market themselves and their products but also to acquaint themselves with evolving technology in equipment, systems, and processes. In this connection, it is important to single out such shows as the Bobbin Show in the United States and industrial trade fairs in China, which showcase garment- and textile-manufacturing-and-processing equipment and accessories. Technology in the industry in Ghana is quite old, and upgrading would require the information and awareness that is available from such shows.
- The operations of business entities in a professional manner are the single most important factor that determines growth, development, and profitability. It is essential to have programs of continuing training and skills upgrading, particularly for the chief executive officers and middle management personnel of medium, small, and micro business enterprises, such as those that have participated in the sector program.

GRADES AND STANDARDS

- International grades and standards and food-safety requirements will continue to be major issues on the international markets and growing issues domestically. Increased participation by both consultants and clients in international and regional workshops in these new areas are necessary if exporters are to be kept abreast of issues. The EurepGAP document is dynamic and requires continual study. Future government policies for the agriculture sector should be developed with international standards and food-safety requirements in mind.
- Greater emphasis and focus must be placed on gaining acceptance in domestic industry and markets for Ghanaian grades and standards. Enforcement and rewards for acceptance and compliance will be a challenge.

MARKET INFORMATION AND RESEARCH

- An appreciable effort and resources must be devoted to market research, which remains one of the indispensable tools for improving the market performance of industry and firms. This should involve actual fieldwork and activities, and it may be complemented by Internet research.
- Market-exploratory or -observational tours, involving selected firms, should be organized to visit potential markets.
- Handouts and flyers may be developed or may be retrieved or accessed from reliable sources on market information periodically for dissemination to focal groups or associations for the benefit of their members.
- Workshops should be run periodically to train firms in the application and use of the Internet and computer software that can assist in the identification of information sources and their retrieval, downloading, and storage.
- Continued encouragement and access to the high-value market will fuel the development of specialty items, and of course current market information and indications of trends will play a major role in this effort.

ISSUES THAT IMPEDED PROGRESS: LESSONS LEARNED

AGRICULTURE AND AGRIBUSINESS

- The outgrower system of production offers viable opportunities for larger commercial production practices and higher yields of produce; the challenge is getting farms to collaborate to do this.
- Outgrower production provides a vehicle for sustainable poverty alleviation, job creation, and improved income generation in the rural economy.
- The outgrower production model provides an attraction for loan recovery and institutional financing.
- When it works, outgrower production guarantees raw-material security in terms of volume flow and quality, and thus better utilization of plant capacity and equipment.
- Management information systems have significantly improved the quality, speed, and application of information dissemination and decision making at both the management and the operational levels.
- Credibility of corporate image and confidence of investors and outsiders are enhanced if the business entity has in place an effective and efficient system for information management and decision making.
- Lack of long-term and working capital at competitive interest rates may hamper the implementation of interventions prescribed as TA even though the benefits are obvious to the client.
- Firms located in remote areas face myriad challenges, such as high turnover rates of qualified labor because of the difficult and unfriendly business environment in which they operate, and they require more extensive TA than firms in better environments.
- Firms located in remote areas pick up road improvements, construction of schools and clinics, and other projects as overhead costs for community benefit and good working relationships with local leaders. Firms provide services and facilities that in other locations are provided by the government of Ghana.
- To protect against industrial espionage from outsiders, firms in industries that may be described as novel or special are reluctant and extremely slow to open up to any TA. Furthermore, they are not interested in TA that not address their needs.
- TA may not achieve its expected impact because of timing or lack of implementation resources, or it may require a combination of assistance and input from other sources.
- TA delivery is more likely to be successful and effective and to produce a phenomenal impact where it is provided in response to a client request (demand-driven TA works).
- Management-information-system modules have enhanced the storage, retrieval, quality, flow, and application of information to various points, speeding up the quality and process of decision making and enhancing both shop-floor staff commitment and management effort. Accurate and reliable information is instantly retrieved by pushing a button.
- Product diversification based on dry-season integrated agriculture production is key to optimizing resource use, increasing access to export markets and improving cash flow to meet financial obligations.
- High demands on finances, time, and resources have slowed the adoption of ISO 9000 by Ghanaian firms, even though the benefits of ISO 9000 far outweigh the costs.

- A documented Hazard Analysis and Critical Control Point plan and its prerequisites are guarantees to clients and customers of a commitment to food safety and the basis for a viable contractual business relationship.
- There is a serious shortage of university graduates with the requisite operations and management skills for agroindustries. Recently recruited graduates trained in tomato processing are better conditioned and more capable of coping with and managing the start-up operational challenges of tomato processing.
- The survival of small-scale producers and exporters in the export market depends on a functional marketing group; however, the formation of such a group has been daunting and extremely slow.
- Delay or the unprogrammed nonperformance of relevant and planned TA leads to loss of interest, erosion of confidence, poor patronage, or total boycott by prospective clients of programs. In some cases, clients become hostile to project staff.
- Long program lead times for TA, of six to eight weeks, undermine delivery and benefits and sometimes result in the loss of expected benefits to recipients.
- The existing structure of associations to a large extent results in the hijacking of technical programs and their subsequent benefits, to the exclusion of the larger membership.
- Improved technology has the benefit of improved product quality, timeliness in product delivery, and market diversification; for example, Juaben Oil Mill now exports shea butter under a franchising arrangement.
- The high cost of technology constrains the implementation of improved technology for most clients. The response to assistance to improved technology varies among clients, but firms with knowledgeable management are extremely receptive in implementation.
- Selection of the proper equipment with the required sanitary and hygienic features, simplicity, and flexibility helps firms expand their ranges of products.
- Cutting of corners by clients results in poor or wrong selection of equipment, with attendant headaches: low productivity, poor product quality, and safety risks.
- A firm that lacks appropriate technology could arrange to use that of a firm that has it.
- Firms may improve technology by the acquisition of locally fabricated equipment that meets standards.
- The lack of long-term capital stifles investment in improved technology, resulting in the continued use of obsolete equipment.
- SMEs are not able to improve on their technology because of their poor image and high risk as perceived by traditional financial institutions.
- Cost sharing with firms to undertake study and industry tours to countries with improved technology has a high payoff in the transfer and acquisition of technology.
- Exporters must strive to adhere to the toughening of health, product, and social standards in the EU and U.S. markets. Regulations under the European Good Agricultural Practices and Ethical Training Initiatives require set stringent standards.
- Exporters must face the growing application of ethical trading rules, which require suppliers to meet a variety of standards.
- A phased development of long-gestation crops intercropped with suitable short-term crops is more sustainable than large tracts of single crops, such as cashew or mango. Such estates are sometimes unkempt and subjected to ravaging by bushfires.
- Efforts to assist some firms in the north through their trade and product associations have met with little success. Most of these associations have their national offices in the south, and though they have regional and district branches, they exist only in skeletal form and are not able to serve their members adequately. This has held true even at the national office, and not only for trade associations but also for some governmental and state-operated units.

- In all forms of linkages there is the need for well-structured agreements and relations with clear objectives and roles for all parties.
- Most of the individual firms and trade associations linked have narrowed their attention to sales rather than marketing, thereby failing to develop the necessary mechanisms to ensure long-term, sustained relationships among parties.

VALUED-ADDED WOOD

- TIRP/IPEP’s experience in assisting clients was that combining classroom-type training with one-to-one in-plant support to demonstrate operations and guide managers and technicians resulted in effective skills transfer. The “drip feeding” support helped build the trainees’ confidence in effecting and sustaining the changes introduced into their management or production systems. Extension service, monitoring and follow-ups, and participation in board and management meetings to reinforce the practice of management principles featured prominently in the TA. Such intensive and close association with client firms engendered considerable confidence in TIRP/IPEP TA, which initially was difficult to establish but proved successful because there was adequate time over the life of the project to prove its viability.
- The structure of the wood-processing industry is such that qualified lead firms tend to have integrated operations. Most lead firms were self-sufficient in such functions as marketing, raw-material supply, engineering and maintenance, trucking of goods, and forwarding of freight. Therefore options for creating linkages through subcontracting of such services to smaller firms were limited. In spite of this, lead firms were linked to furniture manufacturers to supply them with lumber and plywood. Some furniture manufacturers also received cut-to-size panels and components as input for their finished products. TIRP/IPEP assistance was essential to help firms learn how to specify the components and assist in their assembly of furniture. Training was also provided in the packing, transport, and installation of the furniture.
- In the area of commercial activity, distributors and agents for equipment and materials used in furniture production participated in TIRP/IPEP cost-shared technology- and skill-development training programs. The distributors were thus able to increase their customer bases and promote better and more efficient utilization of products, whereas manufacturing firms produced better-quality products. A survey to assess the cost structure of the sawmill industry revealed the following:
 - 36 percent of logging operations were contracted out to suppliers
 - Only 6 percent of milling was contracted out
 - Only 4 percent of kiln drying was contracted out
 - Subcontracting of moldings, furniture and furniture components, and manufacturing was only 3.5 percent
 - There was no subcontracting of veneer and plywood production
 - Contractors trucked 53.3 percent of logs to mills
 - Manufacturers gave out 37 percent of their goods to haulage firms to be trucked to ports for export
 - All wood-processing firms undertaking forest plantation used their own staffs and resources
- Factors affecting the viability of firms operating in the timber sector were, essentially, as follows:
 - Levies, duties, and taxes
 - Unreliability and low quality of raw-material supplies
 - High cost of borrowing
 - Inadequate working capital
 - Low productivity
 - Managerial and technical capability of manpower
- The use of a blend of TIRP/IPEP staff and providers of business-development services

(local short-term consultants) to work with client management to identify operational needs, analyze them, prescribe solutions, train staff, and effect changes yielded results in client firms that applied TA diligently. Some companies made long-term contracts with former consultants to provide on-site services.

- The Ghana Timber Millers' Organization was the most active association that worked with TIRP/IPEP, because it had professional staff at its secretariat who cooperated actively.

- Quality management in the timber industry was not taken seriously in most firms. Change was slow, particularly in grades and standards for plywood, furniture moldings, and the introduction of lesser-used wood species.
- Many operators said that they could not afford to hire professional personnel because they could not afford to pay higher salaries and that they therefore hired low-skilled, less-experienced personnel who were not productive and who

produced low-quality products, which resulted in low prices and small-volume sales. Once they broke this cycle and introduced the requisite systems, the savings from the reduction or elimination of waste and outright theft were more than enough to cover the costs of professional personnel. This, in turn, enabled them to introduce more changes, setting them firmly on the path to meaningful growth and development.

GARMENT, TEXTILES, AND HANDICRAFTS

- Small-business operators in the three northern regions find that big banks are not geared for their needs. Indeed, some branches of these big banks are closing, ostensibly for lack of business, while large numbers of small and microbusinesses are virtually disenfranchised.
- The level of literacy among small-business operators is quite low. This poses a serious challenge, especially during training sessions if translators and interpreters who do not have the appropriate technical background are used.
- Continued encouragement and access to the high-value market will encourage the development

of specialty items in the handicraft subsector.

- The general body shape of the people of southern Africa is very different from the general body shape of the people of western Africa and that of the people of eastern Africa; this has not been well documented in the clothing industry, and many TIRP/IPEP client firms had to learn this firsthand. Empirical observation reveals that southern African women are mostly short, with small busts and wide, heavy hips. Using standard Western specs therefore means that size 10 or size 12 top goes with a size 16 or size 18 bottom. Significant adjustments must be made in

building collections for presentation and merchandising in these areas. The people of eastern Africa generally have taller, narrower bodies.

- Client firms have learned and appreciated the fact that, as individuals, they would never be able to operate successfully from the sourcing market, simply because they do not have the capacities required to operate in this arena. However, by coming together in threes and fours, they can achieve the critical mass necessary for operating in this segment of the U.S. clothing market and put Ghana on the sourcing map.

GRADES AND STANDARDS

- Several infrastructural changes have taken place in the various farms—for example, pack houses on almost all the major farms of export, office complexes, field toilets, and chemical stores.
- Pineapple and papaya varieties have also changed. The trend now is MD2 instead of Smooth Cayenne pineapple and Golden Yellow instead of Solo papaya. This means that the industry of service providers should be abreast of current trends and should be able to pass on information to clients before they lose their business.
- There is a need for strong market research to feed findings to group and association members.
- Change is not made during one or two visits, but rather comes with time and repeat visits. TIRP/IPEP staff sometimes found conflict between satisfying the scope of work and meeting milestone requirements.
- Several assumptions were made concerning farms to be certified. In some cases, farms were not in a position to be certified after TIRP/IPEP training, because they were still doing some of the required construction work. However, the project was to have a certain number of farms to be certified within a certain time frame.
- It was good that provisions were made for cost sharing in certification; TIRP/IPEP was able to get five additional farms to be certified.
- EurepGAP certification appeared to be impossible at the beginning, and even most farms thought it was a means of putting a gap between producers in Ghana and producers in Europe. With intensive study and participation in several local and international workshops, it became clear that the requirements were focused on normal international production requirements.
- The adoption process was also clear in the EurepGAP certification. Initially, those farms prepared to take a risk were the first to be certified, whereas the more cautious farms remained on the fence. Once it was demonstrated that a local farm could be certified, most farms joined the certification.
- Collaboration with other nongovernmental organizations helped to move the EurepGAP certification forward. AMEX collaborated well with GTZ, the Plant Protection and Regulatory Services Department, and MoFA in training-of-trainers workshops. TIRP/IPEP staff were resource persons in EurepGAP workshops held by SIPPO, GEPC, and GTZ and farm associations. This helped reduce duplication of effort and helped quicken the awareness-and-certification process.

MARKET INFORMATION AND RESEARCH

- Availability of knowledge of the nature and structure of the market motivates firms to gain access and prepare them to compete better in the market.
- Market research or market studies and the subsequent discussions of findings provide the impetus for changes in philosophy and attitudes for Ghanaian firms regarding the market.
- Market research or studies provide an objective framework for developing specific or group marketing strategies or plans to enter new markets or expand existing markets.
- There is a significant synergy in the benefits of market research when it is conducted by a technical adviser or consultant with the requisite background and understanding of the industry.

TRAINING AND STUDY TOURS

- Gaining access to the large retail chains, catalog merchandisers, and sourcing contracts for large-volume production of mainstream garment and home-furnishing items in the United States is virtually impossible without the interventions of market-based consultants and representatives.
- Fear of the unknown is still preventing U.S. buyers from dealing directly with African producers. The U.S. retailers need the comfort provided through a U.S.-representative interface.
- It takes repeated participation (three or four times) by the same firms in the same trade and industry shows for them to learn the lessons, gain the confidence of the attendees, isolate the peculiarities and figure out how to address them, and begin to make the desired impact and elicit the desired response from attendees.
- Different export destinations have their own peculiar characteristics in garments, textiles, and home furnishings, and they must be studied and managed accordingly. As several program participants have learned, the U.S. market is different from the EU market, and southern Africa is quite different from western Africa, in colors, styling, and other preferences.

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