

PD-ABN-704
XD

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT ASSISTANCE APPROVAL DOCUMENT
(PAAD)

GHANA TRADE AND INVESTMENT PROGRAM
(TIP)

641-0125
641-0126

CLASSIFICATION

AGENCY FOR INTERNATIONAL DEVELOPMENT PROGRAM ASSISTANCE APPROVAL DOCUMENT (PAAD)		1. PAAD Number 641-0125	
		2. Country Ghana	
		3. Category CASH GRANT	
		4. Date	
5. To ACTING AA/AFR JOHN F. HICKS		6. OYB Change Number N/A	
7. From USAID/GHANA JOSEPH B. GOODWIN		8. OYB Increase To be taken from: N/A	
9. Approval Requested for Commitment of \$8.0 million		10. Appropriation Budget Plan Code	
11. Type Funding <input type="checkbox"/> Loan <input checked="" type="checkbox"/> Grant	12. Local Currency Arrangement <input type="checkbox"/> Informal <input checked="" type="checkbox"/> Formal <input type="checkbox"/> None	13. Estimated Delivery Period FY 93-94	14. Transaction Eligibility Date N/A
15. Commodities Financed N/A			
16. Permitted Source U.S. only Limited F.W. Free World Cash \$8.0 million		17. Estimated Source U.S. Industrialized Countries Local Other	
18. Summary Description			

The Trade and Investment Program (TIP) is an \$80 million initiative designed to address the constraints that limit private sector investments and production for export. TIP consists of a \$60.0 million cash grant which addresses the principal enabling environment constraints to export production and investment. In addition, TIP has a \$20.0 million project component to strengthen the principal public sector institutions involved in investment and export promotion, for support to private sector associations and firms to improve their capacity to export and to obtain export financing. Funding is also provided for program management and support.

TIP will expand non-traditional exports from the 1991 level of \$62.0 million to \$250 million by 1997. To accomplish this objective, TIP resources will be used to assist the public and private sectors in overcoming the policy, technical and

(Continued on the next page)

19. Clearances	Date	20. Action	
		<input type="checkbox"/> APPROVED <input type="checkbox"/> DISAPPROVED	
		Authorized Signature	Date
		Title	

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institutional constraints limiting non-traditional export growth. TIP conditionality will assist the Government of Ghana (GOG) to focus on critical policy constraints limiting the enabling environment for non-traditional export expansion. The dollars from the cash grant will be disbursed over five tranches. Conditionality is as follows:

Tranche 1. Prior to disbursement of \$5.0 million under the first tranche of program funds the GOG will submit to AID, in form and substance satisfactory to AID;

- 1) Specimen signatures of the responsible officers for TIP on behalf of the Ministry of Finance and Economic Planning (MFEP) and the Ministry of Trade and Tourism (MOTT); and the name of the banks and numbers of the bank accounts to be used to transfer US dollars during implementation.
- 2) Evidence that the Trade and Investment Management Unit (TIMU) and the Trade and Investment Management Office (TIMO) have been established along with an action plan and budget for 1993.
- 3) Evidence that the Trade Policy Unit (TPU) of the Ministry of Trade and Tourism has been established, along with an action plan and budget for 1993.
- 4) Evidence that the Foreign Investment Advisory Service (FIAS) has been requested to assist Ghana in developing an Investment Promotion Statement (IPS).
- 5) Evidence that exporters are allowed to sell foreign exchange at the highest legal exchange rate.
- 6) Evidence that a Board of Directors has been appointed for the Ghana Export Promotion Council (GEPC), with adequate private sector representation and that the Board has been given the mandate to develop a Strategic Plan for the Council.
- 7) Evidence that the GOG has established and funded an environmental monitoring plan to monitor the possible impact of program activities on the environment.

Tranche 2. Prior to Disbursement of \$13.0 million under the second tranche of program funds, the GOG will submit to AID, in form and substance satisfactory to AID:

- 1) Evidence that regulations for a streamlined duty and tax relief system for imported inputs used by direct and indirect exporters have been issued.

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- 2) Evidence that the GOG has published i) a handbook of gazetted import and export procedures; ii) exchange control regulations; and iii) foreign collaboration procedures.
- 3) Evidence that the requirement making first time exporters pre-pay their foreign exchange surrender requirements have been eliminated.
- 4) Evidence that all minimum price guidelines for foreign exchange retention have been eliminated
- 5) The Ghana Export Promotion Council requirement for Internal Revenue Service Certificate, as a prerequisite as an exporter is eliminated.
- 6) Evidence that income tax benefits have been extended to export marketing firms, as well as producers.
- 7) A Strategic Plan to streamline export processing and export clearance documentation
- 8) An action plan and budget for TIMO for 1994 and disbursement data for 1993.
- 9) An action plan and budget for the TPU for 1994 and disbursement data for 1993
- 10) An approved Strategic Plan for GEPC along with an action plan and budget for 1994.
- 11) Evidence that the Investment Promotion Statement (IPS) is being developed.
- 12) Evidence that the Investment Code has been changed to reflect the elimination of most fiscal incentives (will become transparent as a part of tax code); remove need for GIC approval; and recommendations of the Private Sector Advisory Group (PSAG).
- 13) Evidence that the Bank of Ghana has established an Export Credit Guarantee Fund, (ECGF) administered through the private sector.¹
- 14) Evidence that the environmental monitoring plan is being implemented.

¹ At the present time, this is planned as an activity of the World Bank. However, if the World Bank does not implement this component, USAID/Ghana will do so with available Africa Economic Policy Reform Program (AEPRP) funds.

15) Evidence that the following recommendations of the Private Sector Advisory Group (PSAG) regarding investment have been approved:

- i) The negative list that reserves areas for domestic investment be reduced to four.
- ii) The minimum foreign capital requirement for a joint venture with a Ghanaian partner be reduced to \$10,000.
- iii) The minimum capital requirements for investment in export trading be waived.
- iv) The registration of firms be simplified by the adaptation of a new and single form, the GH/92/01 and registration is through the Registrar General's Department. The manufacturing license will be abolished and the Manufacturers Industry Act of 1971 (Act 356) repealed so that no registration and approval from GIC will be required.

Tranche 3. Prior to disbursement of \$17.0 million under the third tranche of program funds, the GOG will submit to AID, in form and substance satisfactory to AID:

- 1) Evidence that the ECGF is being implemented.
- 2) An action plan and budget for 1995 for TIMO along with disbursement figures for 1994.
- 3) An action plan and budget for 1995 for TPU along with disbursement figures for 1994.
- 4) An action plan and budget for 1995 for GEPC along with disbursement figures for 1994.
- 5) Evidence that the GOG has approved a FIAS approved IPS along with an action plan and budget for 1995 to implement the strategy.
- 6) Evidence that the streamlined system of duty and tax relief for exporters is being implemented.
- 7) Evidence that the strategic plan to streamline export processing and documentation requirements is being implemented.
- 8) Evidence that the GOG has initiated a review of commercial codes, business regulations, lending instruments and legal and commercial documentation in the context of

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international conventions and standards and disclosure of financial data.

9) Evidence that the environmental monitoring plan is being implemented.

Tranche 4. Prior to disbursement of \$13.0 million under the fourth tranche of program funds, the GOG will submit to AID, in form and substance acceptable to AID:

- 1) An action plan and budget for 1996 for TIMO along with disbursement data for 1995.
- 2) An action plan and budget for TPU for 1996 along with disbursement data for 1995.
- 3) An action plan and budget for GEPC for 1996 along with disbursement data for 1995.
- 4) An action plan and budget for implementing the IPS for 1996 along with disbursement data for 1995.
- 5) Evidence that the streamlined system of duty and tax relief for exporters is being implemented.
- 6) Evidence that the strategic plan to streamline export processing and documentation requirements is being implemented.
- 7) Evidence that the ECGF is being implemented.
- 8) Evidence that the GOG has begun implementation of the findings of the review of commercial codes, business regulations, lending instruments and legal and commercial documentation.
- 9) Evidence that the environmental monitoring plan is being implemented.

Tranche 5. Prior to disbursement of \$12.0 million under the fifth tranche of program funds, the GOG will submit to AID in form and substance satisfactory to AID:

- 1) An action plan and budget for TIMO for 1997, along with disbursement figures for 1996.
 - 2) An action plan and budget for TPU for 1997, along with disbursement figures for 1996.
 - 3) An action plan and budget for 1997 for GEPC, along with disbursement figures for 1996.
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- 4) An action plan and budget for implementing the IPS.
- 5) Evidence that the ECGF is being implemented.
- 6) Evidence that the streamlined system of duty and tax relief for exporters is being implemented.
- 7) Evidence that the strategic plan to streamline export processing and documentation requirements is being implemented.
- 8) Evidence that the environmental monitoring plan is being implemented.

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AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE

A = Add
 C = Change
 D = Delete

Amendment Number

DOCUMENT CODE

3

COUNTRY/ENTITY

GHANA

3. PROJECT NUMBER

641-0126

4. BUREAU/OFFICE

AFRICA

06

5. PROJECT TITLE (maximum 40 characters)

TRADE AND INVESTMENT PROJECT

6. PROJECT ASSISTANCE COMPLETION DATE (PACD)

MM DD YY
 06 30 97

7. ESTIMATED DATE OF OBLIGATION

(Under 'B:' below, enter 1, 2, 3, or 4)

A. Initial FY 92 B. Quarter 4 C. Final FY 95

8. COSTS (\$000 OR EQUIVALENT \$1 =)

A. FUNDING SOURCE	FIRST FY 92			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	4,900		4,900	20,000		20,000
(Grant)	(4,900)	()	(4,900)	(20,000)	()	()
(Loan)	()	()	()	()	()	()
Other U.S. 1.						
Other U.S. 2.						
Host Country					40,600	40,600
Other Donor(s)						
TOTALS	4,900		4,900	20,000	40,600	60,600

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1)									
(2)									
(3)									
(4)									
TOTALS									

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)

11. SECONDARY PURPOSE CODE

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code

B. Amount

13. PROJECT PURPOSE (maximum 480 characters)

To increase private sector non-traditional exports.

14. SCHEDULED EVALUATIONS

Interim MM YY MM YY Final MM YY
 03 95 05 97

15. SOURCE/ORIGIN OF GOODS AND SERVICES

000 941 Local Other (Specify) 935

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP Amendment)

In addition to the US\$20.0 million authorized, US\$60.0 million is planned for authorized for a policy-based non-project sector assistance program.

I concur with the financial and implementation arrangements contained in this project document.

Ronald R. Hammersley, Mission Controller

17. APPROVED BY

Signature

Title

Mission Director

Date Signed

MM DD YY
 07 17 92

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION

MM DD YY

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1.0 EXECUTIVE SUMMARY AND DESCRIPTION

1.1 Summary Description: The Ghana Trade and Investment Program (TIP) is a five year, \$80.0 million initiative whose goal is to increase sustained per capita GDP. The purpose of TIP is to increase private sector non-traditional exports. The program's EOPS is (a) an increase in the nominal value of NTE's by new and pre-existing firms from \$62 million in 1991 to \$250 million by the end of TIP; (b) an increase in the number of firms participating directly or indirectly in NTE's by 1,500 from the 1991 total of 2,822; (c) an increase in real per capita income of men and women engaged directly or indirectly in NTE's of 5 percent per year by the end of TIP, compared to a 2 percent increase in the economy as a whole; and (d) at least 60,000 new fulltime NTE related employment opportunities created for men and women by the end of the program.

TIP proposes a \$60.0 million cash grant that will address the principal constraints in the enabling environment to export production and investment. \$50.0 million is scheduled from the Mission's Operational Year Budget and an additional \$10.0 million is requested from the Africa Economic Policy Reform Program. TIP also includes a \$20.0 million project component to strengthen the principal public sector institutions involved in investment and export promotion, for support to private sector associations and firms to improve their capacity to export and to obtain export financing. Funding is also provided for program management and support.

Upon the GOG successfully meeting the conditionality under the cash grant, dollar disbursements will be made to a GOG account in the U.S. At this point, AID tracking of the funds will cease. The GOG has demonstrated a suitable capacity for programming and has developed an acceptable, transparent accounting system. USAID is satisfied that the dollars will be used for two legitimate purposes; either augmenting the foreign exchange reserves of the GOG, or sold to commercial banks through the Bank of Ghana's interbank market.

The Government of Ghana will contribute the cedi equivalent of \$40.0 million through the General Budget. The GOG contribution will support the cost of implementing reforms resulting from the policy measures enacted, as well as include budgeting support for proper environmental monitoring. The private sector associations and firms will contribute the cedi equivalent of \$600,000 which will go toward sharing the cost of technical assistance and training provided through TIP, as well as the land and building and operational costs for the proposed Accra Private Sector Center.

TIP responds to dual challenges facing the Ghana economy; i.e., the need to both increase and diversify export growth. Ghana's

export growth has not kept pace with the rest of the economy, with the result that in 1991, after deducting 25 percent of Ghana exports to cover debt servicing, Ghana's export earnings only covered 56 percent of Ghana's import bill. While donor resource flows and remittances from Ghanaians abroad have made up the difference, Ghana's long-term economic health depends upon a significant increase in Ghana's exports. Current traditional exports (cocoa, gold, timber and electricity) which provide 87.5 percent of Ghana's export earnings, will not be capable of providing the export growth needed to meet Ghana's growth needs and reduce its dependency on donor resource flows. Therefore, Ghana needs to look to the non-traditional export sector which has begun to respond to the positive macroeconomic environment created by the Economic Recovery Program, initiated by the GOG in 1983. Since 1983, non-traditional exports have increased from \$1.0 million to \$62.0 million in 1991. A number of new products are being exported and overall, the prospects for sustained growth in non-traditional exports appear to be good if the constraints can be eliminated.

There are a number of constraints affecting the general economy, which are being addressed by the GOG in cooperation with various donor groups. The three constraints (identified as a result of extensive pre-project analysis) having the greatest restraining impact on non-traditional export growth are: (1) the enabling environment; (2) the present production and marketing capacity and capability of existing and/or potential export firms; and (3) the limited financing available to exporters.

In the case of the enabling environment, the issues of the legal framework, transparency and the trade regime have a negative impact on the interest of firms to invest into or expand investment for export production. Likewise, the documentation requirements frustrate exporters and raise their costs. The weaknesses of public sector export and investment promotion agencies have also acted as a brake on the expansion of export trade and investment.

Resolving the issues of the enabling environment will not be sufficient to get exports moving; the present capacity and capability of exporters limits their ability to rapidly increase production. Lack of market information is compounded by management, production and financial access problems. These issues must be addressed simultaneously with the enabling environment. The restraints imposed by underdeveloped financing systems are particularly severe for non-traditional exporters. Establishing export credit guarantee, and export refinancing facilities, as well as export insurance programs are essential incentives to encouraging banks to actively marketing export financing loans to non-traditional exporters.

The above three issues, enabling environment, private sector

capacity and export financing are the subjects of two separate but parallel export promotion projects. The USAID/Ghana TIP program proposed herewith, will address the issues of enabling environment and private sector capacity, while the World Bank is designing a project to address the export financing issues. The GOG, the World Bank and USAID/Ghana, are agreed that the private sector must become the engine of growth for the economy through export expansion if Ghana is to continue to grow and develop. TIP supports the development of private sector-led export growth and complements other donor activities in infrastructure development, the two World Bank financial sector adjustment credits, the third World Bank Structural Adjustment Credit (SAC III) and the upcoming World Bank export credit.

The TIP cash grant will be implemented in five tranches and will leverage conditionality in the following key areas:

- 1) Improving the policy framework through an improved and transparent legal and regulatory environment and trade and duty relief regimes.
- 2) Reducing Ghanaian exporters regulatory and administrative transactions costs through the elimination of outdated requirements and the streamlining of export processing and clearance documentation.
- 3) Improving GOG public sector export support services.

The project component will provide technical assistance and training amounting to \$11.2 million which will be provided to the private sector non-traditional exporters directly and through private sector trade or product group associations, to: identify promising export markets; produce internationally competitive products; promote and sell products in established and new markets; obtain information on changing markets; and expand export production. Included within the private sector component will be the financing of a Private Enterprise Foundation that will oversee the provision of technical assistance and training to the private sector and will manage the Accra Private Sector Center, a facility for providing firm-level advisory and training services in any number of directly related business management, financing, sales and commercial areas that impact on exports. Four hundred Ghanaian businesses will successfully conduct non-traditional export transactions involving sales, financing or sourcing through TIP assisted trade and/or professional associations. Moreover, the TIP will fund the establishment of an Accra Office of the African Project Development Facility, ultimately to be located in the Accra Private Sector Center. The APDF will in turn be committed to the development of 8-10 bankable private sector projects a year, at least half in the export sector.

In addition to support to the private sector, TIP will also provide \$6.2 million for technical assistance and training to selected export-related GOG agencies especially the Trade and Investment Management Office (TIMO) and the Trade Policy Unit (TPU) of the Ministry of Trade and Tourism. This assistance to TIMO and TPU is to strengthen the GOG's efforts to improve the export environment, enhance dialogue with the private sector and expand non-traditional exports. Assistance is also planned for the Ghana Export Promotion Council and the Ghana Investments Center. Assistance to these two units will be conditioned upon agreement on a strategic focus for each organization which will transform them from public sector entities to quasi-governmental organizations. Assistance is also planned for the Customs Excise and Preventive Service to assist it in establishing and implementing a comprehensive duty relief program to facilitate the importation by Ghanaian exporters of raw materials used in the production of export goods.

Finally, the project will provide \$2.6 million in program management and support funding. This will provide for the services of a USPSC to assist in the management of TIP, as well as for vital support requirements in terms of impact and environmental monitoring and evaluation, financial assessments, reviews and audits and for contractor support through the Mission Field Support Unit.

1.2 Response to PAIP Guidance and Project Changes: The TIP PAIP review was held in Washington March 17, 1992. USAID/Ghana has taken into account the guidance from AID/W in the PAIP Approval Cable when drafting the TIP PAAD. Since the PAIP was written, several components have been modified due to action by the GOG and other donors, as well as revised assessments of TIP priorities by the Mission.

To provide an overarching framework that more closely relates TIP reforms and activities to the constraints, the Mission and representatives from the Africa Bureau developed a detailed policy matrix for the program. Likewise the Mission in collaboration with Bureau staff, conducted a detailed cost-benefit analysis whose resulting rates of return of 25 and 31.9 percent provide clear evidence that the returns to the TIP investment are more than adequate.

Shortly after the PAIP review, the World Bank indicated an interest in becoming involved in the export sector. USAID/Ghana and AID/W staff met with the Bank to discuss how we might collaborate effectively in the trade and investment area. As a result of those discussions USAID, agreed to focus its efforts on addressing the enabling environment and private sector capacity issues while the World Bank would focus on the issues of developing export financing institutions and instruments. This division of labor helps to ensure that all of the trade and

investment constraints would be dealt with at the necessary level of detail. At the same time the addition of World Bank resources will allow USAID/Ghana to concentrate its resources on a more restricted set of issues. The joint collaboration on conditionality by AID and the Bank helps to coordinate our efforts and ensure that we are not sending conflicting signals to the GOG.

As a result of the PAIP review, the Mission reviewed its project assistance to the private sector and has modified the proposed activities to provide a greater role for the private sector, while acknowledging that the Ghana Export Promotion Council and the Ghana Investments Center had appropriate and critical roles to play. One problem limiting private sector control and direction of activities such as TIP is the weak state of private sector associations. In the PAAD, the Mission has provided resources and staff to strengthen private sector capability and has programmed private sector strengthening activities through the private sector. At the same time, TIP resources will help to focus GEPC resources in a more limited set of issues. In the case of investment promotion, TIP resources are conditioned on fundamental GOG institutional and policy changes in these areas. These conditions have been negotiated with the Government of Ghana and they have expressed their willingness and intention to make the changes necessary for an effective investment promotion program in Ghana. All control or regulatory functions will be removed, and more focused staff and programs will be implemented, with private sector guidance to foster investment promotion.

Recognizing the uncertainty of funding levels, the Mission obligation schedule was developed assuming a straightlined Mission OYB for the life of the project. The Mission believes that this action is both prudent and in line with the cable guidance.

In the PAAD the Mission has in the discussion of beneficiaries demonstrated that the program will have significant people-level impact, both by significantly increasing employment and by helping to improve salaries over time. The monitoring and evaluation plan is also concerned with ensuring that people level impact is both achieved and documented. This measurement and documentation of people level impact is a priority of the M and E plan.

Further to the concerns discussed in the PAIP guidance cable, the Mission believes the PAAD adequately addresses the modality for tracking non-project cash disbursement. The Mission has included in the PAAD a request for an exemption from the separate account requirement. Moreover the Mission has modified the host country contribution. The Mission proposes not to program local currency but to focus on GOG restructuring budgetary expenditures to meet project requirements. This will serve to reduce further local

currency monitoring and audit requirements of the Mission.

The PAAD meets the guidance concerns of NPA guidance. Likewise, the Mission has worked closely with the Bureau to ensure that appropriate environmental safeguards are in the program.

The Mission has worked closely with the Regional WID Advisor to incorporate gender considerations into the PAAD and to ensure that the M & E program monitors the participation of women, as well as identifies WID issues for resolution in the program.

2.0 BACKGROUND

2.1 Summary of Macro-Economic Framework: Ghana, in the late 1950's and early 1960's, had one of the highest levels of income, as well as social and economic infrastructure in sub-Saharan Africa. However, by the early 1980's, the relatively high standard of living of Ghanaians had been eroded by inappropriate development policies and strategies. Industrial development based on import substitution and protected by tariffs and other barriers resulted in an industrial sector dominated by large-scale, capital-intensive and inefficient state-owned enterprises. Production in the agricultural sector in general and cocoa in particular, suffered from neglect and heavy taxation. In the case of cocoa, Ghana's production declined from 450,000 MT in 1974 to approximately 150,000 MT in 1983.

Responding to the rapidly deteriorating economic situation, the Provisional National Defense Council (PNDC) initiated a far-reaching Economic Recovery Program (ERP) in 1983. Initially, the program focused on the short-term objectives of macroeconomic stabilization. As these short-term objectives were realized, the Government began to focus attention on longer-term issues such as infrastructure and public sector support service rehabilitation. Reforms to date include liberalizing the foreign exchange and trade system, increasing producer prices for cocoa, eliminating most price and distribution controls and rationalizing the public investment program, which in turn greatly improved physical infrastructure. Appropriate fiscal and monetary policies have eliminated the budget's fiscal deficit and reduced inflation, while donor inflows have created an overall surplus in the balance of payments and virtually eliminated external payment arrears.

These reforms and the resulting increased resource availability have helped Ghana to have one of the fastest growing economies on the African continent. Since 1983, GDP in constant prices has increased an average of 5% per year. While Ghana's economy has performed impressively, serious problems remain.

2.1.1 Constraints to Medium Term Growth: Economic reforms under the ERP have been successful in realigning relative prices, improving fiscal and monetary prudence, enhancing the private sector investment climate and initiating the rehabilitation of key infrastructure. Many constraints still remain to establishing sustained growth, increasing investment and expanding exports.

In general, these constraints exist not because reforms were not taken or were unsuccessful but because they require additional action to enhance their effectiveness and ensure their sustainability. The following discussion highlights these constraints.

Inflation: Inflation has been a persistent problem under the ERP, reaching as high as 41 percent (annualized) as recently as September 1991. This high inflation level was caused by a combination of excess liquidity, a poor harvest in 1990 and the 1990-1991 Persian Gulf crisis. Since that time, the weather has returned to normal, the Gulf crisis has been resolved and the GOG has initiated a number of actions that have been effective in mopping-up excess liquidity, with the result that annual inflation rates are now at an 8-9 percent level. If present policies are pursued, inflation should be manageable. This, in turn, will help to improve business confidence.

Trade Balance: While Ghana's economic performance since 1983 has been impressive, economic growth is not sustainable as Ghana's growth is overly dependent upon continued donor inflows. While exports have doubled over the period 1983-1990, export value has declined since 1988 due to the general deterioration in the prices of Ghana's exports. The result is that in 1991, after covering debt servicing, Ghana's export earnings only covered 56 percent of the value of its imports. While donor resource flows and remittances have made up the difference, Ghana's long term economic health depends upon a significant increase in its exports.

The need for exports is especially compelling if Ghana is to move to an accelerated growth scenario. Present data indicate that a two percent increase in imports is associated with a one percent increase in GDP. If this relationship is maintained, then a five percent GDP growth rate will require a 10 percent increase in imports and therefore a 10 percent increase in exports to stop further deterioration in the balance of trade. If in fact Ghana tries to grow even faster this problem will become even more severe.

Financial System: Constraints in the financial system and fiscal regime hinder increased domestic resource mobilization to support investment. National savings and investment rates are inadequate to provide the impetus for sustainable growth. While private investment as a percent of GDP has increased from 2.9 percent in 1983 to over 9 percent in 1990, this is not adequate to sustain a 5 percent growth rate much, less a more accelerated pace. Moreover, except in the minerals sector (particularly gold), there has been little foreign investment to augment domestic investment.

Low public confidence, structural constraints and policy deficiencies in the financial system limit deposit mobilization and credit expansion. Credit supply is inadequate because of non-performing loans, managerial and institutional deficiencies in the financial sector, a new and perhaps overly conservative lending policy by most banks as a result of financial sector restructuring and an anti-inflation any policy of slow total

credit growth. Non-performing loans have been a particularly significant factor constraining the resurgence of the private sector and industrial expansion. Export financing is particularly restricted because of the absence of mechanisms to meet the specialized needs of the export sector.

High real interest rates (averaging 10 percent over the last year) have also had a constraining effect on short-term borrowing and an even greater impact on borrowing for capital investment. Foreign investment has been constrained by the present investment approval process which has emphasized monitoring and policing roles instead of promotional and other investor support roles.

Actions are being taken to address some of these constraints. The World Bank FINSAC I credit initiated restructuring of the financial system and improved monitoring and regulation of the banking system. A Non-Performing Assets Recovery Trust (NPART) was created that transferred the bulk of non-performing loans from the banking system. This was done to restore viability to the banking system while attempting to recover as much of the loan value by the NPART. A second World Bank financial sector credit will support the privatization of the banking system and address some of the remaining policy issues. However, it will not address the problems of export financing.

Legal Framework and Transparency: Successful and growing investments in the export (or any sector) require a stable and predictable environment in which business risks can be rationally assessed and one in which there is confidence in the fact that fair and non-discriminatory treatment will be accorded all economic agents. The growth of business activities is determined by the ability to enter into inter-firm contracts and linkages. Central to this ability is the requirement that contracts can be enforced with reasonable certainty at low costs. At present, this situation is not fully met in Ghana. There are a number of problems that limit knowledge of laws and affect perception of transparency. A number of actions need to be taken to improve the situation. Enhanced efforts need to be made to ensure not only that rules and procedures are codified, but that they are gazetted and printed in sufficient numbers so that they can be easily obtained by all interested parties. This need is especially critical for laws and procedures governing foreign exchange transactions and import-export procedures. At times, it is the absence of laws and rules that deter commerce and commercial transactions. Examples include bankruptcy and insolvency procedures, the methods for resolving competing claims of various classes of creditors, treatment of inter-modal transport documents as to title to goods, etc.

There are a number of procedures that can be explored to improve the problem of transparency. The gazette notification procedures should be reviewed and strengthened, including clearly

identifying the executing agency. The problem of multiple jurisdictions must also be examined and overlapping jurisdictions must be eliminated or, at the very least kept to a minimum. Consistent application of law should be reviewed, including reviews of an alternative dispute resolution mechanisms such as arbitration. Since an increasing outward orientation is a basic element of any export growth led strategy and given that Ghana is a new entrant in most international markets, adoption of internationally accepted commercial conventions should serve to facilitate the reduction of entry barriers and support formation of buyer-seller linkages.

Increased domestic and foreign investment in Ghana will require that the issue of the legal environment for business be analyzed and improved. However, more specific recommendations require further analysis and cannot be made at this time.

State-Owned Enterprises (SOE): One way for Ghana to make additional resources available for infrastructure, health, education, etc., is to speed-up the divestiture of the more than 200 SOE's that are slated for privatization. Progress has been hampered by problems such as poor physical and financial conditions of the enterprises; lack of up-to-date information on them; unrealistic asset valuation; legal issues relating to property rights and employee termination benefits; and the need for more market, technical and financial expertise for use by the Divestiture Implementation Committee. These issues need to be resolved.

In addition to privatization, it is important that those enterprises which remain in the state sector operate on a sound, profit-making commercial basis. This requires performance contracts, clear accountability and the elimination of interference in company decisions, especially in the areas of employment and pricing. The World Bank has taken the lead in working with the GOG to address the divestiture issue.

Agricultural Sector Constraints. Agriculture, which accounts for approximately 50 percent of GDP, is a sector whose growth rate will impact significantly, on the rest of the economy. It will be difficult if not impossible for Ghana to continue to grow at 5 percent a year, much less accelerate to growth rates of 8-10 percent a year, without agriculture growing annually by at least 4 percent. In fact, over the period 1983-1990 agriculture only averaged 2.7 percent growth. The growth of Ghana's agricultural sector, depends on a number of developments: (a) aggregate income growth in the economy; (b) prospects for agricultural exports; and (c) improved market access and integration. The first two are concerned with the demand for the products of the agricultural sector while the third relates to the sector's ability to provide products at a reasonable price. Concerning the demand factors, the growth in domestic demand will

be determined by population growth and growth in per capita income. Given past growth rates, the domestic demand for most commodities has been increasing at an annual rate of 4-5 percent. In the case of export demand, except for cocoa, Ghana is a price taker and can sell all it produces if it can meet world price and quality requirements. In both markets, domestic and foreign, the question of market access and integration is critical. Ministry of Agriculture and World Bank studies have shown that in the agricultural sector, Ghana is very competitive in most of the products it produces at the farm gate. However, by the time the commodity reaches the port or domestic consumer, the competitive advantage has been lost by high marketing costs. Marketing margins in Ghana are very high and are directly related to poor transport and inadequate storage and handling facilities. These marketing costs must be brought down to lower retail prices and allow Ghanaian products to be more competitive. It is noteworthy that research and extension were not listed as problems. They are still weak but were not listed as critical factors because, as the experience of the Global 2000 program revealed, the technological potential for faster growth is available, at least in the case of the cereals. In fact, farm-level productivity growth is essential for long-term growth and is a priority investment of both the World Bank and Canadian aid programs.

Infrastructure: As has already been alluded to, infrastructural investment is critical to increased growth. In the case of Ghana, large sums have been invested in recent years to improve the ports, harbors, feeder and major roads as well as some investment in railroads.

However, investments are still needed to overcome the nearly two decades of deterioration and neglect of infrastructure. There are major investments underway to improve the paved highways linking Cape Coast and Kumasi and Tamale-Bolgatanga in the North. However, these investments represent minimum requirements, not what is needed to expand transport networks and lower costs. For example, the feeder road network requires major investments. In 1991, only 29 percent of the network was classified as good, 32 percent as fair and 39 percent as poor. The Volta Lake which has the potential to be a cheap source of transport linking northern and southern Ghana also needs to be developed.

The telecommunication needs in Ghana are vast. International experience has shown that acceleration of exports, attraction of foreign investment and increased efficiency of business services and manufacturing require a strong and responsive telecommunications sector. In Ghana, large investments on a national scale harnessing the energies of private domestic and foreign investors will be called for. At the same time, the government-owned network operations need to be allowed greater flexibility in their functioning so that core existing operations can continue to contribute to the greater provision of

telecommunications services. However, to profitably harness these possibilities, policy and regulatory initiatives are necessary that permit competition to occur in an effective way.

Infrastructure investment has been supported by many of the donors. The EEC, Japanese, Saudis, UK and World Bank have taken the lead in rehabilitation of ports and harbors. The World Bank is taking the lead on addressing the management issues in the transport sector. In the case of the railways, the Bank and the Caisse Centrale have been the principal donors. In the rehabilitation of the main trunk roads, the EEC, the Dutch and the Japanese have taken the lead and are still heavily committed to the sector while the World Bank, Denmark and USAID have the leadership role in the feeder road section.

The Volta River Port development has been financed by the Germans with additional assistance expected from the Danes and World Bank. In telecommunications, a concerted action program has not yet been developed. The World Bank, Japan and Caisse Central all have expressed interest in this sector for future financing.

Private Sector Constraints: The private sector in Ghana is now viewed as providing the thrust for future economic growth in Ghana. Thus, the success or failure of Ghana's growth strategy will depend critically on attracting sufficient levels of private investment. At present, the share of the private sector in total investment is low. The rate of new enterprise formation, as well as diversification of economic activities, is also low. Private enterprise performance indicators such as capacity utilization, value-added productivity, etc., suggest that private commercial activity is also still too low to support any significant contribution to accelerated economic growth in the near term. There are a number of reasons for this. Growth is constrained by the limited size of the domestic market. At the same time, export growth is constrained by lack of knowledge of markets and poor product quality and technology. Moreover, the enabling environment is not perceived as favorable. A transparent legal base for laws and regulations doesn't fully exist. Restrictions on ownership of foreign firms provide disincentives to foreign investors. Most private sector institutions are weak and business and trade associations are not able to undertake policy analysis, enter into dialogue with the GOG, or develop members interest.

The Government is aware of these problems and is moving to address them. The 1991, tax changes reducing corporate taxation rates from 55 to 35 percent provided clear signals that private sector profitability is recognized as critically important to economic growth. The formation of the Private Sector Advisory Group (PSAG) to review laws and regulations affecting the private sector and recommend changes for improvements that foster expansion and the profitability of the private sector has been

seen by the private sector as another positive step. How and whether the PSAG recommendations are accepted and implemented will be an important determinant of further private sector attitudes. The World Bank Third Structural Adjustment Credit focuses on some of the transparency issues and the issue of SOE's. USAID/Ghana has provided funding to begin to address the need to strengthen private sector institutions. However, further efforts will be required in these areas.

2.1.2 Future Prospects: The future direction of Ghana's economy depends on the GOG's ability to continue its present reform program as it moves to a more open political system. There are no indications that the reform program is or will be a principal campaign issue. That could change, but there appears to be a recognition across the political spectrum that Ghana has made real and substantial economic gains, but that these gains are fragile and not at present sustainable in the long term.

There appears to be emerging a recognition of the importance both of the need for private sector-led growth and the importance of expanding exports to meet the foreign exchange requirements of a growing economy. There is also growing discussion of an accelerated growth strategy for the nineties, in which Ghana could attain growth rates of 8-10 percent by the end of the decade. If a dynamic private sector and export-led growth are necessary for 5 percent annual growth then they are even more important for high growth scenarios.

2.2 Export Sector Framework: Ghana's future growth depends heavily upon the GOG pursuing an aggressive strategy of private sector-led export growth. Ghana's export sector at present has two major problems. Its exports are predominantly raw materials or primary commodities and are concentrated on four commodities: cocoa, gold, timber and electricity. These commodities provided \$722.1 million, or 87.5%, of Ghana's exports in 1990 as compared to \$409.2 or 93.2%, in 1983.

For the long term success of the ERP, Ghana must increase and diversify its export revenues. In terms of the traditional export sector, the World Bank states that medium term (1991-95) prospects for an increase in export value is encouraging for cocoa and gold, but not so for timber and electricity. The Bank estimates that the value of cocoa exports will increase 20% between 1990-1993 as a result of increased production and an estimated \$290/ton increase in cocoa prices. Likewise, gold exports are projected to increase approximately 18% per year as a result of the production from new mines and the rehabilitation of existing mines. Timber exports are estimated to only increase at about 2% per year over the 1990-95 period as a result of both environmental concerns and Government policy to push for value-added timber exports. Electricity exports are projected to remain essentially stagnant over the 5 year-period (a projected

growth of 0.3%/annum). For the latter half of the 1990's, the estimate for traditional export sector growth is even more pessimistic, with cocoa exports projected to grow at approximately 2% - per annum, gold - 5%, timber - 1.3% and electricity - 0.5%.

With these projected growth rates, unless there is a dramatic increase in non-traditional exports, the Ghanaian economy will have to become much more dependent upon donor resources or the growth rate will decline with a resultant decline in per capita income.

Thus, Ghana's long-term economic growth is contingent upon expanding and diversifying its export base. This means that Ghana must put increased emphasis on expanding its non-traditional exports (NTEs). In fact, non-traditional exports have expanded rapidly over the 1983-1990 period, increasing from approximately \$1 million in 1983 to \$62 million in 1991. However, before NTEs can add in a meaningful way to economic growth they must become a larger percentage of GDP. At present, NTEs represent only one percent of GDP and 7% of total exports.

2.2.1 Prospects and Constraints Facing the Non-Traditional Export Sector: Table 2.1 shows the growth of NTEs over the period 1986-1991. Growth in the number of products now being exported, as well as the number of exporters engaged in non-traditional exports has been quite rapid, albeit from a small base. The Ghana Export Promotion Council (GEPC) reports 2,822 exporters of 155 different NTEs during 1991.

TABLE 2.1
Non-Traditional Exports, 1986-1991
(millions of U.S. dollars)

	1986	1987	1988	1989	1990	1991
Agriculture	<u>19.8</u>	<u>21.2</u>	<u>29.6</u>	<u>23.3</u>	<u>28.8</u>	<u>33.9</u>
Horticulture	.5	1.0	1.6	2.5	5.0	8.4
Fish	14.6	14.7	21.1	13.2	21.6	20.9
Other	2.6	3.1	4.5	5.4	2.3	2.8
Cocoa ¹						
Wastes	2.1	2.4	2.9	2.2	n/a	1.8
<u>Processed</u> <u>& Semi-</u> <u>Processed</u>	<u>6.0</u>	<u>9.1</u>	<u>15.2</u>	<u>13.3</u>	<u>33.1</u>	<u>27.7</u>
Wood	1.5	2.1	3.3	3.8	5.5	6.2
Aluminum	.1	.7	6.1	2.5	9.8	5.5
Canned						
Foods	2.0	1.6	.5	.1	.1	.3
Salt	.8	1.9	2.5	3.1	7.0	3.9
Other	1.5	2.7	2.8	3.8	10.6	11.8
<u>Handi-</u> <u>crafts</u>	<u>0</u>	<u>.1</u>	<u>.1</u>	<u>.2</u>	<u>.4</u>	<u>.9</u>
TOTALS	<u>25.8</u> =====	<u>30.4</u> =====	<u>44.9</u> =====	<u>36.8</u> =====	<u>62.3</u> =====	<u>62.5</u> =====

Source: Ghana Export Promotion Council

¹ Cocoa waste were not included in official GEPC non-traditional export statistics until 1991. They have been included here for all years for consistency.

As Table 2.1 shows the growth of certain NTEs has been steady. Much of it involves the utilization of existing capacity, but some of it has required imports of new equipment, spare parts, chemicals and pesticides. Wood product exports have quadrupled in value, aluminum products have recovered their export markets and particularly horticultural products (dominated by pineapples) have started a strong and promising upward trend, increasing in value by a factor of 16 from a very small base in 1986.

The GEPC has prepared a five year export development plan for the period 1991-1995. Under this plan, NTEs are projected to grow annually by about 29%, reaching a level of \$335 million by 1995. This would give NTEs a 15% share of total exports by 1995. In overall terms, the estimates seem to be overly ambitious, however, the choice of products is in line with what might be feasible for Ghana's present stage of development.

USAID/Ghana has examined Ghana's NTE sector in some detail. USAID-financed studies were conducted to explore the export potential for timber and wood products, the sheanut and kolanut industries, aquaculture products, handicrafts and the horticultural sub-sector. These studies were supplemented by several studies conducted by other organizations. Annexes P and R of this PAAD provide the detail for the potential for specific NTEs and the Economic Analysis, respectively.

Overall the prospects for non-traditional exports appear to be good if the constraints currently existing can be addressed and overcome. Growth in NTEs in the medium term will probably be centered on the agro-based commodities Ghana now exports; however, the Mission does expect some diversification during the next five years. The real impact of NTE diversification will probably not be apparent until Ghana gets some additional experience in developing its NTE sector and is capable of establishing its own comparative advantage in agricultural processing and manufacturing. Over the life of this project, 1993-1997, the Mission estimates that NTEs will increase from \$62.0 million in 1991 to an estimated \$250 million in 1997 if the constraints facing the sector are addressed.

2.2.2 Constraints to the Expansion of NTEs: Ghana has made great strides in recent years in creating a positive environment for increased investment and exports. The foreign exchange regime is favorable and while the investment climate is not perfect it has improved significantly. However, there are a number of constraints existing which limit the export potential of Ghana. These constraints have been identified by surveys of exporters, as well as during the conduct of various commodity surveys.

The three principal constraints limiting Ghana's export potential are: 1) the enabling environment for exports; 2) the present

capacity of export or potential export firms; and 3) the limited financing and methods of financing available to exporters. Unless the various dimensions of these problems receive priority attention, Ghana's prospects for rapidly increasing NTEs are very poor. The following discusses in some detail the nature of these constraints.

2.2.2.1 Enabling Environment: Except for a realistic exchange rate, the present enabling environment in Ghana is not particularly export friendly. Policy, regulatory and public service constraints serve to restrain NTE growth. A concerted action program to improve the enabling environment for exporters is necessary if NTE's are to achieve their export potential.

Policy Constraints: There are two broad sets of policy constraints that limit growth in NTE investment and production, transparency issues which affect the entry of firms into the NTE sector and trade regime policies.

As mentioned in the general constraints section the issues of transparency and appropriate legal framework are constraints to economic growth. However, they are also relevant for NTE expansion and growth. In particular there is the need to address the more general constraints or issues by consolidating, codifying, publicizing and widely circulating commercial codes and business regulations such as the contract act, labor code, exchange control procedures, custom procedures, tax procedures, export inspection procedures etc. Moreover, there is an urgent need to revise the Investment Code to simplify procedures and to reduce the elements of uncertainty caused by the need for various clearances and approvals. Likewise the process of registering businesses should be streamlined and consolidated. The export procedures must be simplified and standardized. At present businessmen, find a maze of procedures and regulations that are conflicting and overlapping. The result discourages investment in export and non-export production. This maze of regulations must be simplified and consolidated under TIP.

In addition to policy constraints that affect domestic and foreign firms entry to the export sector, there are existing trade regime policies that negatively impact on the profitability of export firms. Three principal policies have been identified as being of particular importance at present: (a) the foreign exchange retention system; (b) the use of income tax incentives; and (c) the absence of an effective duty drawback/exemption system.

Exporters are permitted to retain 100% of their foreign exchange earnings in foreign exchange. However, their earnings must be converted through the banking system at the inter-bank market rate, rather than allowing exporters to sell the foreign exchange to the highest bidder, be it a bank or foreign exchange bureau.

At present in Ghana, FOREX bureaus typically pay a three to six percent premium over the inter bank rate. While a three to six percent difference may not seem significant, it can make a significant difference on the "bottom line to the exporter." If an exporter is operating at a margin of 15%, losing three to six percent on 65% of their export earnings lowers profits 10-20%. A not insignificant amount and especially so in a country where profits and retained earnings are a principal source of investment capital. Exporters should have the option to sell their foreign exchange to the highest bidder. This will increase profitability and the attractiveness of investing in the NTE sector.

A second policy that restricts profitability is the law that restricts income tax incentives for exports to exporter-producers not exporters. At present there are attractive tax incentives available to firms that export five percent or more of their production. However, marketing firms are not eligible to receive this tax break. This discourages the development of export marketing firms that specialize in the assemble and marketing functions. It also negatively impacts on small firms who may like to produce for the export market but cannot because of the absence of marketing firms to buy, assemble and export the production of these small firms. Allowing marketing firms access to the tax incentives will provide a significant boost to the attractiveness of investing in export marketing. The expansion of such firms providing specialized marketing services could be expected to lower marketing costs and/or expand the number of smaller firms having access to the export market.

The third policy where changes would increase profitability to export firms is that of duty drawback/exemption policy. The existence of a smoothly functioning duty drawback, duty exemption system is especially important for the long-term growth of the export sector. This is especially true of exporters which require substantial raw material imports. It is essential that exporters have unrestricted and speedy duty free access to intermediate inputs required for export production. The way the present system is structured, individual exporters need to submit documentation on a transaction by transaction basis. Further, neither the documentation nor the rates are standardized. Consequently, transaction costs are high and exporters are hesitant to even attempt to use the system. During the last two years only four cases of duty drawback have been approved. If Ghana is to shift to value added manufacturing a functioning duty-drawback/duty exemption system is essential.

Regulatory and Administrative Transaction Costs: A second area which serves as a negative enabling environment factor is that of regulatory and administrative costs.

In interviews with exporters these were listed as important

constraints to development. These costs discourage new firms from entering the export business, as well as drive up operating costs of existing firms. Among the former are three regulations that have been identified with regularity by exporters. There is a requirement that first time exporters prepay their foreign exchange surrender requirement before exporting. Without such payment the Central Bank will not provide clearance for their exports. This drives up costs for first time exporters and precludes initial sales on consignment or shipment of samples by new entrants, the principal means to initiate exports. Two other requirements that increase the cost of new exporters are (1) the requirement that they pay an estimated quarterly income tax in advance of exporting in order to obtain the Internal Revenue Service (IRS) clearance; and (2) the requirement that they must pay an annual fee to GEPC for a certificate to export. Another regulation identified by exporters as a problem is the regulation that GEPC establish a minimum price for all exports and the exporter is required to convert the foreign exchange equivalent of the minimum price. While originally introduced during the period of overvalued exchange rates to prevent under-invoicing, this regulation today has become an administrative headache for exporters. It doesn't or can't take into consideration all of the different sizes and quantities an exporter may have for export nor seasonal or long-term price declines that make a given minimum price irrelevant.

In addition to the above there are administrative procedures that are a hassle to exporters and are time consuming. For example, before a commercial export is approved, the exporter must have filled in an A-2 form, had it approved by the Bank of Ghana or other authorized banks. Some items required special permits before the A-2 form was processed, e.g., timber must be inspected by the Forest Products Inspection Bureau and/or the Timber Export Development Board. A fee is required for the Forest Products Inspection Bureau. Handicrafts and antiques need to pay a fee to receive a permit from the Ghana Museums and Monuments Board. Plants and seeds need a permit from the Ministry of Agriculture and Plant Quarantine Department; exports of small animals require a fee-based permit from the Department of Game and Wildlife.

In recent months the Ghana Export Promotion Council (GEPC), working with various government agencies and the private sector have simplified and reduced the procedures so that the most onerous requirements have been eliminated. There are still various miscellaneous procedures to consider and GEPC is working with public organizations and private sector exporters to identify and eliminate these. There is no doubt that these administrative regulations and procedures discourage initial exporters and increase the cost of exporting. They must be reviewed for elimination or further simplification.

Public Sector Export Support Services: If Ghana is to have an

improved enabling environment for exports it must improve public sector export and investment services. In fact, one can start with the Ministry of Trade and Tourism (MOTT). Ghana has not had a proactive policy to increase exports. The focus of GOG actions were on developing a realistic exchange rate and lowering tariffs. No serious attempts were made to address related policy constraints that limited export growth. It would appear that an assumption of Government policy was that if prices were made right, production would follow; and to be fair, in the traditional export sectors it did, but the response in the NTE sector was more muted in absolute terms although impressive on a percentage basis. If Ghana is to develop a dynamic NTE sector the public sector must overcome its present limitations and provide needed services and guidance only the public sector can provide. (The private sector also has an essential role that will be discussed later.)

Three public sector agencies that will need to play critical roles in the growth and development of the NTE sector are the MOTT, the GEPC and the GIC. The NTE sector in Ghana, with the exception of GEPC, has evolved with little GOG support or direction. The result has been little attention by the GOG to address the constraints that face the sector. If NTEs are to expand at the rate projected greater attention must be given to trade and investment policy. The key to the development of a dynamic NTE sector is a national commitment to export-led growth and the establishment of an effective process for implementing the reform effort. A process is needed to focus and energize the implementation effort and to allow it to respond to the evolving policy environment. Trade policy is a key element of this overall economic policy system. In broad terms, the goal of trade policy is to develop an enabling business environment. The establishment of an effective trade policy will require an effective Trade Policy Unit (TPU) that will be responsible for advancing trade policy reform in Ghana by:

- learning from the experience of other countries;
- setting an overall goal for trade policy in Ghana;
- developing a strategy for how to approach trade policy reform;
- developing the research capacity to identify and analyze policy reform options;
- establishing an institutional and human resource development program;
- setting up an inter-ministerial process for implementing trade policy reform.

The MOTT is the natural site for a TPU and efforts have begun to establish such a unit but much remains to be done before it is capable of being an effective force in Trade Policy formulation.

GEPC has been the only GOG organization until recently to take an interest in NTE development. GEPC has tried to assist exporters in many different ways. However, GEPC in spite of its good intentions has had limited effectiveness because of a limited budget and a conflicting set of responsibilities. GEPC is to promote NTEs but is also responsible to regulate them. This conflict must be resolved and GEPC relieved of its regulatory responsibility. Moreover, GEPC needs to concentrate its energies on market promotion and development not on production support.

Likewise GIC, the organization responsible to promote foreign investment is not presently capable of fulfilling its role. GIC, like GEPC, has suffered from a shortage of funding and a conflict of responsibility. Concerning the latter, GIC has often appeared to be more interested in regulating investment than promoting it. If Ghana is to attract the foreign investment necessary, GIC must review its role, shift exclusively to becoming an effective investment promotion agency and receive the adequate funding necessary to be effective.

2.2.2.2 Capacity of Firms to Export: The previous section focused on the enabling environment as a constraint to NTE expansion. Addressing those constraints is one of the necessary factors for NTE growth but improving the enabling environment will have limited success if other equally important constraints are not addressed. One of the most important sets of these constraints are those factors that directly limit the capacity of private sector firms to increase exports. Here, four principal factors have been identified: market knowledge, production ability, capacity to obtain financing and lack of private sector support services.

Lack of knowledge as to where they can export their products, as well as lack of knowledge as to how to acquire such knowledge is a major constraint to individual producers. In general, in today's competitive world economy there are many countries competing to enter a limited number of markets. In such an environment there is little incentive for buyers to actively search for additional producers. The result is that Ghanaians don't export because they don't know where the markets are, nor what markets want, and they don't know where markets are, nor what markets want because they don't export. This Gordian knot must be cut. Assistance must be provided to potential exporters to bring them into contact with potential buyers of their products.

However, once a potential exporter knows of a potential sale, that is often the beginning of the problem. Most Ghanaian

exporters are small firms by international standards and may not have the production capability or technical skills to fill a foreign order or to meet its quantity and quality standards. This situation is further complicated by the present non-existence of export credit facilities that exporters in other successful exporting countries have available. Moreover, the exporter in Ghana has often found himself or herself alone with no support from other private sector firms since the development of a strong unified private sector that was willing to engage the Government in a dialogue is very recent.

Therefore, if Ghana is to have a successful private sector led NTE sector, resources must be made available to strengthen the ability and capacity of the private sector not just the private sector exporters. In fact, private sector exporters are a very small minority of private sector firms. Progress has been made in the last several years of sensitizing the private sector to the potential of export led growth and the Mission's private sector training activity funded under the regional Human Resources Development Assistance Project has been instrumental in this regard. Moreover, the Mission has helped exporters to organize into an export federation that represents their interests. However, if export issues are to receive their appropriate due it is necessary that the two principal private sector organizations, the Association of Ghana Industries (AGI) and the Ghana National Chamber of Commerce (GNCC) see the export sector as essential to Ghana's economic future and that the Federation of Association of Ghanaian Exporters (FAGE) the AGI and the GNCC begin to support common objectives and pool their resources to provide needed services to their members.

2.2.2.3 Financial Services for Exporters: The third set of constraints limiting NTE is the total inadequacy of the financial service system for the NTE sector. Ghana's financial system has a very critical role to play in supporting exports. At present there is no pre-shipment credit system, nor an export insurance program that would minimize commercial risk.

The lack of trade finance availability in a country such as Ghana is especially a barrier to smaller or new firms that might well be able to fill export orders and foreign contracts if financing were available. Therefore, assuring access to trade financing for all activities that generate exports -- including those by small infant or indirect exporters -- is one of the critical elements of an outward-oriented development strategy.

To date, commercial banks have been more interested in financing imports than exports. That is because import financing is short term and safe. Export finance can also be made short term and safe if programs are developed which: (1) allow the export shipments to be insured; and (2) allow banks to rediscount the loans if they need funds. Developing the information network and

skills to assess export risk takes time and experience. Similarly, rediscounting facilities take time and sophistication to develop. However, these skills and facilities are required if Ghana is to increase NTE's.

2.2.2.4 Infrastructure Requirements: In Section 2.1.1 above the lack of adequate infrastructure is discussed as a constraint to medium term growth. This problem must also be highlighted as important to the expansion of NTEs. As noted, increased investment is needed in rural road rehabilitation, port and airport facilities (including warehouses, cold storage and handling facilities), water transport, electrification and telecommunications.

Several donors have and continue to provide funding for infrastructure investment. USAID along with the World Bank, is financing a national feeder road rehabilitation program. Investment in ports and harbors is being made by the World Bank, EEC and the UK. Water transport facilities on Lake Volta are being funded by the Germans, and resources for telecommunications and additional rural electrification are being sought from the World Bank, Japan and Caisse Centrale.

2.3 GOG Strategy and Priorities: Support for the private sector has been a difficult position for the GOG to adopt, due to its long history of having a dominating, controlling role rather than a supportive one. The SAC III credit, adopted in April 1991, was the watershed in GOG policy in this regard. Up until then, the GOG had been preoccupied with reforming broad policy issues, the public sector and infrastructure projects. The SAC III, whose official title is "A Program to Promote Private Investment and Sustained Development," clearly shifted the emphasis to the private sector. With this shift must come an emphasis on private sector led export growth as a primary vehicle for sustained development.

The GOG has carried through with their new strategy. In the past year, they have begun an open and frank dialogue with the private sector. This has been done through the Private Sector Advisory Group (PSAG) composed of business leaders to advise the GOG on revisions of laws which will promote private sector activity and export growth. The creation of the PSAG became part of the Policy Framework Paper to which the GOG, the World Bank, and the IMF have jointly agreed.

The PSAG makes recommendations to the GOG on macroeconomic policies, the legal and regulatory framework relating to investment, recruitment, labor policies, price controls, export promotion, business establishment procedures, institutional reforms and tax, financial and fiscal policies. The PSAG has provided a number of useful recommendations which the GOG is expected to adopt.

2.4 AID Strategy:

2.4.1 Ghana Country Strategic Plan: The overall goal of the USAID strategy is to assist Ghana in achieving broad-based, sustainable, market-oriented economic growth. The principal subgoals of this strategy are:

- to increase output and
- to enhance the quality of the human resource base.

Given Ghana's economic performance since 1983, its economic goals, and findings from numerous studies, USAID believes that the best approach to assist Ghana's growth is to develop its private sector. More specifically, the Mission believes that the non-traditional export sector is the sub-sector within the private sector that will best catalyze private sector development and growth.

To assist Ghana to achieve sustainable economic growth, USAID has decided upon a development strategy that will focus on three strategic objectives:

- promoting private sector-led export growth;
- enhancing the quality of the primary education system; and
- reducing the fertility rate of Ghanaians.

The Mission believes these are mutually reinforcing, since:

- 1) increased income will result in more education and health care,
- 2) an improved human capital base through better health and more education will lead to a more productive labor force which is better able and willing to adopt new technologies and respond more quickly to new opportunities, and
- 3) reducing the fertility rate will allow families to concentrate their limited resources on the health and education of fewer family members, with correspondingly favorable impacts on productivity and income.

There are several programs in the USAID portfolio which contribute to the strategic objective of promoting private sector-led export growth.

* The Title III program puts \$5 million in local currency per year into rehabilitation of feeder roads in areas that have export potential. It also provides resources for improvement of export related infrastructure funding and funding for NGO activities in support of export production and marketing.

* The \$5.4 million Human Resources Development Assistance Project is designed to focus on the private sector. Its direct beneficiaries include over 2,000 staff and members of Ghanaian business associations, 400 women owners of small businesses, 700 students and teachers at the public training institutes, and 50 managers of targeted GOG ministries who have responsibilities for policy and programs affecting the private sector. The goal of HRDA is to build the human capital base of Ghana by building relationships between the academic and business communities, improving the ability of business organizations to represent the interests of the private sector, and increasing the Government's capability to create and implement programs to support the development of an internationally competitive private sector. The GOG plans to contribute to that effort by devoting some Title III funds to the establishment of an Economics Institute which will provide the analytical basis to foment discussion of economic policies.

* USAID is contributing to the Ghana Venture Capital Fund which has been established by the Commonwealth Development Corporation. The initial capitalization will be \$5.0 million. The Venture Capital Fund will help address a significant funding constraint of the private sector, accessing term or investment capital.

The Trade and Investment Program (TIP) proposed in this document works to support the AID logframe in several ways. First, it is designed to support the strategic objective of increased private sector NTEs. Second, TIP supports one of the targets of opportunity in the USAID/Ghana CPSP: environmental protection. TIP will ensure that:

- + harvest rates in fisheries and forests do not exceed sustainable yields,
- + commercial agriculture supported by TIP does not result in unacceptable levels of deforestation, soil degradation, and agro-chemical pollution, and
- + salt harvesting does not produce unacceptable imbalances in the Songaw Lagoon ecosystem.

Third, TIP supports the strategic objective of enhancing the quality of the human resource base by (1) establishing a Distinguished Professors Program to facilitate the exchange of knowledge between well known economists and Ghanaians, (2) establishment of a trade policy unit to improve the capacity of the MOTT to understand trade policy issues, (3) training for members of CEPS and MOTT, (4) the introduction of a Young Professional program to upgrade the skills of middle level civil servants associated with trade and investment matters and to build an awareness of the importance of trade and investment in

the civil service and (5) private sector training by the PEF for at least 250 members per year.

2.4.2 Consistency with Agency Policies: The USAID/Ghana's Program closely follows the Agency Mission Statement to "support for free markets and broad-based economic growth". This principle is reflected in the USAID/Ghana strategic objective, "Increase Private Sector-Led Export Growth" which is specifically designed to support free markets.

The TIP program also reflects the concept behind the initiative, "Partnership for Business and Development", since the thrust of the program under this subgoal is to make it easier for business to operate and increase the cooperation between business and government. The A.I.D. strategy will also foster a partnership between business and government -- which is parallel to "Partnership for Business and Development" initiative as a way to promote economic growth.

In line with Agency policy, TIP is expected to have a very positive people level impact. Since many of the NTEs are agricultural, increasing NTEs is expected to provide an important source of jobs, income, and cash to people. In addition, the Mission believes that the complex government regulations which currently restrict exports have a disproportionately heavy impact on small business. By making procedures easier to follow and more transparent, TIP will put the small businessperson on a more equal footing with his larger competitor.

2.5 Other Donor Activities and A.I.D. Collaboration:

2.5.1 World Bank: The Trade and Investment Program is a multi-faceted program that attempts to address a number of constraints which hold back growth in non-traditional exports. The World Bank has also come to the conclusion that export promotion is an important objective, they are designing a proposed \$65.0 million program which complements TIP. Hence, some of the constraints identified in our constraints section will be addressed in the World Bank program rather than TIP. The World Bank program will support TIP conditionality. Details of the program are still being developed. The World Bank will however, address through this new project and several ongoing projects in its portfolio, the following:

- + improve the investment code
- + simplify requirements and procedures for foreign investment
- + help implement a value added tax

- + strengthen payments settlement procedures and international payments system
- + set up procedures for the provision of forward foreign exchange cover to exporters and importers
- + introduce bankruptcy and solvency procedures
- + establish a short and long term debt market
- + support feasibility studies for export infrastructure support projects such as export processing zones
- + develop export training programs
- + provide support for commercial insurance industry to support business and the export sector
- + provide an export credit rediscount facility
- + establish the Corporate Enterprise Restructuring Trust to provide restructuring assistance to private enterprises and SOE's.

2.5.2 Other Donors: There is some interest by other donors in the growth of non-traditional exports. The United Nations Development Program (UNDP) export activities are partly implemented through the International Trade Center (ITC). Activities supported include Export Production Villages (rural areas selected for special attention to grow new crops or fruit), a mushroom production project attempting to develop mushroom cultivation for export, support to the handicraft sector, and a number of training and trade promotion activities. Generally, ITC focuses on enterprise oriented technical assistance, while UNDP is concerned with production encouragement in pioneering projects, export production villages, as well as institutional strengthening. The ITC component has been completed and an evaluation resulted in an 18 month extension.

Programs by other donors are minor. The European Economic Community (EEC) has a program to provide technical assistance to the furniture industry to expand exports. The Commonwealth Secretariat supports training in costing, pricing and market development for garment and textile firms. And the Overseas Development Assistance (ODA) has provided support for training of GEPC and the private sector.

TIP has also been discussed with the resident IMF representative. The representative has reviewed a draft and has given his support.

3.0 PROGRAM DESCRIPTION

The Trade and Investment Program (TIP) is an \$80 million initiative designed to address the constraints that limit private sector investments and production for export. The program proposes a \$60.0 million non-project component addressing the principal enabling environment constraints to export production and investment. \$50.0 million is scheduled from Mission's Operational Year Budget (OYB) and an additional \$10.0 million is requested from the Africa Bureau's, Africa Economic Policy Reform Program (AEPRP) for FY 1993. TIP also has a \$20.0 million project component to strengthen the principal public sector institutions involved in investment and export promotion, for support to private sector associations and firms to improve their capacity to export and to obtain financial services. Funding is also provided for program management and support.

TIP proposes to expand NTE's from the 1991 level of \$62.0 million to \$250 million by 1997. To accomplish this objective TIP resources will be used to assist the public and private sectors in overcoming the policy, technical and institutional constraints limiting NTE growth. In particular, TIP conditionality will assist the GOG to focus upon critical policy constraints limiting the enabling environment for NTE expansion. GOG contributions amounting to the U.S. dollar equivalent of \$40.0 million through the General Budget, will help bear the cost of implementing the policy measures including making provision for the required financial needs of a duty rebate system and policy and budgetary support for public sector institutions in support of TIP, including budgetary support for environmental monitoring. The GOG contribution will include salaries, operational costs, capital expenditure and funding for tariffs and tax programs and for financial incentive programs including funding for an Export Credit Guarantee Fund.

Technical assistance and training amounting to \$11.2 million will be provided to the private sector non-traditional exporters directly and through private sector associations to identify promising export markets; to produce internationally competitive products; to promote and sell products in established and new markets; to obtain information on changing markets; and to expand export production. The TIP private sector component will assist in the financing of a Private Enterprise Foundation that will manage the Accra Private Sector Center, a facility for providing firm level advisory and training services in a variety of areas. Moreover, the TIP will fund the establishment of an Accra Office of the African Project Development Facility, ultimately to be located in the Accra Private Sector Center. The APDF will in turn be committed to the development of 8-10 bankable private sector projects a year, at least half in the export sector.

In addition to support to the private sector, TIP will provide

\$6.2 million for technical assistance and training to selected priority export-related Government agencies including the Trade and Investment Management Office (TIMO) and the Trade Policy Unit (TPU) of the Ministry of Trade and Tourism. TIP assistance to TIMO and TPU is to assist the GOG in its efforts to improve the export environment, to enhance dialogue with the private sector and to expand non-traditional exports. Assistance is also planned to the Ghana Export Promotion Council and the Ghana Investments Center. Assistance to these two units will be conditioned upon agreement on a strategic focus for each organization which will transform them from public sector entities to quasi-governmental organizations. Assistance is also planned for the Customs Excise and Preventive Service to assist it in establishing and implementing a comprehensive duty relief program.

Finally, the project will provide \$2.6 million in program management and support funding. This will provide for the services of a USPSC to assist in the management of TIP, as well as for vital support requirements in terms of impact and environmental monitoring and evaluation, financial assessments, reviews and audits and for contractor support through the Mission's Field Support Unit.

3.1 Program Rationale: Increased and diversified export earnings are essential for the long-term growth of earnings, employment and GDP. Ghana's export growth has not matched the growth in imports over the period 1983-1991, with the result that export earnings are now only equivalent to 56% of imports. Donor resources have been the primary means of covering the gap. One should not expect import growth to stop. World Bank studies of African economies show that imports increase at 1%-2% rate for each 1% growth in GDP. The experience in Ghana in the 1983-1990 period shows that Ghana's import growth is at the higher level. Likewise, Ghana, with its four principal exports accounting for over 87.5% of export earnings is extremely vulnerable to the decline of one or two commodities. This was brought home strongly in the 1988-1990 period when cocoa volume increased 23% while cocoa export earnings fell 21% (by \$100 million) due to a dramatic drop in prices. Ghana has the potential and increasingly the will to diversify its export earnings. During the decade of the 1980's, the GOG was preoccupied with implementing the Economic Recovery Program. There was not, at the time, resources or understanding of the need to diversify exports. The GOG did reactivate the Ghana Export Promotion Council in the mid-1980's with the goal of stimulating non-traditional export growth. Non-traditional exports increased from \$1.0 million in 1983 to \$62 million in 1991. The GOG has become increasingly aware of its vulnerability in relying so heavily on a few primary commodities for its export growth and supply of foreign exchange. Long-term projections for the growth of these sectors reveal limited or stagnant growth along with

limited opportunities for employment and income growth in these sectors.

Starting from the necessary preconditions for sustainable growth that have been established under the ERP, the Government of Ghana is in an excellent position to make the decade of the 1990's Ghana's "export decade", the decade when the Ghanaian economy was able to significantly diversify from its traditional export base into the non-traditional sector. The GOG desire to stimulate this sector bodes well for the success of TIP.

If Ghana is to make this the "export decade" it must address the underlying constraints identified earlier, namely, the poor enabling environment, the capacity of the private sector to increase exports and the poor state of financial services to exporters. To address all of the above constraints adequately will require an estimated \$130 million dollars in economic assistance, (TIP, plus the World Bank project) not counting the contribution of the public sector and private sector investors. The development of an effective enabling environment for export growth will require changes in tax procedures, repayment of duties collected and major restructuring of the principal government ministries and organizations dealing with the export sector. This reorganization will mean not only a restructuring and rethinking of roles, but the provision of adequate and timely financing of the restructured organizations. Likewise, in the private sector there will be a need to not only provide direct marketing and production assistance to private sector firms, but to enhance their ability to access credit while strengthening the ability of the private sector organizations/associations to assume a leadership role in the formulation and implementation of the export program. While the above tasks are essential for a successful expansion of NTE's, they will have limited impact if not accompanied by a major improvement in the availability of financial sector services for exporters.

3.2. Program Strategy: Given the scope and magnitude of the task, USAID/Ghana has worked with the Government of Ghana, World Bank and the private sector to design and implement a comprehensive and coordinated program of action to address the identified constraints. In this program USAID/Ghana will focus its attention and resources on addressing the problems of the enabling environment for export growth and the capacity of private sector firms to export while the World Bank in a parallel project will focus on the issues of financial sector services.

Under TIP, USAID/Ghana will address the problems of enabling environment and private sector capacity by: (a) program assistance which includes a cash grant to support needed policy reform; (b) project assistance to strengthen the institutional capacity of public sector entities critical to the export process; and (c) project assistance to improve the capability of

private sector firms and organizations to increase NTE's.

3.3 Program Approach: An analysis of the constraints that TIP is to address revealed early on that both non-project and project assistance would be required. The fundamental enabling environment constraints affecting exporters will be addressed by using dollars to address these constraints through leveraging policy, institutional and budgetary reform. TIP thus employs a sector cash grant disbursement mechanism since the focus of the program component of TIP is on sectoral reform and policy dialogue rather than on commodities or specific uses of dollars.

TIP addresses the enabling environment constraints to increased exports by (1) improving the policy framework for exporters; (2) reducing regulatory and administrative transactions costs for exporters; (3) improving the public sector export support services.

Dollar disbursements will be made to the GOG's account with Citibank in the U.S. At this point AID tracking of the funds ceases. Since the GOG has demonstrated a suitable capacity for programming and has developed a transparent accounting system, USAID is satisfied that the dollars will be used for two legitimate purposes; either augmenting the foreign exchange reserves of the GOG, or be utilized through the Bank of Ghana's interbank market.

3.3.1 The Need for A Private Sector Led Approach to Trade and Investment: Evidence from around the World suggests that promotional export and investment programs are important for the expansion of NTE's in developing countries. These programs result in a more rapid firm level supply response as they provide services critical to export growth; contacts with buyers and foreign partners, foreign market information and technical assistance for production. Unfortunately, these services are not readily available in Ghana. The only source at present are two public sector organizations: the GEPC and GIC. The existing private sector institutions do not now and are not now capable of offering the needed service themselves. In the case of the two public sector entities, the GEPC is the more service-oriented of the two, although severe budget limitations and a regulatory, as well as promotional role limits its export promotion effectiveness. The GIC has in the past focused more on regulation and control than promotion of investment. The Ghana experience is not unique. Recent AID and World Bank reports on export promotion confirm that generally public sector export promotion organizations have been failures. The reasons for their failure are: they have little or no support in the business community; they are inadequately funded; have poorly paid unqualified staff; and are part of the government. Similarly, research on investment promotion institutions concludes that government organizations are often ineffective.

In both export and investment promotion quasi-governmental or private organizations are more effective. Given this evidence, it is clear that if export and investment promotion is to succeed in Ghana the functions must be shifted from governmental to quasi-government or private organizations.

Under TIP both the GEPC and GIC will be converted from governmental to quasi-governmental organizations with an active private sector participation on the board of directors. As part of their reorganization, strategic plans will be prepared to eliminate the regulatory nature of their jobs and to formulate new promotional roles, with adequate funding, salaries and staffing to fulfill their new roles. While the final details of their revised responsibilities await the development of the strategic plans the broad thrust of their roles will be to focus on export and investment promotion.

While the role and organizational status of GEPC and GIC are being revised, the TIP strategy also provides for an enhanced role for the private sector. As stated earlier, existing private sector organizations provide limited service to members and have had very little impact on policy issues facing the sector. The role of these organizations is starting to change. USAID/Ghana in FY 91 signed a \$5.4 million private sector training activity to assist the Association of Ghana Industries (AGI) and other association to provide funding to meet the needs of their members. Likewise, the formulation of the Private Sector Advisory Group (PSAG) by the GOG with the Chairman and Vice-Chairman from the private sector, has given the private sector a greater role in policy discussions. The Mission this year provided funding and support to the various exporter associations to organize into a Federation of Association of Ghanaian Exporter (FAGE) in order to speak with a greater voice on export issues. As a result the private sector is beginning to see the benefits of closer organization and recognizes that they now have an opportunity to impact government policy. They are now discussing the ways to strengthen their cooperation and expand membership.

The Mission believes that TIP resources can be effectively utilized to both strengthen the role of the private sector and promote increased NTE's at the same time. As part of their efforts to improve services and coordination, the three principal private sector organizations (the AGI, the Chamber of Commerce and the Employees Association) have been discussing the establishment of a Private Sector Center where they would share common offices and pool resources to provide increased services to members. The Mission believes that these developments provide an opportunity to utilize TIP resources to both strengthen the role of the private sector and simultaneously promote NTE growth. To do this, the Mission proposes to utilize TIP resources to support the creation of a Private Sector Center that would be controlled by a Private Enterprise Foundation whose

Board would consist of members from the AGI, the Chamber of Commerce, the Employees Association and FAGE. The Center would provide: office space for the four entities whose members serve on the board; conference and training facilities; and an information library for private sector entrepreneurs and exporters. In addition, the Center would provide office space for TIP private sector technical assistance staff, as well as the offices for the Ghana branch of the African Project Development Facility (APDF). The staff will provide industry specific export development services that will work with individual exporting firms. These services will include buyer contact and follow-up support services. Moreover they will provide technical assistance and training to develop and strengthen PEF and the member organizations, as well as to provide technical assistance to export related firms. The APDF office will assist private sector firms in developing bankable projects for consideration by the bankers and investors. In return for USAID assistance in creating the Accra office the APDF will develop with private firms 8-10 projects a year of which at least 50 percent will be in the export sector. Hence in five years the APDF would create 40-50 projects with investments totalling from \$20.0-\$250.0 million². Not only will these activities provide important market, technical assistance and financial services to exporters and non-exporters alike but will strengthen the private sector institutions in Ghana and enhance private sector entrepreneurs perceptions of the organizations and the advantages to organizing. At the same time, this activity enhances TIP's ability to interact with the entire private sector and to enhance their awareness of export possibilities. Experience from around the world shows time and time again that the successful products being exported 5-10 years after the initiation of successful export promotion organizations are products no one was thinking about at the beginning of the process. Given the present NTE focus on raw material or commodity exports it is important to attract the interest of the broader private sector in export possibilities. The TIP strategy accomplishes this.

TIP focuses on private sector led export growth. However, the enabling environment has an important impact on the success of export efforts. The policy, regulatory and public sector support must be coordinated with the private sector efforts or the program will fail. The use of NPA to support policy and institutional reforms in the public sector is critical to the success of TIP. The policy and institutional reforms are discussed in Chapter 4. The reforms are those identified in the enabling environment section of the discussion in Chapter 2.

² Project sizes are limited to a minimum of \$500.0 thousand and a maximum of \$5.0 million.

3.3.2 The Need for Foreign Exchange: The World Bank estimates that Ghana's current account deficit will reach \$400 million by the end of 1993. Mission estimates that the balance of payments deficit could be 50% or \$200 million greater if imports continue to grow at trend rates rather than slowing down as assumed by the World Bank. This will require continued support by the donor community for balance of payments support. The amount recommended for support under TIP will supply a small portion of the funds required. The actual amount programmed is limited by Mission OYB considerations.

Dollar funds will be utilized either to support the GOG's foreign exchange reserves through its accounts at the Bank of Ghana or be disbursed through the existing interbank system. Since the establishment of a foreign exchange auction in 1986, both the World Bank and the International Monetary Fund have strongly urged bilateral donors to follow their lead in using the auction and to move increasingly toward quick-disbursing forms of program assistance that can be channeled through the auction. Most donors do so. One of the principal objectives of AID assistance to Ghana is to assist the GOG in the implementation of its successful Economic Recovery Program. Supporting the foreign exchange auction has formed a key component of this strategy. Since 1989, AID has disbursed \$20.0 million into the auction under the Agricultural Productivity Promotion Program. AID has also disbursed \$11.0 million under the Primary Education Program and plans to disburse an additional \$21.0 million over the next three fiscal years. AID also plans to disburse \$13.0 million under the Family Planning and Health Program. Dollars will be spent to fund the importation of goods for commercial and productive purposes through the private sector. With the approval of the World Bank and IMF, the GOG started an interbank system to replace the old foreign exchange auction. Under the new interbank system the Bank of Ghana sells foreign exchange directly to commercial banks for sale to their customers. AID will request an exemption of dollar tracking as part of TIP.

Mission recommends that the current disbursing cash grant mechanism be continued under TIP because of the ability of the GOG to disburse these funds in a legitimate and transparent manner. The great strides that the GOG has made in establishing a market oriented foreign exchange system should be rewarded by utilizing a system that has been fostered by the World Bank, IMF and international donor community. The establishment of an alternative mechanism for balance of payment support, such as a commodity import program, could be utilized. However, the system would be cumbersome, slow, and expensive to administer. Both Canada and the United Kingdom have commodity import programs in addition to quick disbursing assistance. It has taken both programs several years to get off the ground and start moving in an acceptable manner. Both the U.K. and Canada were required to actively promote their respective commodity programs before they

become utilized by the private sector. In addition, the costs of administering the programs in terms of public relations, administration and financial control are not insignificant. The experience of these other donors was taken into serious consideration when Mission made the decision to continue with the cash grant mechanism under TIP.

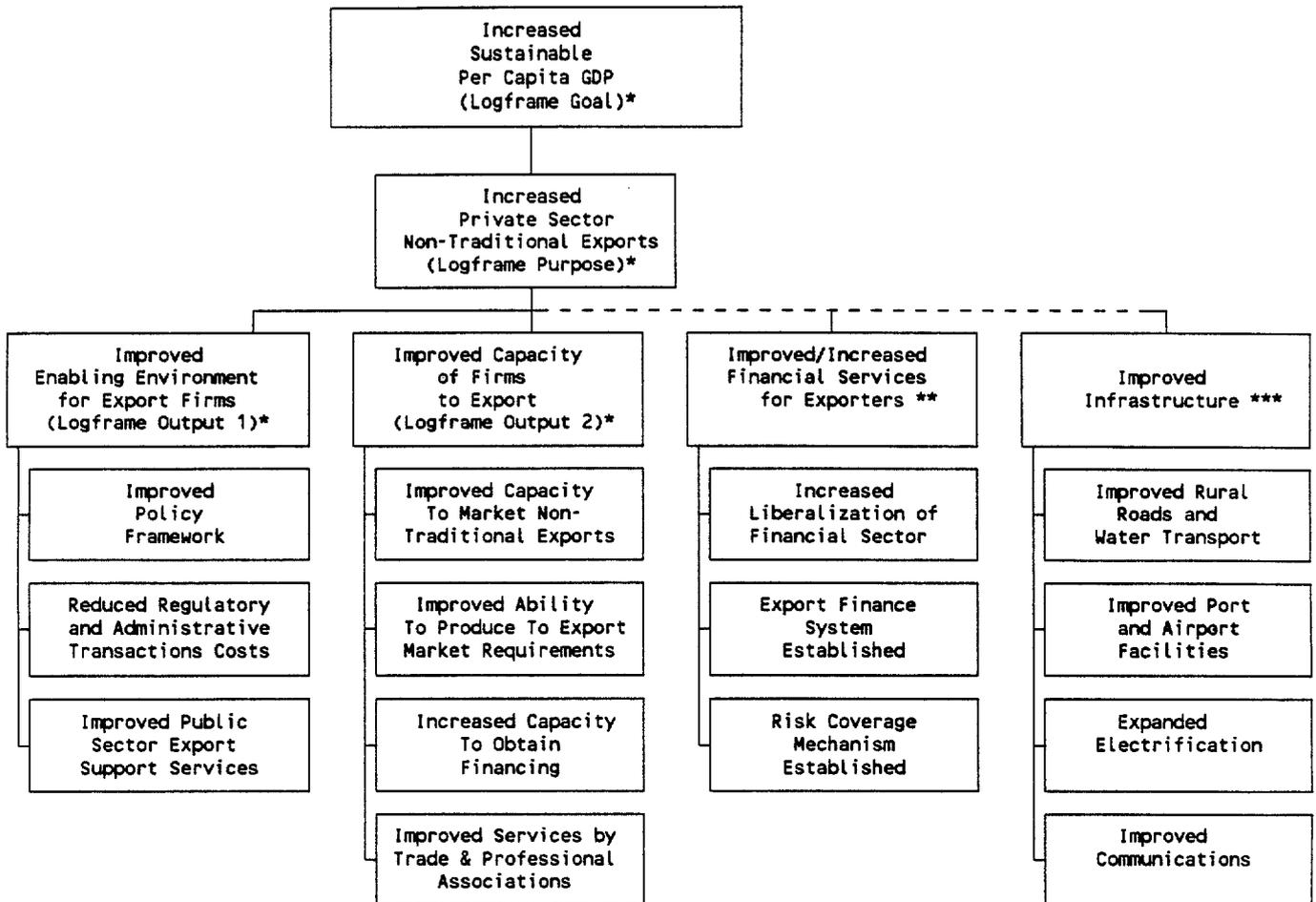
Furthermore, Ghana in the past several years has significantly increased its imports from the United States. There is evidence to suggest that funds from various USAID cash grants has facilitated this increase. For example, under the first tranche of the PREP cash grant in FY 1991, 54% of the funds auctioned went for purchases of dollar denominated goods. Under the second tranche in FY 1992, this ratio increased to 75%. There is ample reason to believe the trade between Ghana and the United States will increase in the coming years. The utilization of the current cash grant mechanism appears as a very useful way of facilitating this trade by using mechanism already in place through normal GOG channels.

3.4 Program Goal: The goal of TIP is to increase sustainable per capita GDP. A key focus is to support sustainable use of the resource base. Sustainability is a key concern. Growth cannot be sustained without sound management of the natural resource base, just as it cannot be sustained without sound economic policies, or if it is not broadly based across the population for the benefit of men and women from all segments of Ghanaian society. These three aspects of sustainability - environmental husbandry, economic efficiency and broad based participation - are the foundation for the export-led strategy of TIP.

3.5 End of Program Status and Output Indicators: The purpose of TIP is to increase private sector non-traditional exports. This will be manifested by a) an increase in the nominal value of NTE's by new and existing firms to \$250 million by the end of TIP; b) an increase in the number of firms participating directly or indirectly in NTE's by 1,500 from the 1991 total of 2,822; c) an increase in real per capita income of men and women engaged directly or indirectly in NTE's of 5% per year by the end of TIP, compared to a 2% increase in the economy as a whole; and d) at least 60,000 new full-time NTE employment opportunities created for men and women by the end of the program. TIP has two main supporting objectives - improving the enabling environment for private sector export firms and improving the capacity of private firms to export. TIP also supports a World Bank led thrust to improve the financial sector to support investment for exporting and other private sector enterprises. The program and project activities of TIP will be implemented with an emphasis on sound environmental principles and a proactive focus to insure participation by women and the poor. The program logic has been developed and described in Figure 3.1 the program objective tree and program logical framework (Annex F).

Figure 3.1

**TRADE AND INVESTMENT PROGRAM
OBJECTIVE TREE**



* Logframe linkages.

** World Bank led activity.

*** Title III Program and other donors.

By the end of TIP, Ghana's NTE sector will have become the most rapidly growing sector of the economy and account for approximately 15 percent of export earnings. Such a dynamic NTE sector would easily generate over 60,000 new jobs, and the families which depend on the sector would enjoy above average incomes. This will result from increased private sector non-traditional exports increasing to \$250 million by 1997 and increased participation of the number of firms exporting.

There will be an improved enabling environment for exporters as measured by:

- Upgrading of Ghana in Country Risk Profiles by the Economist Intelligence Unit from D to B.
- Twenty five of "new to Ghana" foreign firms completing business transactions resulting from international business promotion campaigns.
- Thirty new investments totaling over \$50 million resulting from TIP investment promotion strategy.
- Sales totaling over \$5.0 million made to at least five new markets identified through TIP international market information system.

The improved capacity of firms to export will be measured by:

- An increase of 35% in the nominal value of NTE's by firms receiving technical assistance.
- Four hundred Ghanaian businesses successfully transacting business involving sales, financing or sourcing through strengthened trade or professional associations.

3.6 Program Beneficiaries: Employment and incomes will increase significantly in two manners. First, the improvements in the enabling environment will cause new firms to enter into NTE activities. TIP estimates that the number of registered exporters will increase by 1,500 to approximately 4,300 by the end of the program. Second, the private sector support services provided by the project will help the firms to expand into new markets and to increase in efficiency. The first set of effects will yield an expansion of employment, and the second will cause incomes to increase through increased profits and wages. The exact nature of these effects will depend on which households and persons enter as new entrepreneurs and which enter employment in the expanded NTE sector. The following discussion addresses these issues from the perspective of available information and from the experiences of other countries that have enjoyed successful export-led growth recently.

3.6.1 Entrants into the NTE Sector: An important strategic element of the TIP program assistance seeks to improve the enabling environment for private export firms by improving the policy and regulatory framework to facilitate the entry of new firms into the NTE sector. New firms will be formed by the existing formal entrepreneurial class, by the transformation of small and medium enterprises from the informal sector into formal sector firms, by former employees of these firms becoming entrepreneurs and by the entry of international investors and entrepreneurs into Ghana's NTE sector. By removing the policy and regulatory barriers to entry, TIP will broaden the base of participation beyond those currently engaged in protected industrial and state owned enterprises to include persons from the informal sector, from craft occupations and from the agricultural sector. An important source of new entrepreneurs could also be the displaced workers from the public sector and the SOE's (about six thousand persons per year, in recent years). It is explicitly recognized that a major segment of the trading and marketing enterprises in the informal sector are operated by women. Some of these women-operated enterprises will participate directly in export related activities, others will participate by providing services within a more integrated marketing system.

Simultaneously to removal of barriers to entry through the policy and regulatory framework, TIP will also help broaden the base of participation by increasing the available information and knowledge regarding market potentials and requirements and by improving the access to investment capital and technologies. The delivery of market information, technical assistance and training through the private sector component of TIP will emphasize expanding opportunities for new firms and new products. Outreach efforts will be required under all TIP supported activities to promote and facilitate access by women and marginal groups to the programs services and resources.

Most of the private sector initiatives will work with producers and exporters associations in specific product areas. At the present time, these associations are small, poorly organized and lack resources. TIP will strengthen these organizations and an important aspect of this effort will be to increase their membership rosters. The technical and financial assistance provided to the private sector organizations and associations will promote broad based participation. This can be accomplished specifically through outreach programs and membership drives, through low dues and membership fees, through cost sharing of training and observational tour expenses (perhaps on sliding scales to enable participation by lower income persons), and most importantly, through the provision of valuable services. TIP funded activities with the private sector will be geared to promote inclusivity of firm size, ethnicity, gender, and regions.

New firms will not only be assisted through information,

technical assistance, training and buyer/seller matching activities; they will also have improved access to financial capital as a result of the continued liberalization and strengthening of the financial sector which will result from the parallel project by the World Bank. This will further broaden the scope for participation.

Before the ERP, the distortions in product markets, capital markets and labor markets mitigated against participation and equity. In all of these distorted markets, limited benefits were generated at the expense of growth. These limited benefits were then often rationed through non-market mechanisms -- only the privileged and well connected could benefit from the artificially created rents. As the ERP has progressed toward market determined allocations of resources, the scope for rent seeking and corruption has been eroded. TIP will help consolidate the market oriented thrusts of the ERP and create opportunities where talent and effort are rewarded by successful entrepreneurship and not by administrative or political whims. Recent research on the impact of the ERP on women traders indicates that women traders have benefited from improved market access from the recent investments in rural roads and the removal of harassment from officials. The principal problems faced by women entrepreneurs are the low levels of economic activity (low purchasing power), under-capitalization, and the entry of displaced workers into informal trading activities. The women traders of the research cited also credited the ERP with benefits from investments in farm to market roads, because the traders are heavy users of road transport. Faster and more frequent trips have allowed them to turn their scarce capital over more rapidly.

TIP thrusts are directed at expanding opportunities through creating new markets for products that can be efficiently produced and by providing the policy and financial environment to allow Ghanaians to respond to these new opportunities. TIP strategies are not a zero-sum game; rather they are strategies to enhance the rewards to Ghana's abundant labor and natural resources in a sustainable manner.

In addition to the entrance of new exporting firms, TIP activities will promote linkages among firms that will also broaden the scope for broad-based participation. For example, in the fruit and horticultural area it is common for the larger exporting firms to expand their output through contract farming schemes and "outgrower" programs. In these schemes and programs, small scale producers are provided with technical assistance by the processors and packers who assemble products for export. Since the processors usually have significant fixed investments in processing and packing facilities and since quality and reliability of supply are important determinants of their success in international markets, these larger firms have strong incentives to maintain long term relationships with their out-

growers or contract farmers. In highly competitive markets this is accomplished through fair treatment; that is, by settling accounts at market determined prices.

The policy thrusts of TIP will change the current bias in the incentive systems that encourages large vertically integrated firms to systems that encourage specialization and the efficient division of effort among firms. This will create opportunities for smaller firms to supply specialized marketing and other services. For example, streamlining the duty draw-back system will make it available to indirect exporters and to smaller firms; currently only large firms can use it. Continued refinement of the exchange regime will also benefit informal cross-border exports to Ghana's neighbors, particularly into the CFA countries. Again, many of the participants in these activities are lower-income men and women.

3.6.2 Employment and Wage Effects: The NTE expansion in Ghana will first develop by using low cost labor and the existing resource base. At first employment will expand at the prevailing wages; subsequently, as investment increases, labor productivity (and hence wages) will increase. While information on these aspects is not readily available, some insight can be developed from labor use in existing firms in the NTE sector, for example, pineapples and textiles.

In the case of pineapples for export, information presented in Annex I is illustrative of the likely employment effects from expanding output in this activity. Under current labor market conditions in Ghana, each ton of pineapple exported embodies approximately \$25 dollars of farm labor and each acre of pineapples generates one person year of permanent employment, at wages higher than the legal minimum wage. In the farms that use modern production techniques, each job is created with \$2000 to \$5000 of investment. Currently, Ghana exports ten thousand metric tons of fresh pineapples per year and its neighbor Cote d'Ivoire exports 150,000. If Ghana were to reach this level of output it would generate approximately 7,000 new permanent jobs in pineapple production. Additional jobs would be created in transporting, packing and handling of the increased production.

As the production of fresh pineapples expands it will also become profitable to produce juice concentrate for export; this would further increase the labor absorption capacity of this sub-sector. Furthermore, as Ghana develops the capacity to produce and export fresh pineapples and pineapple juice concentrate, it will also induce and facilitate the production of other tropical fruits and juices (as well as other horticultural products) as new ventures evolve to exploit the enhanced transportation, handling and technological capabilities. These sectors will have similar job creation capabilities. The fruit and horticultural sector will generate 100 to 200 permanent jobs for each million

dollars of increase in exports from these sectors. while these will be low skilled jobs for fruit pickers, sorters, packers, etc., certain job specific skills and knowledge will be necessary, thus, these jobs will tend to pay wages above the prevailing wage rate to insure retention of the work force.

In the case of textiles, approximately 10,000 persons are employed in the formal parts of the sector. The prevailing wage is approximately \$2.00 per day (comparable to low skilled wages in Indonesia). Much of the production is for the domestic market. The potential in this sector lies in "stitch and sew" operations for export. In Mexico under the "Maquiladora" scheme these operations were able to more than double employment from 15,000 to 35,000 in five years in the mid eighties. With the growth of the maquiladoras in Mexico, labor costs there have begun to rise (as in other Latin American and Asian countries). The "stitch and sew" operations produce approximately \$2.00 of value added per person-hour of labor. Thus, there is a constant search for sources of low wage workers. Ghana's labor costs would seem to offer an attractive advantage to establish a significant apparel processing sector on the basis of the present installed capacity in the textile sector. A doubling of employment to 20,000 seems feasible in the next five years in the textile sector if Ghana were to exploit its non-quota status under the multifiber agreement.

A general lesson from the Asian and Latin American countries that have experienced export-led growth is that the expansion eventually leads to the creation of higher skilled and higher paid jobs than the first round low wage and low skilled activities. This effect results from investment and from on the job training -- however, it is very important that such development be supported by the educational system of the country to produce trainable workers. In this process, women are often the first entrants because they often are the under-employed. These experiences also show that these exporting strategies have helped to incorporate poor men and women into the economic mainstream, e.g., Mexico.

The preceding discussion has not considered that with the expansion of employment and incomes in the NTE sector there will also arise important economy wide effects that will be beneficial for poor people. The increased consumption generated by the increased personal incomes in the NTE section will also generate jobs in the other sectors of the economy. With enhancements in the tax system through adoption of a VAT, there would be more revenues to provide for public health and education services. The increased foreign exchange earnings will also enable Ghana to become a more attractive home for foreign direct investment in other sectors such as tourism. Some of this investment would come from repatriated Ghanaian financial and human capital. With appropriate safeguards for environmental concerns, the people-

level impacts of the TIP should be positive and broad based. These economy wide effects will provide direct positive impacts on the livelihood of Ghana's women and men traders as their scale of business increases.

4.0 IMPROVING THE ENABLING ENVIRONMENT

Ghana has achieved significant progress under the ERP in terms of broad macroeconomic and economy wide measures to create a policy framework for sustained economic growth. Important policy and regulatory reforms are still needed to unleash the potential for Ghana to rapidly increase production and exports from its NTE sector. The trade regime in Ghana is very open and Ghana significantly leads its neighbors in this regard. The exchange rate regime is also flexible and transparent. The financial sector is progressively being transformed into a market driven system. All of these major aspects of the policy environment need further enhancements. USAID and the World Bank will support these enhancements through TIP and the Bank's new project.

Through discussions with the GOG, the private sector and the World Bank, AID has agreed to focus on further improvements in trade policy and the regulatory framework for exporting firms. The World Bank will support further reform of the financial sector. The concerns for further improvement to the exchange rate system will be addressed by the two coordinated efforts of AID and the World Bank. That is, most of the concerns that remain about the exchange rate system will be addressed through the trade policy reform initiatives supported by TIP and/or by the financial sector reforms supported by the World Bank.

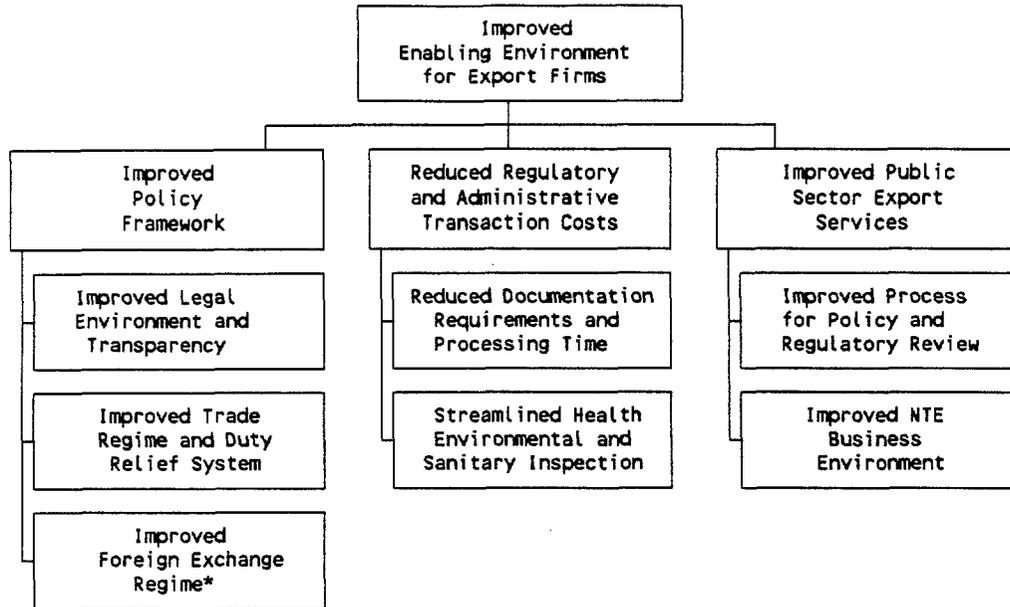
In working toward the supporting objective to improve the enabling environment for export firms, TIP will focus on three aspects of the policy framework;

- Improving the policy framework.
- Reducing regulatory and administrative transactions costs.
- Improving public sector export support services.

The interrelationship of this component is summarized in the objective tree Figure 4.1.

4.1 Improving The Policy Framework: A Policy and Program Matrix (Annex E) has been developed for TIP which relates performance indicators to indicators for program and impact achievement.

Figure 4.1



* World Bank led activity.

There are two key elements of the policy framework which must be addressed -- those that relate to an improved legal environment and further refinements to the trade regime. They are both important and interlinked. Because significant progress has been achieved toward a neutral, transparent, and open trade regime, the priority attention will be given to those aspects of policy that inhibit or retard the entry of domestic and international firms into the NTE sector.

4.1.1 Improved Legal Environment and Transparency: The growth of business activities is determined by the ability to enter into inter-firm contracts and linkages. Central to this ability is the requirement that contracts can be enforced with reasonable certainty at low costs. At present this situation is not fully met in Ghana as described in Section 2.1.1. There are a number of problems that limit knowledge of laws and affect perception of transparency. A number of actions need to be taken to improve the situation. Efforts need to be made to ensure not only that the rules and procedures are codified but they need to be gazetted and printed in sufficient numbers so that they can be easily procured by all interested parties. Conditionality under Tranche 3 (T3) of the cash grant will require the GOG to initiate a review of commercial codes and business regulations, lending instruments, legal and commercial documentation in the context of international conventions and disclosure of financial data. T4 conditionality will require the GOG to begin implementing the findings of the review. This conditionality will ultimately result in the consolidation, codification and publication of commercial codes and business regulations according to international standards and will result in a more streamlined and consistent body of rules regulations and laws which will facilitate business transactions. TIP will provide technical assistance and training to the GOG to assist in the review and implementation of the reviews findings.

The clarification of other economic regulations and procedures are also required. In particular the following actions will be undertaken by the GOG to further simplify the procedures as conditionality in TIP.

- a. MOTT will by December 1993 publish i) a handbook of gazetted import and export procedures (including duty/sales tax schedules, export, incentives etc); ii) exchange control regulations; and iii) foreign collaboration procedures.
- b. The GOG will by December 1993 adopt the following PSAG recommendation concerning investment; i) the negative list that reserves areas for domestic investment be reduced from the present twenty to four; petty trading; taxis and car rental; betting pools and beauty salons; ii) that the minimum foreign capital requirement in the

case of a joint venture with a Ghanaian partner be reduced to \$10,000; iii) the minimum capital requirements for investment in export trading be waived; and iv) the registration of firms be simplified by the adoption of a new and single form the GH/92/01 and the registration is through the Registrar Generals Department. The new consolidated form will replace the five forms existing at present and they shall be abolished. The manufacturing license will be abolished and the Manufacturing Industries Act of 1971 (Act 356) repealed so that no registration or approval from GIC will be required.

- c. The Investment Code shall be revised by December, 1993 to incorporate the changes in b above and to i) eliminate most fiscal incentives; ii) remove the need for GIC approval of investment by having the remaining fiscal incentive incorporated into the tax and tariff codes and granted automatically to all investors on the basis of documentary evidence. Regarding technical transfer the GOG will revise the guidelines according to the recommendation of the PSAG. The revised guidelines will make it clear that the choice of technology is left to the entrepreneurs and that Government agencies are not to be involved in assessing the technical know-how to be imported. Lastly, the PSAG recommendation providing for minimum expatriate quotas according to level of investment without further approval will be included in the revised code and that the revised code is formally issued as official policy.

In addition to the above the GOG will undertake the following analyzes in 1993-1994;

- a. The GOG, through district assemblies and in collaboration with traditional authorities will commission a study to analyze and make recommendations on the need to standardize documentation regarding ownership, mortgage and long term leasing of land;
- b. GEPC and FAGE will work with industry association/buyer association/leading buyers in target markets to develop commercial documentation that reflects the convention and practice of those markets in order to enhance the credibility of Ghanaian suppliers;
- c. The GOG and the private sector, in order to instill faith among foreign buyers in enforceability of commercial contracts, will examine and make recommendation on the need for the adoption of an international convention such as that suggested by the International Chamber of Commerce.

The effective implementation of the above actions will greatly clarify the rules and procedures facing private businesses trying to do business in Ghana. Moreover, it will reduce their risks and costs of doing business as greater transparency is introduced into the legal framework.

The effective implementation of the measures required under TIP will result in a significant decrease in the time required for establishing a trade enterprise and for registration of a foreign company. This will result in an increase in the participation rate of entrepreneurs into the NTE sector.

4.1.2 Improved Trade and Duty Relief Regime: The ERP has created an open and relatively neutral trade regime for Ghana. The exchange rate mechanism allows the real exchange rate to track a path that is generally consistent with equilibrium in the internal and external accounts. The tariff structure has been lowered and made relatively more uniform; the maximum tariff rate is 25%. The trade regime excludes quantitative restrictions in general and is based primarily on the uniform and lower structure of tariffs. Furthermore, many inputs to agriculture are exempt from duties. Sales taxes have been reduced.

New and/or small firms face a number of impediments to entry or expansion into the NTE sector. These impediments include onerous exchange control mechanisms that persist in spite of major reforms in the foreign exchange system, the lack of apparent transparency in terms of inter-firm contracts and linkages and serious restrictions dealing with registration, investment and income tax incentives.

The remaining threats to a neutral and flexible trade and exchange rate regime arise from rigidities in the capital/financial markets and in implicit non-tariff barriers arising from the administration of the trade regime. For example, in the case of the capital markets, the yields on Bank of Ghana and treasury securities are being maintained artificially high by the requirement of the Bank of Ghana that the banking system purchase BOG and treasury securities. The so-called commercial banking system is almost entirely controlled by the state. This crowds out private investment and tends to cause appreciation of the real exchange rate. These constraints are being systematically addressed by the GOG and the World Bank. In the case of the trade regime, measures that seek to neutralize the structure of protection so as to facilitate exports, e.g., duty drawbacks, are administered in a cumbersome manner and only larger firms are able to use the incentives. The administration of trade at the ports and airports is made unnecessarily cumbersome by procedures that seek to control the foreign exchange market or by procedures that are no longer required given the current tariff structure.

To further improve the trade regime TIP will promote private and public policy dialogue toward establishing a uniform tariff structure at a low ad valorem level. This effort would eventually be accompanied by elimination of all sales taxes and surcharges on imports and replacing the system with an economy wide value added tax (VAT). The World Bank will lead the tax reform effort. Taken together, the trade regime, tax, and financial sector reforms will provide direct benefits to the economy, and will be reflected in a real exchange rate system that closely tracks the equilibrium real exchange rate in the presence of world market conditions for capital and goods. The foundations for such a flexible exchange rate regime were laid by the ERP; TIP initiatives will foster the remaining necessary improvements regarding trade. Further improvements regarding taxation and capital market flexibility will be addressed by the World Bank in their proposed credit.

One area where TIP will intervene is in the tax treatment of export marketing firms. As discussed in Section 2.2.2.1, the law that limits income tax benefits to only producers acts as a constraint to the expansion of NTE's. Since marketing firms are not eligible to receive this tax break, this discourages the development of export marketing firms that specialize in marketing functions. Conditionality under T2 will require the GOG to extend tax breaks to marketing firms, as well as producers.

Free trade status for direct and indirect exporters will be accomplished by a combination of the following "duty-relief" schemes: duty drawback, duty exemption, duty suspension, bonded warehouses, and export processing zones. A thorough study of the functions of each of these duty relief schemes, the constraints as they relate to Ghana and a proposed program to resolve the constraints is contained in Annex BB. The study recommends that the drawback system be streamlined and the benefits extended to indirect exporters, i.e., suppliers to direct exporters of raw materials with imported content; that duty exemption/suspension be extended to inputs utilized by any export company involved in manufacturing, inside or outside a bonded manufacture warehouse; and that further analysis is undertaken to determine if an export processing zone would attract additional national or foreign investment into NTEs.

T2 conditionality will require that the GOG show evidence that it has issued regulations for a streamlined duty and tax relief system. T2 conditionality will require the following:

1. The benefit stream of the duty drawback system will be extended to both direct and indirect exporters.
2. The application process for duty drawback will be simplified and the refund made expeditiously. This will require that the

current five application forms be streamlined, and that a new line item in the Customs Excise and Preventive Service budget be used to refund duty drawback only. The necessary legislation is already in place and the CEPS currently operates most elements of the duty relief system. The problems have arisen, to a large extent, because the CEPS budget line for refunds is insufficient. The GOG will provide funding from its general budget to provide for the refund. Assuming a refund rate of 3% for NTE's and assuming a 26% increase in NTEs from the 1991 level. This implies the following NTE level and refund amount.

	(MILLION \$)	
<u>YEAR</u>	<u>NTE's</u>	<u>REFUNDS</u>
1994	120	3.6
1995	150	4.5
1995	193	5.8
1997	250	7.5
	TOTAL:	21.4

Thus, the GOG could contribute as much as \$21.4 million in refunds over the life of the program, if NTE export targets are met. If actual NTE's are higher or lower the GOG will adjust its contribution accordingly.

3. Duty exemption/suspension will be extended to inputs utilized by any export company involved in manufacturing, inside or outside a bonded manufacture warehouse.

4. The GOG will commence a study of the potential role of export processing zones.

Conditionality under T3-T5 will require evidence that the conditions initiated under T2 are being implemented. Of principal concern will be that the GOG makes the funding for the refund scheme available through the new line item in the CEPS budget. T3 conditionality will also require that CEPS create a drawback office and train staff in new procedures. The office will implement a coefficient data base with rates of drawback per unit of output and per unit of input. The GOG will also undertake the following studies and will implement the results of each study as found feasible.

- 1) to advise on the feasibility of introducing a new drawback scheme based on fixed schedules in order to economize on administrative costs of the current case-by-case system.
- 2) to advise on expanding the duty-drawback system to apply to sales, excise and special taxes levied on imported materials. The duty content of fuel and lubricants used by NTE exporters would also be refunded.

- 3) to identify those raw materials that if imported into Ghana would be used primarily for the production of non-traditional exporters or that carry refund and tariffs. These would then be eligible for duty exemption.
- 4) to expand the extent of the temporary import provision of the customs code to extend the time limit beyond 90 days and in providing for the duty suspension or deferment for imported raw materials that are manufactured for export.
- 5) to make the concept of a bonded manufacture warehouse available to medium and large export firms.

To assist the GOG in establishing these duty relief programs, the project component of TIP will provide technical assistance and training to CEPS and related organizations in developing the appropriate programs and undertaking the appropriate analytical studies.

The net impact of the adoption of these duty relief measures will be significant increase in the number of firms using the measures as measured both by firm participation and the nominal value of NTE's. The ultimate measure of success will be the universal participation of new NTE firms into the trade program.

4.2 Reduced Regulatory and Administrative Transactions Costs: Administrative and regulatory bottlenecks are, perhaps, a more severe impediment to export growth than policy rigidities. For example, the documentation requirements and clearance procedures for export shipments are cumbersome, costly and time consuming. They limit the scale of operations, absorb scarce entrepreneurial talent and add risk and uncertainty to export transactions. Some of these requirements and procedures arise from the desire to collect taxes and restrict foreign exchange flight. As the policy framework has become more open and neutral, many of these procedures needed to be eliminated or streamlined.

The GOG requires that first time exporters pre-pay foreign exchange surrender requirements, as well as the GEPC minimum pricing requirements described in Section 2.2.2.1. It is important that these outdated regulations be struck from the books. Therefore T2 conditionality will require that the GOG eliminate:

- (1) The requirement that first time exporters pre-pay their foreign exchange surrender requirements prior to obtaining Bank of Ghana clearance on their A-2 form;
- (2) Official guideline minimum prices set by the GEPC.

There is a requirement that firms furnish their tax clearance certificate from the IRS to demonstrate that they are not

delinquent in paying corporate taxes. New firms are required to pay an estimated tax quarterly, in advance, in order to obtain the tax clearance certificate. This too constitutes a significant cost for small firms with little capital. Exporting firms must furnish a certificate from GEPC to prove they are exporters, and that they have paid their fees to GEPC. Not only does this add a cumbersome step to exporting, but it reveals the impeding nature of the existing institutional framework. Additionally, T2 conditionality will require that the GOG eliminate the GEPC required export documentation of the IRS certificate.

T2 conditionality will also require the GOG to establish a strategic plan to streamline export processing and documentation. An excellent starting point for this will be a recent study funded by AID through a local consultant which identified the principle bureaucratic constraints to NTE expansion. The study is contained as Annex Z. The constraints identified are of a "nuts and bolts" variety and are too cumbersome to mention in detail in this paper. However, specific processing constraints include:

- Duplication of data on forms to be completed.
- Excessive and expensive customs entry and banks A2 forms to be processed.
- The inability to amend A2 forms to redirect NTE exports to a new consignee.
- Irregular and unacceptable working practices of customs officials.
- The absence of internationally acceptable quality control certification for non-traditional export products at entry points.

The overall objective is to reduce the time required for clearing NTE shipments to one day by the end of the program. Actual current processing time can take up to seven days. The plan would provide for the establishment of a streamlined procedure for clearance of export shipments. This effort will be focused on reducing documentation and inspection to those steps necessary for statistical, health, environmental, prevention of illegal activities and security reasons. The GOG will institute "pre-inspection" services away from the ports and authorize the Customs Excise and Prevention Service (CEPS) to receive documentation on behalf of other GOG agencies. CEPS and security agencies will be assisted in developing modern and streamlined inspection and clearance procedures.

TIP will provide short-term technical assistance and training to

CEPS, and related organizations, including assistance in streamlining their regulations. Appropriate personnel will visit first-hand modern processing facilities in other third world countries that have adopted progressive trade regimes.

T3-T5 conditionality will require evidence that the GOG is implementing the strategic plan. The impact of the conditionality will be monitored through the TIP monitoring and evaluation component. All of these measures will greatly reduce transactions costs and would increase profitability of export firms and increase Ghana's competitiveness in export markets. They would have the same effect as a permanent real devaluation of the exchange rate. These measures would also signal to the business community that the GOG is serious about supporting private sector investment and exporting. Importantly, they would encourage informal sector firms to become part of the business mainstream.

4.3 Improved Public Sector Export Support Services: There are a number of vital public sector services and functions that are required if TIP is to meet its objectives. These functions deal with assuring the coordination and monitoring of TIP activities; providing a sound analytical basis for policy reform; and providing support to the private sector in trade and investment promotion.

4.3.1 Improved Process for Policy and Regulatory Review:

4.3.1.1 Coordination of the Public Sector Program: Countries which have pursued export led growth strategies have committed significant resources and time in laying the groundwork before the real rewards - significant increases in economic growth - were achieved. It will take development of appropriate financial institutions and credit mechanisms to foster exports. The operations of various Ministries may have to be redirected. Ghana's infrastructure needs may have to be rethought in terms of roads, ports and communications in order to achieve results. Results will require a rethinking and restructuring of the way Ghana has done this in the past. Success will require the right policies and the implementation of these policies, as well as the development of improved roads, ports, water, electricity and communications. The success of TIP requires a sound commitment from the highest levels of the government and the private sector. This in turn requires coordination of effort and the privatization or liberalization of the GOG actions required.

Currently, there are at least eight Ministries, along with numerous departments and other public sector entities, that could impact directly or indirectly on the activities proposed under TIP. Figure 4.3, lists the relevant Ministries and public sector organizations under them.

FIGURE 4.3

Ministry of Finance and Economic Planning

Customs, Excise and Preventive Service
 Ghana Investment Center
 Bank of Ghana
 Internal Revenue Service

Ministry of Industry, Science and Technology

Ghana Standards Board

Ministry of Land & Natural Resources

Ghana Timber Export Development Board
 Forest Products Inspection Bureau
 Minerals Commission

Ministry of Transport and Communication

Ghana Ports and Harbors Authority
 Ghana Civil Aviation Authority
 Ghana Shippers Council

Ministry of Roads and Highways

Department of Feeder Roads

Ministry of Trade and Tourism

Ghana Export Promotion Council

Ministry of Agriculture

Department of Fisheries

Ministry of Interior

Ghana Immigration Service

Ministry of Justice

Attorney General's Department

Ministry of Local Government & Rural Development

Environmental Protection Council

It is clear from the Table that there exists a diversity of interests that could potentially impact on the implementation of TIP.

A key design concern of TIP has been the need to assure that the policy component is properly administered and coordinated throughout the GOG bureaucracy. After extensive discussions with the GOG, the following administrative and coordination mechanisms have been developed.

Overall program coordination will be accomplished through an intergovernmental Trade and Investment Management Unit (TIMU). The permanent Unit will be chaired by the Secretary of Trade and Tourism and will consist of Secretaries, their Deputies or operational heads of the Ghana Investments Center, the Ministry of Finance and Economic Planning, The Ghana Export Promotion Council, a representative of the private sector and the USAID/Ghana Mission Director. Ad Hoc membership to the Unit will consist of the following Secretaries, their Deputies or operational heads: the Ministry of Transport and Communications, the Ministry of Roads and Highways, the Ministry of Lands and Natural Resources, the Ministry of Industry, Science and Technology, the Ministry of Agriculture, the Ministry of Interior, the Ministry of Justice, and the Environmental Protection Council. The purpose of the Unit will be to: 1) assure that all policies, laws, administrative procedures and regulations required under TIP are implemented and understood by the GOG bureaucracy; 2) coordinate all policy planning with regard to nontraditional exports and investments; 3) institute and coordinate awareness and training programs regarding export and investment related activities, both as a way of fostering the importance of the export sector to the future growth of Ghana and as a way of developing the appropriate procedures and skills in order for the relevant ministries and organizations to appropriately implement the operational programs of their respective organizations. It is estimated that TIMU meet every six months or more often if needed.

The decisions and day to day activities of the Unit will be implemented and administered through a Trade and Investment Management Office (TIMO) that will be established within the Ministry of Trade and Tourism. TIMO will be empowered to implement all decisions of the Unit and to interact directly with all Ministries and organizations related to the implementation of the Unit decisions and recommendations.

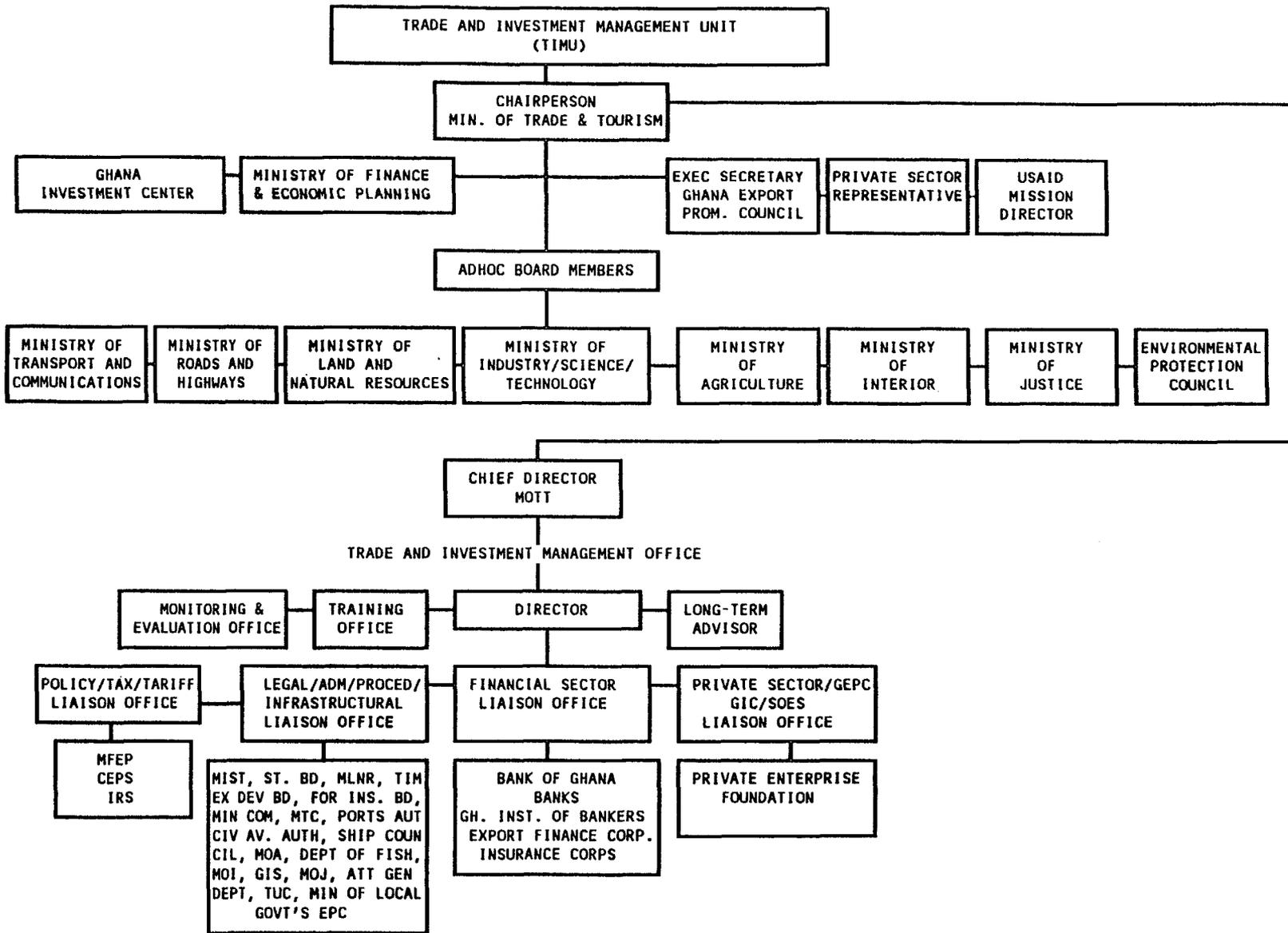
TIMO will be headed by an MOTT Officer of Director - Grade status who will report to the Minister of Trade and Tourism through the Chief Director. This individual will be recruited from the ranks of the Ministry of Trade and Tourism, be seconded from another public sector organization or be recruited from the private sector. The Director will be assisted by a number of liaison

officers, along with appropriate staff, a training officer, and a monitoring and evaluation officer. TIMO personnel will be recruited from the civil service and/or the private sector. All salaries and benefits will be in conformance with existing GOG policies. The Director will also be assisted by a long-term advisor provided under the project component who will assist the TIMO in coordinating the various aspects of the Program, as well as serving as the Chief of Party for the public sector technical assistance program under TIP.

Each of the liaison officers will be recruited at the Office Director level, and will be responsible for coordinating the implementation of a specific area of concern with the appropriate organizations. For example, the Policy/Tax/Tariff Liaison Officer will be empowered to deal directly with all public sector organizations dealing with such matters. Organizations include the Ministry of Finance and Economic Planning, the Customs, Excise and Preventive Service, the Internal Revenue Service and the Ministry of Trade and Tourism. Similar liaison functions are envisioned for the other principal areas of intervention in the AID program. Other liaison officers are anticipated for: 1) legal/administrative/procedural/infrastructure affairs; 2) financial sector affairs; and 3) private sector affairs. (See accompanying Organization Chart for a more detailed description).

The Training Officer will have a vital role to play in the implementation of TIP. Working with the Liaison officers and directly with Ministries and public sector organizations the Training Officer will develop appropriate programs to instill an awareness of the importance of exports to the future growth of Ghana. These can be short-term formal and informal informational exchanges as the various reform programs are implemented through the GOG. Again working with liaison officers and organizations, the training officer could identify key procedural modifications and needs required to make the reforms work. Ministries and organizations would then be provided technical assistance and training to develop procedures and provide staff training in the implementation of the procedures.

As TIP is implemented, TIMO will begin the implementation of a Young Professionals Program, geared toward increasing the skills of "the best and the brightest" middle level staff in Ministries associated with the administration of trade and investment. The purpose of the program will be to build an "esprit" and awareness of the importance of exports to the future of Ghana. The Young Professional's Program will be initiated at the Ministry of Trade and Tourism, then at other relevant ministries and organizations as resources and interest permit. Training in computer skills, program analysis and report writing are envisioned, as well as other identified training areas. Resources will be allocated to



train up to 100 mid-level staff a year through the duration of TIP. Training will be implemented through existing institutions such as The Ghana Institute of Management and Public Administration, The Management Development and Productivity Institute and through the training programs of NGO's and private consulting firms operating in Ghana.

The Young Professional's Program will combine staff training, professional and institutional development, and policy advising - with technical advisers working as part of Ministry teams providing a full range of practical, on-the-job training, and where necessary classroom and/or overseas training. For example, joint research papers are prepared between the advisor and the Ministry staff, rather than the advisor preparing papers on their own. This process institutionalizes the policy advice and the research skills. In conjunction with these functions, the advisors also provide policy advice to government leadership, as required.

Public Sector training funds provided under the current Human Resources Development Assistance Project will be made available for short-term participant training to the U.S. and third world countries for specific skills training. These funds are currently managed by the Ministry of Finance and Economic Planning but will be programmed in the future in conjunction with TIMO training needs. Short-term participant training funds available under the project component of TIP will also be programmed through TIMO.

TIMO will also have a monitoring and evaluation officer in charge of coordinating the impact monitoring and evaluation of TIP. More details of this function are presented in the Monitoring and Evaluation section.

The establishment of the Trade and Investment Management Unit and Office, along with a first year's budget and action plan, will be a condition precedent to Tranche 1 of the cash grant. Subsequent years conditionality will require the GOG to submit an annual budget for the Unit and TIMO, a yearly action plan for implementation, in addition to report on how funds from the previous year were utilized.

The GOG will fund the entire cost of the Unit and TIMO as part of its contribution to the Trade and Investment Program. AID project resources in the form of technical assistance will be utilized for particular aspects of the development and implementation of TIMO and its program. Mission anticipates limited use of expatriate technical assistance in this regard, as there is an adequate pool of Ghanaian technical assistance upon which to draw.

4.3.1.2 Improving the Capacity for Trade Policy Analysis and Review. In addition to TIMO, which will coordinate policy change, TIP makes provision for the strengthening of the Ministry of Trade and Tourism's Trade Policy Unit (TPU) to build the capacity of the GOG to undertake the analysis of relevant policy issues necessary for the long-term service of Ghana's Trade and Investment program. The TPU was created in 1991. The principal functions of the Unit are:

- provide information and statistics on trade to policy makers;
- analyze data; and
- analyze constraints to increased exports.

Three economists have been assigned to the Unit. The TPU has been developing data sources, computer facilities, offices and providing some analysis to date. However, the range of questions that can be addressed at this point is limited by the availability of data, staff technical knowledge, research materials, computer capability, the need for Ghanaian and expatriate technical assistance and other support.

An initial task for the TPU will be to develop an adequate data base. This will include collecting and entering into a computer, data on basic trade flows. Given the lack of needed data, a substantial part of the first two years of TIP activity will be dedicated to improving data availability.

In addition to data collection and entry the TPU will undertake the following activities: 1) monitor the real exchange rate and enter into policy dialogue with BOG and MFEP to advocate for an exchange regime that allows the real exchange rate to remain aligned with the long run path of the equilibrium real exchange rate; 2) monitor monetary and financial market events to serve as an early warning system for exchange rate misalignments that might arise from conditions in the capital markets; 3) monitor trade policy (tariffs, incentives, taxation and regulations) to serve as an early warning system for possible exchange rate misalignments which might arise from changes in the trade regime; 4) monitor terms of trade and other external determinants of the real reexchange rate to advocate for the necessary policy adjustment to maintain the real exchange rate on its desired path; 5) monitor the tariff regime and the duty relief schemes to advocate for neutrality in the trade regime; 6) monitor the structure of protection and the competitiveness of specific sectors of the economy to provide information to policy makers and to the private sector; 7) undertake special studies on trade related issues to contribute to an informed process for policy and regulatory review.

TIP will provide technical assistance and training to strengthen the TPU. A long-term advisor with specialized skills in trade

analysis will be assigned to the Unit to familiarize staff members with methodology and analysis appropriate to trade policy analysis. Short-term technical assistance will also be provided to respond to specific issues which the policy unit must confront. TPU will be provided with needed research materials, including international data and databases, books on trade policy, magazines, scholarly publications, publications of other governments, as well as publications of GATT, UN, IMF and World Bank. TPU will also require additional computer facilities such as two 486 machines with 300 meg hard discs, plus additional printers and software, as well as computer training for its staff. The GOG will provide adequate budgetary support to assure that the Unit is operating at a sufficiently high level to be able to make a significant contribution to trade policy. It is expected that the TPU will contract a significant part of the analytical studies anticipated over the next five years. The costs of local consultants will be part of the GOG contribution. AID will supplement this with short-term technical assistance as needed.

Effective coordination, institutional strengthening and awareness building will significantly improve the functioning of the principle public sector organizations serving the private sector exporters. Similarly, building a capacity for improved policy analysis and regulation will permit the GOG to develop and monitor the program more in line with private sector needs.

4.3.2 Improved Business Environment for Non-Traditional Exports: Export and Investment promotion are two important ingredients of a successful export promotion program. Firms need the information and support provided by export and investment promotion agencies to acquire knowledge on markets and where they might export, to acquire contacts with foreign buyers, to access technology directly or indirectly from foreign investors etc. Moreover, export and investment promotion organizations should serve as agents of change within their own country, training exporters, identifying needed changes in procedures and legislation holding back exports and foreign investment then lobbying vigorously for the changes.

As discussed in Section 3.3.1 these functions, while typically in the hands of public sector organizations; which due to little or no support in the business community, inadequate funding, poorly paid and/or unqualified staff and being public sector organizations; see themselves as part of and needing to respond to the Government. Experience from around the world has shown that if export and investment promotion is to succeed the functions must be shifted from governmental to quasi-governmental or private organizations.

At present export and investment promotion is handled by two public sector organizations GEPC and GIC. There are at present

no existing private sector entities handling or capable of handling these functions. Therefore, TIP will utilize a two track approach to deal with the situation. Given the need for export and investment promotion services now, TIP proposes to a) convert the present organizations into more effective quasi governmental organizations while b) establishing the basis for the development of effective and sound private sector organizations that can assume greater export and investment promotion roles in the future.

In making GEPC and GIC more effective organizations, TIP will draw upon the lessons learned from other countries. TIP conditionality will require the conversion of GEPC and GIC into quasi governmental organizations with an active private sector membership on the Board of Directors, with revised and narrowed responsibilities only related to promotion activities, with all regulatory responsibilities eliminated or, if deemed essential, transferred to another organization. The salary and staffing levels of both GEPC and GIC would be adjusted to reflect the new responsibilities and attract the right staff. Unqualified and unneeded staff would either be released or retrained. The GOG will commit itself to meeting the budgetary needs of both organizations, including paying end of service benefits if that is required. TIP project resources will be available to assist both GEPC and GIC to define and implement their new roles.

The Mission believes that above strategy will improve the efficiency of the public sector service providers and provide both foreign and domestic exporters and investors with needed services that would not be available otherwise. The proposed reorganization and provision of private sector leadership through the Board of Directors would assist them in developing improved linkages and credibility in the private sector. A private sector Board of Directors taking a vigorous oversight role would remind both organization that they are not public sector organizations. The removal of regulatory responsibilities from both organizations would also further strengthen private sector linkage and support. The establishment of a quasi governmental role would allow the paying of higher salaries. This combined with GOG commitment to support the budgets of the reorganized and restructured institutions at levels required to do the job will mean that morale and efficiency of these organization will improve.

4.3.2.1 The Role of the Ghana Export Promotion Council: The GOG reactivated the Ghana Export Promotion Council (GEPC) in the mid 1980's. GEPC, under very able leadership, has been able to initiate some activities in expanding the sector. The GEPC was forced to assume many activities which ordinarily would not be in its purview because of the inability or unwillingness of the private sector to take a more active approach to NTE's. This has changed and the private sector, with GOG concurrence, is willing

to become a more proactive partner in NTE expansion. The lack of resources also required the GEPC to impose registration fees on exporters as a way of paying its expenses. These, along with the GEPC regulatory role, have established conflicting responsibilities for the organization.

One of the primary functions of TIP will be to assist in defining the proper organizational structures and roles of GEPC as well as the Ghana Investment Center (GIC) in supporting private sector led export and investment growth.

A principal objective of TIP will be the conversion of both GEPC and the GIC from governmental institutions to quasi-governmental institutions.

T1 conditionality will require that the GOG name a Board of Directors to the GEPC. The membership of this Board will represent the principal professional organizations dealing with NTEs, the Ministries of Finance and Economic Planning, Trade and Tourism and relevant private sector organizations. The Board will be given overall responsibility for the establishment and direction of all GEPC activities.

The principal responsibility of the GEPC Board during its first year will be to develop a strategic five year plan for the transformation of the organization to a true private sector support organization. This will entail the development of a total restructuring of the organization defining the role of GEPC in relation to:

- (a) The emergence of private sector organizations resulting from increased private sector dynamism resulting from an export led growth strategy.
- (b) Conversion of the organization into a trade facilitation oriented organization devoid of executing regulatory and direct product development functions.
- (c) Examining the mandate, current functions and operations of the Ghana Timber Export Development Board, Forestry Inspection Board, Minerals Commission and the Cocoa Marketing Board to assess what the implications are for a redirected GEPC.
- (d) The feasibility of merging the GIC and GEPC.
- (e) Determining, in conjunction with AID, a technical assistance program to implement the new GEPC promotion program. The elements of the program and related technical assistance will consist of:
 - i. Developing a NTE promotion policy statement and

underlying rational.

- ii. Preparing a short to medium-term institutional development plan for GEPC which would be detailed in a strategic plan. This plan would be comprised of 1) specific goals and objectives of the agency; 2) the main elements of the work program and an action plan for the coming year; 3) the sequence of its activities; 4) its relationship to other parts of the Government; 5) its organizational structure and staffing; 6) technical advisory inputs and 7) physical and fiscal requirements.

T2 conditionality will require the GOG to submit an approved Strategic Plan for the GEPC along with suitable budgeting resources.

T3-T5 conditionality will require that the GOG fund and implement the Strategic Plan.

TIP will provide technical assistance in the development of the Strategic Plan as well as assistance in the implementation of the Plan. The GOG will provide the necessary budget support as part of its contribution.

4.3.2.2 The Functions of the Reorganized GEPC

The private sector support role envisioned for GEPC encompasses the following areas:

- a) Providing adequate and timely information and data to exporters
- b) Providing referral services
- c) Providing ombudsman and advocacy services
- d) Promoting Ghana and Ghanaian exports.

It is expected that the development of these programs can take place concurrently with the development of the Strategic Plan and that implementation will begin before T2 conditionality is met.

a) **Information and data:** A principal role of GEPC will be to provide primary market and promotional materials, serving as a source to potential investors, as well as to buyers. The following services, among others, are anticipated:

- Produce and Maintain General Business Information - GEPC will produce and make available specific details with respect to doing business in Ghana. Included would be particulars of the Ghanaian Commercial Code; relevant legislation and regulations; investment guides; corporate and personal tax data; export and import regulations; and other relevant information.

-- Develop Market Information System -- GEPC will collect and maintain accurate commercial data. The data it maintains should not only reflect facts relating to the Ghanaian economy, including exports and imports, but also information on the World markets for the same products. This information could be utilized to identify new target markets where Ghanaian commercial interests might be aimed. This knowledge will not only be of use to the Ghanaian commercial sector, but also to overseas investors and buyers as well. Such a system will include: world production and trade, disaggregated by major producers, importers and exporter; evolving technologies (potentials and problems) in the major producing countries; marketing issues, such as technical and quality aspects, grades, standards, processing, packaging and presentation requirements; price trends for different products; presentation of the various products for each of the major exporting and importing countries; specific "situation topics for and important events" in major trading countries; an assessment of the "industry-wide" prospects for Ghana. This information would be readily available to all user via special bulletin and periodic reports. These exports could include directories of major firms in each country. Based on these exports it may be possible to identify a number of new market opportunities, with sales potential to at least portion of these new identified markets. The Mission has established the identification of at least five new markets with sales amounting to \$5.0 million as an achievement target for the market information system.

b) Referrals: The GEPC will also provide a valuable referral service, directing potential overseas investors and buyers to the appropriate association(s) and to the appropriate agencies of the GOG. In this capacity the GEPC will serve as the connection, establishing marketing linkages, not only between private sector entities, but also between the private and public sectors. In support of this effort, GEPC in collaboration with GIC can undertake a program of contracting appropriate international traders and buyers, and persuade them to open offices or relationships in Accra.

c) Ombudsman and Advocacy: The GEPC will offer a third valuable function, that of providing a special forum for a wide range of different commercial interests and industries. As Ghanaian business opportunities develop and new competitive advantages evolve, the need for a rapid response by both the commercial and government communities will be imperative. Communication of these changes and the appropriate responses can be done through a single choice - the GEPC. An office directly advocating on behalf of the business community to the GOG can

best achieve effective results.

This ombudsman role may help in making government aware of the requirements to reform certain commercial procedures (export licensing, for example) and adopting new ones as the market develops new levels of sophistication. Furthermore, the GEPC can conform the concerns and needs of the Ghanaian business community, as well as those of overseas buyers and investors, thus enabling the GOG to respond rapidly.

d) **Promotional Activities:** Another important support role will be to publicize Ghanaian exports to the international arena. The GEPC can be the leader in publicizing "made in Ghana" quality standards, as well as identifying quality workmanship and products with Ghana, to increase the nation's reputation in business. Critical to this role will be overseas Mission which will: (i) provide access and information to prospective overseas buyers and investors; (ii) maintain a pulse on critical markets so that the Ghanaian commercial community can react; and (iii) provide structure for exporters to use in promoting their own products.

The successful creation of the long-term strategy for export promotion will provide an appropriate public sector support mechanism for private sector expansion of NTE's. This will result in identifying key markets and providing information and support to the private sector.

4.3.2.3 The Role of Public Sector Investment Promotion: A similar TIP requirement will be the establishment of a quasi governmental investment promotion agency.

To assist in doing this, T1 conditionality will require that the GOG invite the Foreign Investment Advisory Service (FIAS) to assist the GOG and the private sector to develop an Investment Promotion Strategy (IPS) for Ghana. FIAS will provide advisory services to work with the GOG and the private sector in a three phase program to develop an IPS. The IPS will have as a central focus, the development of an environment and framework to encourage private foreign investment in many forms, including joint ventures and direct investment.

The FIAS program will be implemented in three phases over a 24 month period.

Phase I will include revision and enactment of the Ghana Investment Code and promotion of an Investment Policy Statement. These activities will take place between T1-T2.

Phase II will be initiated following enactment of the amended investment code which will establish the structure and mandate of the restructured GIC with a Board of Directors predominately from

the private sector. The output of phase II will be a medium-term plan which will recommend: the specific objectives of the restructured GIC; the main elements of its work plan and an action plan for the next year; the modalities of its relationship with other parts of the Government and the private sector; its organizational structure and staffing; and the technical assistance requirements. The plan will also consider the implications of merging GIC and GEPC. FIAS would be in a position to provide technical assistance in areas such as: the initial development of investor information and an investor tracking system and the formulation of regulations to implement the new Investment Promotion Act.

At this stage, improvements in the investment environment and in domestic and foreign investor attitudes toward it should be an initial focal point of the restructured GIC's concern to set the stage for later pro-active promotion. The Investment Policy Statement would have highlighted many areas for reform. FIAS would briefly review: first, the status of reforms of the environment for private investment (policies, laws, regulations, institutional arrangements); second, the basis of comparative advantage in Ghana; and third, local and foreign investor attitudes towards investment in Ghana. This would help to identify additional practical measures that the Government should take, as well as the work program implications for the new restructured GIC. This review would be based on research and interviews with Government officials and the private sector within Ghana and outside (U.K., U.S).

In addition to institution-building inputs left in the field, a written report would be delivered to the Government. This phase would lay the basis for later FIAS introduction of computer-based management information systems, and for the other efforts described below under phase III.

During Phase III, FIAS will conduct a training seminar to help a selected group of Government and private sector representatives begin to formulate a strategic plan for investment promotion. During the seminar, participants will generate a strategic overview of Ghana's objectives in relation to foreign and local private investment for a ten to fifteen years period, plus a promotional agenda for the Government to realize those objectives. Later, as the restructured GIC gains experience, it will progressively refine the objectives and agenda in concert with other branches of the Government. The draft of the resulting strategic plan should, if possible, be shared with Cabinet officials and then with the nation through, perhaps, a national conference designed to build consensus and to foster a promotional mentality throughout the country.

To assist the Agency define and test its promotion strategy abroad, FIAS would seek to identify worthwhile foreign investment

promotion targets (i.e., specific industries and/or investor groups) and catalysts to use in approaching them. This study would include a pilot exercise and will also elaborate and recommend techniques and methods of investment promotion. This exercise, which would possibly be initiated in mid 1994, would take at least 6 months to complete and the product would be a report on Foreign Investment Promotion Strategy.

Conditionality under T2-T3 will require the GOG to demonstrate that the investment promotion strategy is being developed. Conditionality under T4-T5 will require the GOG to demonstrate that the strategy is being implemented. AID will provide funding for the FIAS technical assistance program. AID will also provide up to \$300,000 in technical assistance for additional assistance which the restructured GIC may require as a result of the development of the phase II institutional strengthening program for the Agency. The GOG will contribute all local currency needed to operate GIC and the Investment Promotion Strategy over the life of TIP.

Assistance to Ghana in developing and implementing an Investment Promotion Strategy is essential to assure the continued expansion of private and foreign investment in the NTE sector. A properly restructured GIC could be the engine for providing this vital information exchange and in providing needed private and foreign investment in Ghana.

4.4 The Public Sector Support: TIP will provide approximately \$6.2 million for appropriate support to assist the GOG with the analytical resources to meet the conditionality requirements under TIP; provide support for the institutional strengthening of the key GOG institutions identified; and increase awareness among Ghanaians about the key issues confronting Ghana regarding trade, investment and economic concerns.

4.4.1 GOG Support: The GOG will require short-term technical assistance to meet some of the conditionality requirements under Tranches 2 and 3. Specifically, the conditionality dealing with the design and implementation of the duty drawback and duty relief system and the streamlining of export processing and documentation requirements will require technical assistance due to the fact that GOG has no or limited experience in developing or effectively implementing such systems. Specific assistance will be provided to assist CEPS to design and manage the duty drawback system, as well as computerize the system; establish the duty drawback office and train staff; and undertake necessary studies in conjunction with the development of other duty relief programs, such as, studies of Economic Processing Zones and bonded manufacturing warehouses. Support will also be provided to assist the GOG in modernizing appropriate laws and codes to make them more transparent and conform to international standards.

4.4.2 Institutional Support: Institutional support will be provided through the services of a long-term advisor, for a 24 month period, to the Trade and Investment Management Office to assist the Office in its coordinating, training and monitoring and evaluation role. Specific objectives of the advisor include: 1) contribute to the development of position papers and action memoranda which will serve as the basis for inter-agency agreements for the implementation of TIP and World Bank conditionality, policy reform, regulatory and legal improvements and general support by the GOG to the private sector; 2) assist in establishing a monitoring and reporting system to track progress in meeting conditionality and in accomplishing the legal, policy and administrative reforms necessary to improve the enabling environment for firms; 3) assist in fulfilling all necessary reporting requirements for AID and 4) serve as team leader for the institutional contractor. In addition, short-term assistance will be provided to TIMO to establish a database and reporting system.

In addition, TIP will provide the services of an experienced trade economist for a 36 month period to the Trade Policy Unit of the Ministry of Trade and Tourism to assist in the development of the TPU. This individual's services will be supplemented by appropriate short-term assistance for specific institution strengthening tasks and for analytical studies when it is determined that there is not a local capacity to perform the studies. Scopes of Work for both the TIMO and TPU advisors can be found in Annex EE.

Short-term technical assistance will be provided to Board of Directors of the Ghana Export Promotion Council, to assist in the design and implementation of GEPC Strategic Plan. Additional short-term assistance will be provided in specific areas to be determined as part of the Strategic Plan. Illustrative areas includes: 1) the development of a data base; 2) the development of promotional material and information; 3) the development of international market potentials for Ghanaian products; 4) the development of promotional material; and 5) the design of the marketing information system.

The technical assistance requirements identified for GOG and institutional support will be provided through an institutional contract with Sigma One, an 8(a) firm. Sigma One has extensive experience in the type of analytical and support work anticipated. The total amount of the contract will be under \$3.0 million and therefore is within the current Africa Bureau threshold for formal competition within the 8(a) contracting mechanism. Contracting with a firm will allow TIP to provide timely analytical and support services to the GOG so that reforms can be implemented and begin to have an impact on the private export sector.

Technical Assistance to the Board of Directors of the GIC to restructure the organization and to formulate and assist in implementing an investment promotion strategy will be provided through a grant to the Foreign Investment Advisory Service (FIAS). FIAS will assist in undertaking a review of the legislative and regulatory framework that governs domestic and foreign investment and will prepare an agenda for legislative and policy reform. Such an agenda will be issued as an Investment Policy Statement which will be prepared with FIAS assistance. In addition, FIAS will make specific recommendations about improving the investment environment in Ghana and about promoting Ghana with the international investment community. TIP anticipates further assistance, after the initial FIAS assistance, in implementing various aspects of the Investment Promotion Strategy. This assistance would be in the form of specialized technical assistance and training. The specifics of any further assistance will not be known until after phase 2 of the FIAS program. Mission has programmed \$300,000 for this purpose.

Mission has programmed \$900,000 over the life of the program for discrete analytical studies and short-term training for both the public and the private sectors. The trade and investment sector is becoming increasingly dynamic. It will be necessary to have adequate resources to respond to developing needs. These needs may take the form of responding to the need for market analyses, for an analytical study, or specific training needs. To be able to respond, Mission has programmed sufficient funds to address specific needs as they arise. This component will be implemented by Mission with the concurrence of the GOG. Assistance will be provided through buy-ins to central and regional projects, through appropriate IQC mechanisms, and through local consultants and training institutions.

Support will also be provided to the public sector through short-term participant training. In the first two years of TIP training needs will be addressed through funds already allocated through the regional Human Resources Development Assistance Project (HRDA). A total of \$500,000 has been programmed under HRDA for public sector support. These funds will be supplemented by an additional \$500,000 in TIP resources. The utilization of these resources, both HRDA and TIP, will be coordinated through the training office of the Trade and Investment Management Office. It is expected that approximately 60 participants (30 from HRDA and 30 from TIP) will benefit from the training during the life of the program. Participants will be selected according to criteria which will be linked to directly or indirectly assisting in achieving the objectives of TIP. First priority will be given to those staff who are assigned in organizations directly involved in the implementation of TIP, such as the Ministry of Trade and Tourism, The Ministry of Finance and Economic Planning, CEPS, the Bank of Ghana, and GEPC. Second

priority will be given to those individuals recommended as part of the Young Professionals Program. Special consideration will be given to women participants. Criteria under HRDA requires that one third of the participants selected be women. TIP will continue with that criterion.

4.4.3 Increasing Public Awareness of Trade Issues: TIP will provide assistance to present various topics of importance regarding trade, investment and economic policy to the GOG, private sector organizations, the academic community and the public at large. To do this the Mission has entered into an inter-Agency agreement with the United States Information Service (USIS), to implement a program whereby visiting US professors come to Ghana and give a series of lectures relevant to policy issues under TIP. Another aspect of the program is to have short-term professorships open to selected US scholars in the area of trade policy, international marketing and other related subjects at the University of Ghana. AID and USIS have already entered into an inter-Agency Agreement, utilizing PD&S funds. Mission has programmed approximately \$200,000 from TIP to implement the program after the first year.

5.0 IMPROVING THE CAPACITY OF FIRMS TO EXPORT

5.1 Private Sector Strategy: Experience in Asia and in other parts of the world has shown that successful export promotion programs rely on the initiative of the private sector firm. Whereas the public sector's role is to create the environment which encourages foreign sales, the private sector's role is to "do business" in increasing exports. Doing business in the non-traditional export sector requires private sector firms to cultivate the contacts, penetrate markets, develop strategies, and remain competitive through product evolution and development. Private sector business associations play a mutually supporting role to firms in export promotion. They speak in a concerted voice to address systemic problems adversely affecting the performance of private business, such as working capital, poor infrastructure or inadequate storage facilities. Private business associations act as intermediaries in channeling services to their members. Importantly, business associations promote the interests of the private sector and influence policies and regulations formulated by the government to ensure that the environment is right for conducting its business. Consequently, the private sector is in the best position to determine the nature and level of assistance it requires to expand non-traditional exports.

The TIP strategy is to create and build commercial linkages between NTE producers and suppliers in Ghana and suppliers and buyers in the U.S., Europe and Asia. These linkages will be created through a Training, Technical and Marketing Assistance Program (TMAP). These commercial linkages will result in technology transfer for the full chain of NTE activities -- production, marketing and finance. With these international linkages with international businesses, buyers and marketers, and industry commercial service providers, Ghanaian firms will develop the capacity to produce what buyers want, rather than focusing -- as most export development efforts have done up to now -- on helping firms market their existing output. This combination of development assistance with commercial business development practices will speed up the learning processes required by developing country firms to deal successfully with international market requirements. This innovative strategy of building international commercial linkages will envelop and determine the nature of all assistance provided to NTE firms and business and professional associations throughout the entire program and is the gateway to achieving the project's objectives.

5.2 Outputs: TIP, using the commercial linkage approach, will improve the capacity of Ghanaian firms to export non-traditional products. This objective, which corresponds to output number 2 in the Objective Tree and Logframe, when achieved, together with an enabling environment (output number 1) and improved financial services (World Bank program output), are necessary conditions to

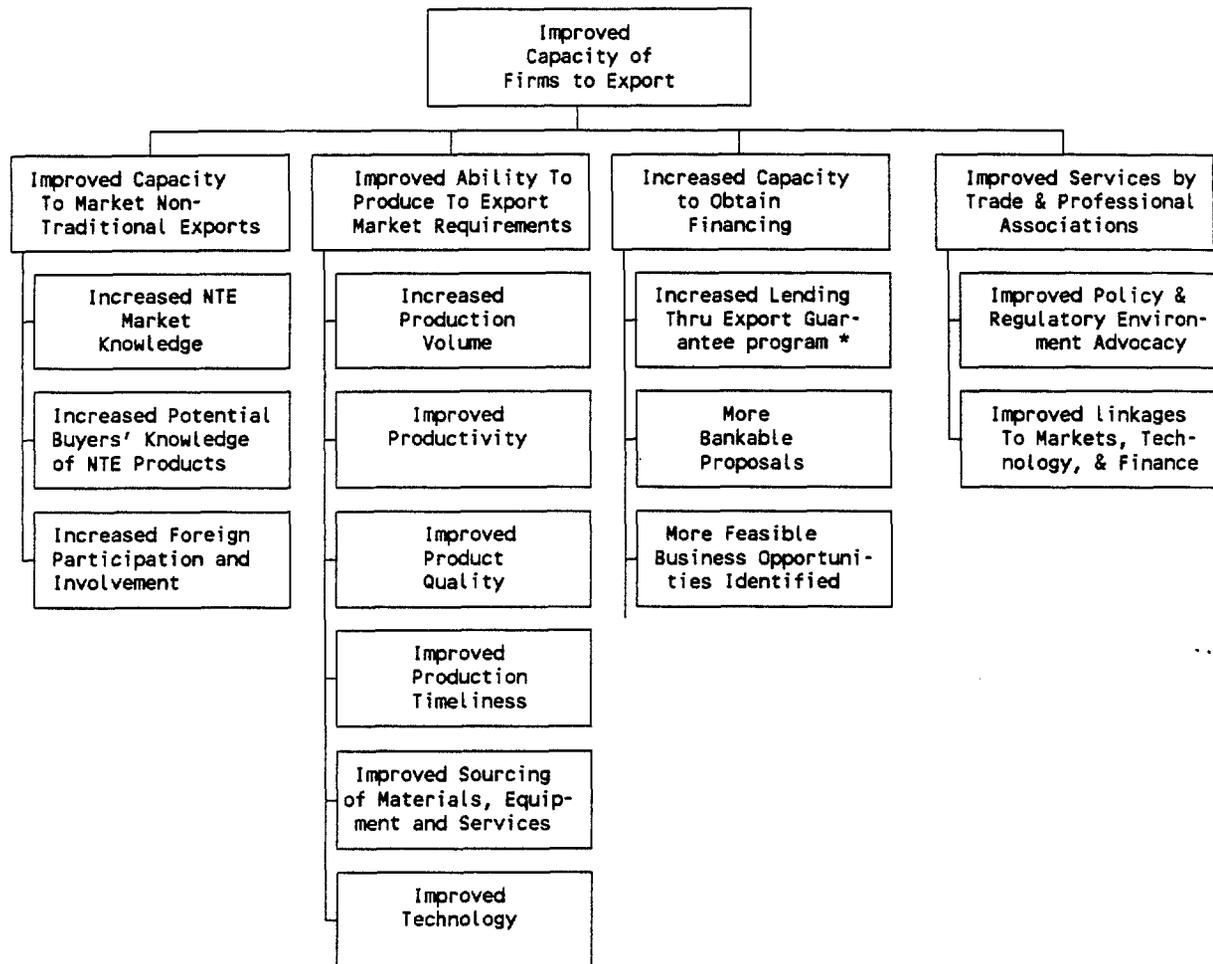
attain the program purpose of increased non-traditional exports. Built on the basic principles of business management, TIP will achieve this objective by implementing activities which will assist firms and business associations in four primary, interrelated ways: 1) to improve firms' capacity to market non-traditional exports; 2) to improve firms' ability to produce to export market requirements; 3) to improve firms' capacity to obtain financing; and 4) to improve services by business associations to their members. These objectives are summarized in Figure 5.1 the "Objective Tree" for this component.

5.2.1 Improved capacity to Market Non-traditional Exports: Ghana in the last eight years has been able to increase non-traditional exports from a level of approximately \$1.0 million to over \$62 million dollars. Whereas as this growth shows remarkable potential, Ghana has not been able to penetrate growth markets to the extent necessary to allow the types of export expansion which will accelerate GNP growth and to move Ghana to the ranks of a middle income country. Producers require greater market knowledge, sophistication and contacts. TIP TMAP activities will achieve: 1) increased non-traditional export market knowledge by Ghanaian firms; 2) increased knowledge of Ghanaian non-traditional export production by potential buyers; and 3) increased foreign participation and investment in the marketing of non-traditional exports.

5.2.2 Improved Ability to Produce to Export Market Requirements: The ability of Ghana to attain the national objective of increased private sector non-traditional exports will depend on the private sector's ability to produce products that meet the specifications of the identified export markets. This means that Ghanaian firms must be able to produce products which meet the design, quality, quantity, price and time delivery requirements of external markets. For this reason TIP TMAP activities will lead to: 1) increased production volume; 2) improved productivity; 3) improved product quality; 4) improved production timeliness; 5) improved sourcing of materials, equipment and services; and 6) improved technology.

5.2.3 Increased Capacity to Obtain Financing: The improved capacity of firms to export depends on the ability of firms to obtain financing for every step of the export transaction, from short-term pre-shipment financing to provide cash flow during the production cycle, to credit to cover receivables during the shipment period, and to medium and long-term finance to cover capital investment in equipment. In the case of the former, short term finance, a serious problem facing exporters has been the banking systems disinterest in financing the NTE. As discussed earlier, there are several reasons for this. The banks do not have a tradition or experience in financing NTE's, therefore they see NTE business as riskier. This risk aversion

Figure 5.1



* Depends on availability of Africa Economic Policy Reform Program funds.

is further influenced by the recent restructuring of the banking system caused by bad debts generated earlier. Moreover, banks can invest in Treasury Bills and earn good returns, therefore, the returns to export lending must be considered financially attractive and of reasonable risk. The World Bank and USAID are working together to address these concerns. The World Bank will work with the public and private sector to create a rediscount system for export loans. This should encourage banks to increase lending into their sector as they can then discount those loans rather than holding them to maturity. Likewise USAID/Ghana through the TIP is proposing an export credit guarantee program that will guarantee up to 67% of the value of accepted loans, thus reducing lender coverage. This program is discussed later.

In the case of term lending, there are still problems of cost and availability of credit. These are becoming less serious as inflation and interest rates come down. However, there is also the problem of bankable projects; that is projects that are creditable with bankers because they are well prepared, as well as technically and financially sound. This is continuously identified by bankers as one of the major problems they have in making additional loans available to the private sector. TIP in cooperation with the African Project Development Facility (APDF) will assist in addressing this constraint. Hence, TIP will assist the expansion of export credit in two ways: first, by supporting the creation of an Export Credit Guarantee Fund, or in other words affecting the supply of credit, and second, by providing assistance to entrepreneurs to develop business plans which the banks will be willing to finance, or in other words, affecting the quality of demand. TIP will result in: 1) an increased number of bankable projects and the identification of more feasible business opportunities and 2) an increased availability of financing for viable activities.

5.2.4 Improved Services by Trade and Professional Associations: Private sector associations' advocacy for the interest of private business can contribute to a continuing enabling environment for private investment and development. Thus far Ghanaian associations have not been able to fulfill this role due to the financial and organizational frailty of these institutions. Associations provide few services to its members to facilitate international contacts to support NTE development and expansion, thus associations are unable to attract and/or maintain dues paying members which, in turn, will support institutional activities. TIP's assistance to these associations will result in: 1) improved policy and regulatory environment advocacy and 2) improved linkages to markets, technology, and finance.

5.2.5 Output Achievements: At the completion of TIP, the achievement of the four targets discussed above will have

resulted in an improved capability of Ghanaian firms to export non-traditional products. This will be demonstrated if the following conditions exist:

- o The annual nominal value of NTEs by firms receiving TIP technical assistance increases by 35% per year; and

- o Four hundred Ghanaian businesses successfully conduct NTE transactions involving sales, financing or sourcing through TIP assisted trade or professional associations.

5.3 Approach to Creating Commercial Links to Improve Capacity of Firms to Export. --TTMAP: Private sector support activities in TIP are comprised of 1) firm-level export development and advisory services and 2) institutional development support and industry-focused services. This assistance comprises the Technical, Training, and Marketing Assistance Program (TTMAP). These activities will be carried out by IMCC, an international export development and consulting firm, International Executive Service Corps (IESC), a non-profit organization of U.S. industry executives, and the Africa Project Development Facility (APDF), a project managed by the International Finance Corporation.

IMCC will draw upon a combination of specialized industry consultants, recruited through U.S. industry, associations, and other sources and retained under standard consulting arrangements. IMCC will access active buyers or other commercial intermediaries who are engaged under cost-sharing contracts to pursue product-specific or industry-specific trade development interests. IESC through its Technical Assistance and Association Strengthening (TAAS) program will engage volunteer industry experts as technical specialists from its network of over 12,000 experts. APDF will draw upon industry experts.

The project will provide assistance to "A-level" firms, which are ready for immediate assistance in finding trade and investment opportunities; "B-level" firms, which require technical and/or managerial assistance to prepare them for trade and investment opportunities in a reasonable period of time; and to a limited extent "C-level" firms, which are not ready or willing to take the steps necessary to prepare for trade and investment opportunities at this time. IMCC will provide assistance to "A-level" firms while IESC will prepare "B-level" firms to graduate to immediate export assistance by IMCC and will work with "C-level" firms to improve overall business management and operations. APDF will work with entrepreneurs interested in developing new NTE projects or expanding current operations.

In order to inculcate a commercial approach in business participating in the program, the development of a business plan will be the primary basis upon which assistance will be provided to firms.

Through technical assistance, training, marketing and project development support, which will be provided through commercial links with international and domestic suppliers, buyers, marketers, and other commercial business service providers, TIP will:

1. Build local capacity to identify market demands and produce according to buyers' specifications by supporting firms and individuals able to play a catalytic role in developing new, successful export ventures.
2. Accelerate the pace of commercial development in selected industries by exploiting possibilities for group efforts to solve industry-wide technical, marketing, or policy/regulatory problems and maximizing the demonstration effects of successful export efforts by pioneer firms; and
3. Support the development of commercially sustainable trade support services and help producers establish relationships with key service suppliers, internationally and domestically, that can provide continuing support to business development and export expansion efforts (such as purchasing agents, trading companies, product designers, shipping and customs brokers, trade show organizers, trade associations, etc.).

These accomplishments will: 1) establish a core group of successful export operations -- either by supporting local entrepreneurs who are able to play a pioneering role in launching new export operations or by engaging foreign firms who have already the necessary know-how related to export production and marketing to enter into co-ventures with local entrepreneurs, and 2) build a base of strong private firms from which the export industry can expand. This approach will lower the learning costs associated with exporting for other potential producers. Without this basic level of success, the cost to other entrepreneurs to acquire the know-how in the export market is very high.

Technical assistance, training and market entry support will be provided to individual firms and associations on a cost-sharing or fee recovery basis. IMCC, IESC and APDF will develop a fee structure which will reflect actual market conditions -- supply and demand factors -- and the recipient's ability to pay. Such approaches as a sliding scale for different categories of clients, performance-based fees and group rates will be utilized. Annex K and Annex J provide the criteria for cost-sharing with firms and business associations for IMCC and IESC, respectively. Annex L discusses the performance-based method utilized by APDF.

5.4 Description of Training, Technical and Marketing Assistance Program (TTMAP) Activities: The TIP will provide three general categories of assistance: 1) firm-level export development and advisory services provided by IMCC; 2) institutional development

support, industry-focused services, Export Readiness for Firms, provided by IESC; and 3) NTE project development provided by APDF. These three sets of activities will reinforce each other and serve to strengthen the capabilities of Ghanaian firms to compete successfully in international markets, through a combination of individual and collective efforts. These commercial links will be developed through the activities carried out by IMCC, IESC, and APDF.

5.4.1 IMCC--Technical, Training and Marketing Assistance to Export Firms: A.I.D. will enter into a contract with IMCC to undertake a structured program of industry specific export development services that will work with individual A-level NTE firms. The principal objective of these services will be to build a core set of successful export enterprises in selected industries that could serve as the basis for subsequent export expansion and diversification efforts. These initial export successes will help to install a base of local export capabilities and know-how and hopefully play a catalytic role in launching the next round of successful export industries by exposing other potential exporters to the requirements for developing successful export operations.

To carry out this program, IMCC will contract for: 72 person months of long term technical assistance (a local TMAP Director [36 person months] and an expatriate Export Development Advisor [36 person months], and short-term services from local business development/product specialists, international consultants (including buyers, corporate technicians, etc.) and other home office and local support staff.

IMCC will provide assistance to A-level NTE firms, firms which are ready for immediate assistance in finding trade and investment opportunities and to B-level firms which would have received support from IESC under TIP to strengthen overall business operations and product development and which are now ready to receive trade and investment advisory services. IMCC will focus assistance initially on three of the four product areas that appear to offer the greatest potential for generating significant increases in non-traditional exports from Ghana over the next five years. These exports are: 1) food products, 2) value-added wood products; and 3) textiles and garments. (IESC will support the giftwares and decorative accessories sector through its subcontract with Aid to Artisans).

For each sector IMCC will devise and develop a plan of assistance to identify firms which have the potential to expand exports and to assist them to develop business and financial plans to access capital and markets, identify new export opportunities and new markets, catalogue and establish buyer contacts, conduct training needs analyses, define additional support and developing and introducing follow-up services programs to producers and buyers

to continue expansion of exports. Assistance will be provided to those firms producing NTE products which have an interest and a capability in entering, expanding or diversifying their participation in the export market. The type of assistance provided will vary from industry to industry and will range from solving immediate problems that constrain existing export activities to more basic and coordinated market entry strategies to launch an initial round of export operations. In other words, IMCC will provide short-term and medium-term assistance to respond to the needs of firms at different stages in their export development and expansion.

IMCC will provide the following types of assistance:

1. Market entry and expansion assessments

The project will offer advisory services to individual Ghanaian firms or groups of firms to develop market entry strategies for new export products or market expansion for existing products. Industry and product specialists will assist firms to:

- * conduct assessments of existing capacity to produce for export markets, including the willingness and ability to make the investments and operational changes which will be required.

- * make initial contacts with overseas buyers to identify specific market opportunities that local producers have a realistic chance of responding to.

- * carry out market studies to assess market and product trends related to priority product areas; including product pricing, distribution channels, production and packaging requirements, volume requirements, quality standards, equipment requirements, and other considerations that producers will need to take into account as part of their market entry strategies.

2. Project Development and Training Needs Assessment

IMCC will conduct assessments of the actions that client firms will need to undertake in order to develop the necessary capacity to produce specific products to meet the specifications of potential or actual buyers. The IMCC will provide short-term assistance from specialists such as buyers, product developers, and equipment suppliers.

3. Assistance to Execute Market Entry and Expansion Plans, Including Product Development and Training Programs

IMCC project will provide technical assistance and training to firms to assist them to implement their export marketing and production plans. IMCC will provide short term assistance to solve particular problems related to producing or marketing and

long term assistance to address the production and market introduction of new export products. Technical assistance and training will assist high potential firms (A-level) in order to generate results in as short a time frame as possible. Later, training will be provided to a broader array of firms which would have been working with IESC and through industry association sponsored training programs and study tours. Technical assistance for product development and training will assist firms to acquire basic knowhow and capacity to export specific products. Technical assistance and training will deal with product design, quality control, pricing, packaging, and delivery requirements of buyers. Also, assistance will address problems with input supply, export finance and export documentation. The assistance will help producers with the initial trade transactions and help them to get new products into the marketplace in the right ways, through placing products with importers and distributors who are capable of moving product and supporting the producer for long-term growth. To achieve this, IMCC will engage the involvement of buyers early in the training efforts to ensure that the right types of information are being conveyed. The involvement of buyers will also help to initiate commercial relationships that give producers access to inside information regarding market opportunities and requirements. The project will provide assistance through commercial links with suppliers, buyers, among others.

4. Trade Representation, Trade Advisory and Business Management Services

After the firms have been assisted in developing and implementing market entry strategies, IMCC will provide for ad hoc services to help firms to identify and engage specialized service suppliers who can provide trade representation, advisory and business management services on a continuing basis through normal commercial arrangements. To achieve this, the project will identify qualified service suppliers and provide referrals as needed.

IMCC will work with both local service firms and international firms to make such services available locally. To achieve this the IMCC will assist in developing the service capability of new firms and provide limited term subsidies until the volume of business increases to the point where such services can be maintained on a fully commercial basis.

Through limited ad hoc project services or through the development of local expertise, the following services are expected to be required by Ghanaian firms:

- trade representation
- business negotiations or dispute resolution
- second-stage business planning

market reassessments/diversification
 partner searches
 preparation of financial plans
 plant and equipment upgrading
 advanced skills training

5. Overseas-Based Trade Services

To support the firm-level business services and institutional support efforts in Ghana, IMCC, through its agents, will supply overseas services in the U.S., European Community and Asian markets.

These overseas services will include:

- * the maintenance of liaison offices in the U.S., Europe and Asia to facilitate communications, establish business contacts, recruit product specialists, and facilitate other business dealings on behalf of Ghanaian firms and associations.

- * the conduct of market research studies for selected products, identification of buyers, and the collection of general trade information and statistics relevant to the needs of the participating associations and their members.

- * the development of buyer/supplier contacts and provision of business facilitation services to help initiate new trade transactions (including technology/equipment sourcing).

- * the provision of product specific training/technical assistance in the U.S. Europe and Asia through study tours, in plant training programs, trade show attendance, and special courses (such as those offered by the World Trade Institute)

Targets

At the end of the project, IMCC will have attained the following targets in support of project outputs:

- * Export market entry and expansion assessments will have been conducted for 100-150 firms;

- * Product development and training needs assessments will have been conducted for 100-150 firms;

- * Direct technical assistance will have been provided to 150-200 exporting firms in agribusiness, value-added wood products, and textiles/garments.

- * 40 - 50 exporters will have received technical assistance and training to implement market development and export production plans;

* 150 - 200 exporters will have received trade advisory, trade representation, and other business management services through a cost sharing arrangement with commercial service suppliers.

Specific targets of assistance will have been provided to firms in each of the three product sectors. A detailed outline of the outputs in this area for firms in each of the three NTE product sectors is provided in Annex K.

5.4.2 IESC and Institutional Development Support, Industry-Focused Services and Export Readiness for Firms: AID will contract with IESC for \$3,364,200 to establish a four-year Technical Assistance and Association Strengthening (TAAS) program to provide technical assistance and training to individual firms and private sector associations in Ghana. This program includes 1) support to prepare firms to receive trade and investment advisory services; and 2) institutional development support and industry-focused services for business associations and their members. IESC will provide 108 person months of long-term professional personnel (60 expatriate; 48 local), short term personnel (all IESC U.S. industry experts), and home office and local support staff.

5.4.1.2 Export Readiness for Firms: Technical and Managerial Assistance: IESC will provide technical assistance, training and other services to assist individual B-level Ghanaian firms which require technical and managerial assistance to prepare them for trade and investment opportunities. IESC will also provide limited assistance to C-level firms which are not ready to take the steps necessary to prepare for trade and investment opportunities but who will benefit from improved business management and technology and which will result in broadening the base of viability private businesses in Ghana. IESC will focus its assistance primarily on B-level firms in each of the four sectors identified for priority assistance under TIP. These include food products, value-added wood products, textiles and garments, and giftwares and decorative accessories. IESC will enter into a \$500,000 contract with Aid to Artisans, an US private voluntary organization with expertise in developing artisan crafts for export.

IESC will provide one resident Country Director, assisted by a locally recruited Project Development Specialist, to manage this program and 114 person months of industry experts for short-term technical, managerial and marketing assistance to work with individual firms for a period of from one to three months.

IESC will utilize short-term experts to, first, assess the technical assistance needs of each individual B-level firm and, second, based upon the information gathered through these preliminary visits, will provide Volunteer Executive (VE) industry

experts chosen for their experience and expertise in the same business as the firms identified in the assessment process. These experts will work on site for a period of up to 90 days to assist in the solution of technical, managerial or other problems identified in each firm. IESC executives will quickly identify key constraints and begin practical problem-solving and training with a minimum of delay. IESC experts will provide technical expertise to individual Ghanaian B-level and to a lesser extent C-level firms for:

- o solving technical problems in production systems and methods, including choice of equipment or materials, standardization, quality control, and other considerations;
- o developing improved management, financial, production, training systems, research, and business practices for efficient production and delivery of goods and services;
- o increasing the ability to formulate marketing, advertising, and sales strategies and to sell products in domestic and external markets; and
- o providing assistance to improve overall environmental practices such as waste management, pollution control, resource conservation, etc.

IESC also will link firms with market and technology information through its American Business Linkage Enterprise (ABLE). IESC will link firms with ABLE to contract for customized-tailored studies to provide industry-specific information on US markets and technology. ABLE studies are tailored to the specific needs of clients and will provide rapid and low cost answers to product specific questions, sources of equipment and materials, prices and quality standards, channels of distribution and rules for market entry and customs duties, import regulations, and industry standards. ABLE also will provide promotional materials and assist clients in marketing their products through presentation and follow-up services.

IESC's assistance will improve planning, productivity, product quality, technology, export capacity, profitability and management for individual enterprises and better position these firms to take full advantage of the trade and investment services to be offered as part of the larger TMAP by IMCC.

IESC through a subcontract with Aid to Artisans (ATA) will assist the development of artisanal exports in the giftwares and accessories area through creating links to international buyers and providing assistance in product design, production methods, management, marketing, and export procedures. ATA a non profit

US organization which develops export markets for artisanal crafts, has already established commercial links in Ghana in the form of assistance to Aid to Artisans Ghana (ATAG) and has demonstrated the marketability of Ghanaian artisanal products in the US market. ATA, working with its non-governmental organization (NGO) affiliate, Aid-to-Artisans Ghana (ATAG): 1) will carry out a comprehensive marketing program; 2) secure and fulfill export orders; 3) conduct management training for artisans, entrepreneurs, and ATAG; 4) establish administrative offices for ATAT with appropriate staff and resources; 5) establish a buyer's showroom/sales shop in Accra and Kumasi; and 6) establish a training center in Kumasi. ATA will train a minimum of 1280 artisans. ATA will focus on the development and export of such products as pottery, baskets, kente cloth, beads, among other products.

Export Firm Readiness targets:

By the end of the project IESC will have attained the following targets in support of project outputs:

- o 200 firms in the NTE sector will have improved management, financial, production, training system, research and business practices through seminars and workshops conducted by IESC Volunteer Executives;
- o 40 individual firms will have improved their technical, management or marketing capabilities for domestic and external markets through on-site technical assistance projects performed by IESC Volunteer Executives;
- o NTE firms will have improved their source of equipment and other business information through assistance offered by IESC and ABLE information services projects (this includes at least 12 custom-tailored ABLE product specific and/or industry specific studies);
- o Assisted firms will have improved overall environmental practices, such as waste management, pollution control and resource conservation.

Targets for ATA/ATAG:

- o \$500,000 of export sales for giftware and accessories will have been generated from assisted artisans.
- o A minimum of 50 new product lines will have been developed.
- o ATAG headquarters and Buyer's Showroom will have been developed in Accra.

- o ATAG Field Office and Training Center will have been established in Kumasi.
- o A sustainable market link will have been established between the U.S. and the Ghanaian artisan sector.

5.4.1.2 Institutional Development Support and Industry-Focused Services: Strengthening the capacity of selected Ghanaian business associations and organizations is a key aspect of TIP's export promotion strategy. IESC through its Technical Assistance and Association Strengthening (TAAS) program will help strengthen private sector business associations and organizations through new or improved management and technology systems and improved ability to access business assistance for member firms. IESC will provide access to its services to both individual associations and groupings of associations and the newly proposed Private Enterprise Foundation which is described below. To carry out this program, IESC will provide one (1) long-term TAAS Association Development Manager for 12 months in the first phase of activities and 23 person months of short-term IESC Volunteer Executive and contracted experts over four years.

Assistance to AGI, GNCC, FAGE: The initial focus of IESC's association strengthening efforts will be on the Association of Ghana Industries (AGI), the Ghana National Chamber of Commerce (GNCC), and the newly instituted Federation of Association of Ghana Exporters (FAGE). The Ghana Employers Association (GEA) may also be selected as a priority business association. IESC will assist these business associations to: 1) prepare a plan; 2) improve their ability to provide effective technical, training, marketing assistance and information services to their members to promote non-traditional exports; 3) support collective initiatives of their members to solve system problems within their industries; 4) strengthen their capacity to undertake analysis of policy and regulatory constraints and improve their effectiveness in working with the government to develop solutions to policy and regulatory problems facing their members; 5) translate an improved service capability and association management into an ability to recruit and retain new dues-paying members; and 6) improve their financial viability through fee generating, value-added services, as well as increased membership dues.

During the first phase of activities, the IESC Association Development Manager will assess the capacity and needs of the individual business associations through close communication with representatives of the associations and through a thorough review of existing documentary materials. IESC Volunteer Executives and contracted specialists will participate in this early phase. During this phase IESC will analyze, integrate and update existing data and will determine the training, technical and managerial assistance needs of the individual associations.

Based upon this assessment, IESC volunteer experts in business association operations will work with business associations for a period of up to 90 days to help meet their technical and managerial assistance needs. The IESC experts will provide training in program development, membership building, financial control, human resource development, and general management skills. Specifically, IESC experts will provide assistance to associations in:

- o improving training, organizational, managerial, and marketing capabilities;
- o developing more sophisticated market research, improved trade information resources and services, such as buyer contact services for sourcing equipment and technology and/or fee generating or funding capabilities; and
- o organizing and conducting workshops and seminars lasting from one day to one week to develop both basic and specialized skills in groups of client businesses or industries (e.g. technical assistance seminars to control post-harvest loss, seminars covering strategic planning, financial management, marketing and sales techniques, personnel management, accounting, etc.)

Assistance to the Private Enterprise Foundation: Concurrently with its programming to provide technical and managerial assistance to the individual associations, IESC will provide technical assistance to establish and strengthen a Private Enterprise Foundation (PEF). PEF, an umbrella organization to represent the interests of the private sector, will be established initially by the AGI, GNCC, and FAGE. It is expected that other business associations may wish to join the Foundation.

The establishment of PEF presents a particular challenge to TIP. The proposed PEF must be built from the ground up. Although the creation of PEF has been proposed by the business associations themselves, it is likely that the interest of the bodies like the GNCC and AGI, who are primarily manufacturers of domestic products or traders of imported consumer goods on the one hand, and FAGE, representing exporters, on the other may diverge on key issues.

IESC will work with AGI, GNCC and FAGE to assist in developing a unity of interest, to accelerate the development of PEF, and to make it a well-functioning organization capable of articulating the interests of the private sector and offering relevant programs to its members.

Once PEF is established, has developed management systems, identified staff and has an acceptable business and financial plan to guide its operations and growth, AID will grant to PEF

\$1.5 million dollars to underwrite the renovation of a building--the Accra Private Sector Center--to house the Foundation and participating associations, operational expenses, equipment, furnishings and supplies during the life of the project.

The proposed purposes of the PEF are:

- * to guide, mentor and influence collective efforts of private business in Ghana to service the development needs of private business;

- * to promote its interests and influence policies and regulations with Government and other external bodies to ensure that private business can continue to exert and execute its activities in support of national development through private sector growth;

- * to foster an innovative environment where associations and constituent businesses can develop competitive strategies for the expansion of Ghanaian economy through internal and external means.

The Private Enterprise Foundation will provide a strategic and tactical thinktank for private business participation in national policy formulation and decisionmaking and economic development; representation of private business to government; representation of private business to external groups, such as investors, donors, or other agencies; and association organizational infrastructural building to improve operations and membership services; and shared services.

IESC will continue to provide technical assistance and training to the Foundation staff once it is established.

Institutional Development Support and Industry Focused Service Targets.

By the end of the project, IESC will have attained the following targets in support of project outputs:

- o at least six business associations including AGI, GNCC, FAGE and PEF will have improved training, organizational, managerial and marketing capabilities through technical assistance projects (including a series of workshops, seminars, and technical in-plant consultancies).

- o Associations will have developed more sophisticated research, improved information resources and services, and/or fee generating or funding capabilities through four (4) demonstration workshops for association members as examples of the kinds of services associations should offer to build up and maintain membership.

o Associations members will have the ability to analyze sector-specific policy issues through assistance from IESC to develop basic and specialized skills workshops and seminars.

o PEF and FAGE will have been established as viable and well functioning organizations able to offer relevant services to their members and to articulate the interests of their members and the private sector as a whole.

5.4.3 Project Development Assistance to Export Firms: TIP will finance the services of the African Project Development Facility (APDF) to assist firms and entrepreneurs to develop viable business plans and proposals for export projects. AID will provide assistance to APDF to develop an Accra satellite office to be initially staffed by one expatriate professional senior investment officer (48 person months) and one local professional (junior project officer, 48 person months), plus local support staff. APDF will add an expatriate investment advisor in 1994 to provide 36 person months of assistance through 1996. APDF will utilize approximately 28 person months of local consultants and 46 person months of expatriate consultants over four years to carry out project activities.

The increase in non-traditional exports could be greatly accelerated by identifying and financing feasible and profitable business opportunities. APDF will assist this process by:

- * assisting Ghanaian entrepreneurs in formulating and screening project ideas;

- * providing guidance and selectively making technical and consultancy services available to Ghanaian entrepreneurs to promote and implement sound project ideas;

- * assisting Ghanaian entrepreneurs to identify and obtain appropriate technical and managerial personnel;

- * assisting Ghanaian entrepreneurs to select project partners and sources of equity and loan finance on appropriate terms; and

- * advising Ghanaian entrepreneurs interested in acquiring local companies from foreign shareholders or acquiring parastatal enterprises which the Government of Ghana may wish to privatize.

APDF will assist a variety of economic activities, with the largest category expected to be related to agriculture or agro-processing. APDF is expected to develop and complete eight to ten projects per year over four years. A detail description of the APDF plan and method of operation is included in Annex L.

Targets:

At the end of four years, APDF is expected to have developed, completed, and obtained financing for 32-40 business programs for export expansion or new entry export projects.

5.4.4 Export Credit Guarantee Fund:³ TIP will support the establishment of an Export Credit Guarantee Fund (ECGF) to augment and stimulate export credit lending. The lack of adequate pre-shipment working capital is a major barrier to the expansion of NTEs. Exporters often find that commercial banks are reluctant to lend to them, for such reasons as firms are perceived to lack sufficient collateral, are not known to lenders and have insufficient technical or export experience. The ECGF would encourage lenders to extend working capital financing by reducing the risk associated with all pre-shipment loans to non-traditional exporters. The establishment of ECGF will directly support the TIP objectives of increasing the capacity of entrepreneurs to obtain financing by increasing access by NTE exporters to formal credit by improving the risk profile of these potential borrowers. The ECGF will complement and support establishment of a refinance facility and insurance program to be developed as part of the World Bank program.

Past guarantee programs, which have been administered by the Bank of Ghana, have run into administrative problems which severely limited the usefulness of the programs to the commercial banking system. TIP will take a new and innovative approach to establishing the ECGF. If the ECGF is to be used by the banking system it must provide the following essential services.

- o Applications must be processed quickly in order to meet the urgency of international trade and the export process.
- o The confidentiality of the transaction must be preserved in order to protect the exporter's customers, and part of this function requires that personnel be properly compensated for their task.
- o Documentation must be streamlined.
- o The allocation of the guarantee must be impartial and not become a source of power to the administering agency.
- o There must be a desire to serve the customer, the bank applicant for the guarantee and the exporter, by the personnel of the administering agency.

³ At the present time, this is planned as an activity of the World Bank. However, if the World Bank does not implement this component, USAID/Ghana will do so with available Africa Economic Policy Reform Program (AEPRP) funds.

- o Information concerning the details of the program must be properly marketed to all eligible beneficiaries.
- o Claims must be paid quickly and consistently, in accordance with known criteria.

In order to foster these service characteristics, the Mission believes it is essential to establish any guarantee fund with the private sector.

The Fund, which will have an independent Board of Trustees comprised of majority private sector representatives, will be established by the Bank of Ghana with a capitalization of \$3.5 million equivalent in cedis. The Fund will be capitalized over four years at the cedi equivalent of \$.5 million, \$.7 million, \$1.0 million, and \$1.3 million, respectively. The Fund will be managed through a contract with a Ghanaian private sector firm. The Board of Trustees will be responsible for developing the terms of reference for a request for proposals for a competitive selection of the fund manager. TIP will assist the board of trustees in this task by providing short-term technical assistance. The GOG will finance the activities of the Board of Trustees, the fees of the Fund manager, and the fund resources.

5.4.4.1 Conditionality: The establishment of the Export Credit Guarantee Fund is a condition precedent for disbursement of the cash grant under Tranche 2 (T2). Tranche number 4 (T4) and Tranche 5 (T5). T3 will require the GOG to show evidence that a Fund Manager and Auditor have been selected and that the Fund is fully operational. T4 and T5 will require that the GOG submit annual reports of the Fund's operation to AID.

5.4.4.2 The ECGF Structure: The Ghana Export Credit Guarantee Fund (ECGF) will be a legally structured entity governed by a Board of Trustees. Establishing a legal entity is proposed so that Ghanaian banking institutions interested in bidding for the management of the Fund will be on an equal footing with non-banking financial organizations. According to the Bank of Ghana, the Ghanaian Banking Law of 1989 dictates that off-balance sheet liabilities such as guarantees must be included directly in the evaluation of the financial ratios of the banks. With the ECGF as a separate entity, a bank winning the management contract for the Fund would have an arms length relationship with the Fund and would not have to incorporate the liabilities of the Fund on its balance sheet.

The Board of Trustees

The Board of Trustees will be composed of representatives for the GOG, the financial sector and organizations involved in promoting NTEs. Board representation should be 49% or less from the GOG and 51% or more private sector. The principal responsibilities

of the Board will be to set and revise as necessary the strategic policies, goals, objectives, performance targets for and eligibility criteria for extending guarantees under the Fund, to select and engage the private sector entity which will serve as the manager of the Fund; to oversee policy implementation by the Fund Manager, to select an accounting firm for the Fund; and to periodically review management's performance.

The Board of Trustees will also engage the services of an independent accounting firm to prepare quarterly and annual financial statements and periodic audit reports and management reviews.

At the end of the grant period, it will be the responsibility of the Board of Trustees to decide whether the operation of the Fund will be continued based on the performance of the Fund and the continued need for such a facility by non-traditional exporters or the Fund will be dissolved and the funding returned to the GOG.

ECGF Operations

Based upon policies and eligibility criteria established by the Board of Trustees, the ECGF will provide guarantees covering up to 67% of the principal of credit provided by Ghanaian financial institutions to non-traditional export borrowers.

Selection of the Fund Manager

Management of the Fund will be undertaken by a private management contract. Selection of the Fund Manager will be based on a competitive bid process outlined in a request for proposals (RFP). The RFP will be developed by the Board of Trustees with technical assistance provided by TIP. Approval of the RFP will be required from the Board of Trustees.

The Fund Manager need not be a banking institution. The principal characteristics that will be sought in the Fund Manager are: (1) a Ghanaian organization composed of individuals with knowledge of and experience in a broad range of financial disciplines (i.e., project financing, export credit, off-balance sheet financing, etc.); (2) a demonstrated ability to generate and implement an innovative and efficient approach to the management of the Fund; (3) a demonstrated administrative capability (i.e., accounting, report generation and analysis, etc.); and, a demonstrated knowledge of the financial and export sectors of Ghana. The Fund Manager will be awarded a contract for a 3 year period. At the end of the contract period, the performance of the Fund Manager will be reviewed by the Board of Trustees to determine whether the contract will be renewed or put for new bids.

Responsibilities of the Fund Manager

The Fund Manager will be responsible for the daily operations of the Fund. Daily Fund management responsibilities will generally fall into two areas: (1) managing the guarantee activities of the Fund (i.e., the marketing to and the supervision of the usage of the Fund by Ghanaian financial institutions) and (2) the investment management of the funds of the Fund. The Fund Manager will submit periodic reports on performance to the Board for review, as well as present, as necessary, proposals for policy changes.

The selected Fund Manager will be responsible for and its performance measured against the effective utilization of the Fund. The Fund Manager will market the Fund and when necessary, provide short training sessions on the Fund's procedures and eligibility criteria. The Fund Manager will process requests for use of the guarantee. The Fund Manager will be delegated authority to grant guarantees below a certain amount; requests above the delegated amount would be presented to the Board of Trustees for approval.

The Fund Manager will be responsible for following up on the progress of the loans for which guarantees have been extended. The activity would include receiving and reviewing reports from the lending banks as well as occasional site visits to the borrowers' operations. Finally, the Fund Manager will be responsible for disbursing funds to a financial institution when a borrower has defaulted on his loan.

On the treasury management side, the Fund Manager will be responsible for investing the resources of the Fund in such a manner so as to meet the performance targets.

Compensation of the Fund Manager

The compensation package for the Fund Manager will be composed of two elements. The first will incorporate reimbursement of costs incurred plus a relatively modest fixed margin profit. The second element will be performance-based, providing a profit incentive for effective utilization of the Fund. In effect, the Fund Manager will receive additional profit for the degree of usage of the Fund (this encourages the Fund Manager to actively market the Fund); decreased profit will result from the level of defaults and payouts under the guarantees (this will encourage the Fund Manager to prudently assess the requests for guarantees, and effectively and routinely followup the progress of guaranteed loans so as to spot repayment problems and work with the lender and borrower to resolve them prior to the loan going into default). It will be the responsibility of the Board of Trustees to set the guidelines for the compensation package which will be included in the RFP.

6.0 PROGRAM MANAGEMENT AND SUPPORT

Funds under this component will provide for the following services:

The services of a full-time USPSC program manager have been programmed for 48 person months. USAID has already hired an individual for the position and that individual is currently being funded under PD&S. Funding for the position will be switched over to TIP once conditions precedent to first disbursement under the project component are met. The program manager has taken a key role in the design of TIP. Under the implementation of the program, the PSC will be in charge of all aspects of the program, taking charge of the policy dialogue and the supervision of all technical assistance and training. The scope of work for the USPSC position is included in Annex EE.

Funding is provided for technical assistance needs connected with the implementation of the TIP impact monitoring and evaluation program. The details of the program are detailed in Section 10 Monitoring and Evaluation Plan. The Mission has established a functioning Monitoring and Evaluation System to coordinate all impact monitoring within the Mission. To do this, the Mission has established a M&E Unit within the Program Office. The costs of the Unit are shared equally among all active programs. The TIP share of funding for the Unit will be \$100,000 over the life of the program.

Funds are also programmed for technical assistance and training needs identified to comply with environmental monitoring requirements. These requirements are further described in Section 10.

USAID has established a Field Support Unit to provide for all contractor support. The FSU will provide for all procurement related to contractor support, locate and renovate housing and provide for the periodic maintenance of contractor housing. All active programs share in FSU core expenses, based on utilization of services. The TIP share has been programmed at \$85 thousand dollars over the life of the program.

Finally, funding has been provided for periodic financial assessments, reviews and audits.

7.0 PROGRAM IMPLEMENTATION AND MANAGEMENT

Implementation of TIP will commence immediately after authorization of TIP's Program Assistance Approval Document (PAAD) by AID/Washington and signature of the TIP grant agreements by the US Government and the Government of Ghana. A complete implementation schedule for the program is contained in Annex G.

7.1 Implementation of the Cash Grant:

7.1.1 Authorization and Obligations: For the TIP cash grant, USAID and the GOG will obligate Development Fund for Africa (DFA) funds in five tranches, 1992-1996. The first tranche of \$8.0 million, will be obligated upon signature of the grant agreement in late FY 1992. The second through fifth obligations will require annual amendments to the Program agreement, as well as amendments to the PAAD authorization. These obligations are planned at \$16.0 million in FY1993, \$13.0 million in FY1994, \$16.0 million in FY1995, and \$7.0 million in FY1996. The annual increments may increase or decrease subject to the availability of funds.

The Assistant Administrator for the Africa Bureau (AA/AFR) will authorize the PAAD and the first tranche. Subsequent authorization amendments and all obligations will be executed by the USAID/Ghana Mission Director in accordance with existing AID delegations of authority. Transfer of the amounts obligated will be contingent upon satisfaction of conditions precedent (CPs) discussed in Section 7.1.2. Once it has been determined, through tranche review procedures established for TIP, that the GOG has provided sufficient evidence of having satisfied all CPs for a given tranche, USAID will notify the Secretary of the Ministry of Finance and Economic Planning (MFEP) and the Secretary of the Ministry of Trade and Tourism (MOTT) in writing by means of Project Implementation Letters (PIL) and commence tranche disbursement procedures.

7.1.2 Conditionality: USAID has negotiated the conditionality requirements of the TIP cash grant with three essential requirements in mind: 1) that conditionality support, not undermine World Bank conditionality; 2) that the conditionality not impose an undue burden on an already heavily burdened public sector; and 3) that conditionality per tranche be restricted to only the most essential requirements. Conditionality under TIP was developed to meet these requirements while providing for adequate assurance of achievement of Program objectives.

Under the cash grant, there are six sets of conditionality. These address administrative and legal matters, improving the policy framework, reducing regulatory and administrative

transactions costs; improving public sector export services, and establishing an Export Credit Guarantee Fund, in addition to assuring that environmental monitoring is being properly funded. The conditionality focuses on the GOG repealing certain regulations detrimental to trade and investment, establishing appropriate organizational structures and developing and implementing appropriate programs to address the principal constraints to trade and investment growth. Much of the conditionality in tranches 4 and 5 is based on the GOG providing evidence that they are indeed implementing the programs agreed to.

Tranche 1. Prior to disbursement of \$5.0 million under the first tranche of program funds the GOG will submit to AID, in form and substance satisfactory to AID;

- 1) Specimen signatures of the responsible officers for TIP on behalf of the Ministry of Finance and Economic Planning (MFEP) and the Ministry of Trade and Tourism (MOTT); and the name of the banks and numbers of the bank accounts to be used to transfer US dollars during implementation.
- 2) Evidence that the Trade and Investment Management Unit (TIMU) and the Trade and Investment Management Office (TIMO) have been established along with an action plan and budget for 1993.
- 3) Evidence that the Trade Policy Unit (TPU) of the Ministry of Trade and Tourism has been established, along with an action plan and budget for 1993.
- 4) Evidence that the Foreign Investment Advisory Service (FIAS) has been requested to assist Ghana in developing an Investment Promotion Statement (IPS).
- 5) Evidence that exporters are allowed to sell foreign exchange at the highest legal exchange rate.
- 6) Evidence that a Board of Directors has been appointed for the Ghana Export Promotion Council (GEPC), with adequate private sector representation and that the Board has been given the mandate to develop a Strategic Plan for the Council.
- 7) Evidence that the GOG has established and funded an environmental monitoring plan to monitor the possible impact of program activities on the environment.

Tranche 2. Prior to Disbursement of \$13.0 million under the second tranche of program funds, the GOG will submit to AID, in form and substance satisfactory to AID:

- 1) Evidence that regulations for a streamlined duty and tax relief system for imported inputs used by direct and indirect exporters have been issued.
- 2) Evidence that the GOG has published i) a handbook of gazetted import and export procedures; ii) exchange control regulations; and iii) foreign collaboration procedures.
- 3) Evidence that the requirement making first time exporters pre-pay their foreign exchange surrender requirements have been eliminated.
- 4) Evidence that all minimum price guidelines for foreign exchange retention have been eliminated
- 5) The Ghana Export Promotion Council requirement for Internal Revenue Service Certificate, as a prerequisite as an exporter is eliminated.
- 6) Evidence that income tax benefits have been extended to export marketing firms, as well as producers.
- 7) A Strategic Plan to streamline export processing and export clearance documentation
- 8) An action plan and budget for TIMO for 1994 and disbursement data for 1993.
- 9) An action plan and budget for the TPU for 1994 and disbursement data for 1993
- 10) An approved Strategic Plan for GEPC along with an action plan and budget for 1994.
- 11) Evidence that the Investment Promotion Statement (IPS) is being developed.
- 12) Evidence that the Investment Code has been changed to reflect the elimination of most fiscal incentives (will become transparent as a part of tax code); remove need for GIC approval; and recommendations of the Private Sector Advisory Group (PSAG).
- 13) Evidence that the Bank of Ghana has established an Export Credit Guarantee Fund, (ECGF) administered through the private sector.
- 14) Evidence that the environmental monitoring plan is being implemented.
- 15) Evidence that the following recommendations of the Private Sector Advisory Group (PSAG) regarding investment

have been approved:

- i) The negative list that reserves areas for domestic investment be reduced to four.
- ii) The minimum foreign capital requirement for a joint venture with a Ghanaian partner be reduced to \$10,000.
- iii) The minimum capital requirements for investment in export trading be waived.
- iv) The registration of firms be simplified by the adaption of a new and single form, the GH/92/01 and registration is through the Registrar General's Department. The manufacturing license will be abolished and the Manufacturers Industry Act of 1971 (Act 356) repealed so that no registration and approval from GIC will be required.

Tranche 3. Prior to disbursement of \$17.0 million under the third tranche of program funds, the GOG will submit to AID, in form and substance satisfactory to AID:

- 1) Evidence that the ECGF is being implemented.
- 2) An action plan and budget for 1995 for TIMO along with disbursement figures for 1994.
- 3) An action plan and budget for 1995 for TPU along with disbursement figures for 1994.
- 4) An action plan and budget for 1995 for GEPC along with disbursement figures for 1994.
- 5) Evidence that the GOG has approved a FIAS approved IPS along with an action plan and budget for 1995 to implement the strategy.
- 6) Evidence that the streamlined system of duty and tax relief for exporters is being implemented.
- 7) Evidence that the strategic plan to streamline export processing and documentation requirements is being implemented.
- 8) Evidence that the GOG has initiated a review of commercial codes, business regulations, lending instruments and legal and commercial documentation in the context of international conventions and standards and disclosure of financial data.

- 9) Evidence that the environmental monitoring plan is being implemented.

Tranche 4. Prior to disbursement of \$13.0 million under the fourth tranche of program funds, the GOG will submit to AID, in form and substance acceptable to AID:

- 1) An action plan and budget for 1996 for TIMO along with disbursement data for 1995.
- 2) An action plan and budget for TPU for 1996 along with disbursement data for 1995.
- 3) An action plan and budget for GEPC for 1996 along with disbursement data for 1995.
- 4) An action plan and budget for implementing the IPS for 1996 along with disbursement data for 1995.
- 5) Evidence that the streamlined system of duty and tax relief for exporters is being implemented.
- 6) Evidence that the strategic plan to streamline export processing and documentation requirements is being implemented.
- 7) Evidence that the ECGF is being implemented.
- 8) Evidence that the GOG has begun implementation of the findings of the review of commercial codes, business regulations, lending instruments and legal and commercial documentation.
- 9) Evidence that the environmental monitoring plan is being implemented.

Tranche 5. Prior to disbursement of \$12.0 million under the fifth tranche of program funds, the GOG will submit to AID in form and substance satisfactory to AID:

- 1) An action plan and budget for TIMO for 1997, along with disbursement figures for 1996.
- 2) An action plan and budget for TPU for 1997, along with disbursement figures for 1996.
- 3) An action plan and budget for 1997 for GEPC, along with disbursement figures for 1996.
- 4) An action plan and budget for implementing the IPS.
- 5) Evidence that the ECGF is being implemented.

- 6) Evidence that the streamlined system of duty and tax relief for exporters is being implemented.
- 7) Evidence that the strategic plan to streamline export processing and documentation requirements is being implemented.
- 8) Evidence that the environmental monitoring plan is being implemented.

7.1.3 Tranche Reviews: Under the cash grant two types of tranche reviews will take place. An informal pre-tranche review is tentatively scheduled for June of each year to review progress in meeting CPs to current year tranche disbursement. More formal annual tranche reviews will occur one to three months prior to scheduled disbursement of the respective tranches to identify and develop a strategy for resolving problems in meeting CPs. Because some conditionality may be closely linked to the proposed World Bank credit, USAID/Ghana may invite the World Bank to participate in the formal tranche review process. The possibility of holding joint tranche reviews will be further explored during implementation.

Prior to each pre-tranche and tranche review, the Trade and Investment Management Office will advise USAID/Ghana in writing regarding the status of progress towards meeting CPs. Where the Office believes one or more CPs to disbursement have been met, it may also provide evidence on an ad hoc basis to substantiate that claim. Findings that CPs to disbursement have been met will occur through issuance of Project Implementation Letters on either an ad hoc basis or when all CPs to a given tranche disbursement have been met, as determined by the AID Mission Director during implementation in accordance with applicable delegations of authority.

7.1.4 Tranche Disbursement: The first and subsequent tranches will be disbursed immediately after an approved Project Implementation Letter has been sent to the Ministry of Finance and Economic Planning and the Ministry of Trade and Tourism indicating that CPs to disbursement of the respective tranches have been satisfied. After issuance of the PILs, USAID will instruct AID/Washington (FA/FM/CMPD) by cable to transfer the funds to the GOG designated Bank of Ghana account in New York. The cable will include: 1) certification that all CPs have been met and the date met; 2) any other information which may be required under the terms of the agreement to make the disbursement; 3) the dollar amount to be disbursed; and 4) the Bank of Ghana's US bank address, account name and account number. AID/Washington will then effect the transfer from the US Treasury to that account. At this point all USAID responsibility for tracking will cease.

7.1.5 Dollar Tracking: SECTION 592(b) of the 1990 Appropriations Act states that countries receiving cash transfers or cash disbursing non-project sector assistance, whether Development Assistance, Development Fund for Africa or Economic Support Fund financed, are required to establish separate accounts for receipt of such funds and not to commingle them with other funds. The legislation further requires AID to submit a Congressional Notification at least 15 days prior to obligation of any such cash transfer or non-project assistance, including details on the planned uses of the dollars to be provided on a cash basis.

TIP will require that the GOG establish and use a separate account in New York for dollars. Dollars will be tracked until they are deposited into that separate account. At that point AID will cease to track the dollar disbursements. Dollars will be utilized for the two legitimate purposes, either for adding to the foreign currency reserves of the Bank of Ghana, or for sale to the commercial banking system through the Bank of Ghana's interbank system. Through the years, the Government of Ghana has shown a competency in programming, utilizing and accounting for funds. Its accounting system is dependable and transparent. Adhering to Section 592(b) requirements for detailing planned uses of dollars provided by TIP would be intrusive to Ghana's foreign exchange allocation system, a system that is open and non-directive. Because of this and because the level of control that would be required by AID and which represents more control than the GOG itself requires, USAID seeks an exemption under Section 592(b)(4) of the Act for TIP. Annex AA contains a detailed justification for an exemption of Section 592(b) requirements for TIP.

7.1.6 The GOG Contribution: Because dollar disbursements will go directly into the coffers of the GOG, no local currency will be generated. The GOG will provide funding for the local currency needs of TIP through the General Budget. Conditionality under the cash grant has been drafted in such a way that the GOG will be responsible for demonstrating that adequate budgetary resources have been appropriated, committed and disbursed. AID's role will be to monitor the conditionality and the specific conditions as they relate to specific program and impact indicators. AID and the Ministry of Finance and Economic Planning, as part of the tranche review process will discuss and come to agreement on the local currency needs of TIP for the coming year. AID and the GOG will also discuss any problems and delays in supplying local currency to implementing ministries as part of the tranche review process. The agreement reached by AID and the GOG will be formalized in a letter of intent that will be signed by the Secretary of the Ministry of Finance and Economic Planning.

In addition to the direct contribution to the budget the GOG may

be required to undertake actions that may have an implication on revenues and expenditures. Such actions may be identified as part of on-going analyses undertaken by the TPU or AID and may include.

- the necessity to reduce or modify port charges to entice more regular shipping to Ghana.
- additional tax and tariff modification that may be identified to promote trade.

These contributions will be discussed at the time of the tranche reviews and the GOG will be expected to make appropriate changes as justified by the analyses.

Under previous cash grants the GOG has contributed a percentage of local currency generations to the USAID Trust Fund. USAID and the GOG have signed a formal Agreement on the use and reporting of Trust Funds by USAID.

Since no local currency will be generated under TIP, USAID will nullify the requirement for Trust Fund contributions from previous cash grants provided the GOG agrees to fund a portion of the local currency operational costs of the Mission and the Field Support Unit. This amount will be the cedi equivalent of \$1.5 million per year from the GOG's General Budget. The exact amount of each year's allocation will be discussed as part of the tranche review and will be incorporated in the letter of intent signed by the Ministry of Finance and Economic Planning.

7.2 Implementation of the Projectized Component: Authorization for the full amount of the grant will coincide with PAAD approval. USAID/Ghana will obligate funds in four annual tranches. The obligation schedule is dependent upon the availability of funds. The first obligation will be in FY 1992 and will amount to \$4.9 million. Subsequent years obligations will require amendments to the project agreement and are planned as follows: FY 1993 - \$5,475,000; FY 1994 - \$5,429,000; FY 1995 - \$4,196,000.

7.2.1 The Public Sector Support Component: The project activities under the public sector support component of TIP are designed to assist the GOG to address the policy reform needed to meet conditionality requirements and to achieve program and impact indicators. Assistance will be provided through an institutional contract to Sigma One Corporation (an 8(a) contractor) and a grant to the Foreign Investment Advisory Service of the International Finance Corporation and the Multilateral Investment Guarantee Agency, as well as through buy-ins and IQC arrangements under established AID contracts. The assistance under the public sector program will be for technical assistance and training. Minor equipment purchases for

contractor support purposes are also envisioned. These include household furnishing and equipment, basic office furniture and equipment and vehicle procurement. AID, with the concurrence of the Ministry of Finance and Economic Planning will be responsible for all procurement under the public sector project component.

7.2.2 The Private Sector Component: AID, with the concurrence of the Ministry of Finance and Economic Planning, will sign a specific support grant with the Private Enterprise Foundation. The Foundation will be responsible for contracting for the renovation of the Private Sector Center, procuring needed equipment and furnishings and contracting technical assistance and training. AID, with the concurrence of the Ministry of Finance and Economic Planning will be responsible for procuring the services of IMCC, the African Project Development Facility and the International Executive Service Corp.

7.2.3 Conditionality for the Project Grant Agreement: There is only one CP relating to the operation of the grant. This CP relates to the establishment of the Private Enterprise Foundation. Conditionality is as follows:

Prior to disbursement for the Private Enterprise Foundation under the grant, the grantee will submit to AID, in form and substance satisfactory to AID

Evidence that the Ghana Private Enterprise Foundation has been legally established under the laws of Ghana, along with an appropriate charter and organization structure detailing the purposes and functions of the Foundation; and

Evidence that the Ghana Private Enterprise Foundation has established and is utilizing adequate and appropriate financial accounting, procurement and personnel systems.

7.3 Summary of Implementation Responsibilities:

7.3.1 Ministry of Finance and Economic Planning (MFEP): The TIP grant agreements will be signed by AID and the Ministry of Finance and Economic Planning. The GOG bank account in New York established for disbursement of US dollars will be in the name of the Bank of Ghana, but the MFEP will authorize establishment of the account, ensure that the account is interest bearing and ensure that any interest accruing thereto will be used for appropriate purposes. The Ministry of Finance and Economic Planning will be a permanent member of the Trade and Investment Management Board. The MFEP will chair all tranche reviews and will formally submit all conditionality evidence, as well as letters of intent to AID.

7.3.2 Ministry of Trade and Tourism (MOTT): MOTT is responsible for the formulation of Ghana's internal and external

trade policy. It is, through the Ghana Export Promotion Council, responsible for the development and promotion of exports, especially for non-traditional export items and for tourism. MOTT will chair the Trade and Investment Management Unit and will be responsible for the overall implementation of TIP through the Trade and Investment Management Office (TIMO). TIMO will assure that conditionality requirements under the grant are being addressed and that policies and procedures developed under TIP are being implemented throughout the public service. TIMO will also coordinate training programs, as well as coordinate the impact monitoring of TIP. Through the Trade Policy Unit, the MOTT will collect and disseminate trade and investment data, and will also undertake and sponsor research and analysis on relevant issues relating to trade and investment in Ghana.

7.3.3 Customs, Excise and Preventive Service (CEPS): CEPS will be responsible for the direct implementation of duty and tariff relief programs and more specifically the implementation of the duty drawback system. The GOG will fund an annual line item for the duty drawback refund in the CEPS budget. CEPS will establish a duty drawback office which will develop and implement the duty drawback and other duty relief programs.

7.3.4 Bank of Ghana (BOG): BOG will be responsible for the development and monitoring of the Export Credit Guarantee Fund, as well as being a lead implementing agency under the World Bank Program. BOG will be responsible for naming the Board of Trustees for the ECGF and will monitor the activities of the Fund for the GOG.

7.3.5 Private Sector Associations: The various Ghanaian trade and producers associations play a key part in the implementation of TIP. Of principal importance will be the Ghana National Chamber of Commerce (GNCC), the Association of Ghana Industries (AGI) and the newly formed Federation of Associations of Ghanaian Exporters (FAGE). These associations will play a key role in the formation of the Private Enterprise Foundation and individuals from the associations will obviously play important roles as members of Trustees for the ECGF and Directors, for the GEPC and the GIC.

7.3.6 AID: The USAID/Ghana Mission Director will have overall responsibility for TIP, including negotiation of agreements, management and oversight. Day to day program management will rest with the Trade, Agriculture and Private Sector Office (TAPSO). A USDH private enterprise offices will be in charge of the overall management of TIP, and will devote 100% of his/her time to the implementation of the Program. The Private Enterprise Officer is expected to arrive in early FY 1993. The Officer will be assisted by a USPSC. The USPSC is currently working at Mission and is being funded under PD&S until TIP funding becomes available. In addition an FSN economist will

be assigned to TIP half-time to manage the monitoring and evaluation aspects of the Program. TAPSO will be assisted by the Program Office, specifically the USDH Project Development Officer and the USDH Program Economist. The PDO will have responsibility for overall Program backstopping and monitoring and will assure that implementation is in accordance with the provisions of the Program and Project Grant Agreements. Approximately 50% of the PDO's time will be allocated to TIP. The Program Economist will assist the project manager in coordinating the impact monitoring and evaluation of TIP. The Controller's Office will assist in the implementation of all financial issues and be responsible for general financial oversight. Contracting will be done through the resident USDH Contracting Officer who is expected to begin his/her assignment during the first quarter of FY 1993. All other procurement will be handled through the recently established Field Support Unit (FSU).

The FSU is operational and will handle all procurement, especially as it relates to contractor support. Services currently expected to be required from AID's Regional Economic Development Service Office (REDSO/WCA) include legal and engineering services in conjunction with the renovation of the Private Sector Center, as well as periodic assistance from the Regional Environmental Office for environmental monitoring.

Mission believes that with the level of staffing directly involved in implementation and support, adequate resources are available to manage the implementation of TIP.

7.4 Donor Coordination: Coordination of TIP activities with other donors involved in trade and investment in Ghana, especially the World Bank, has and will continue to strengthen policy dialogue, better focus development assistance and stretch the impact of resources. The World Bank and USAID have closely coordinated their respective programs. USAID and the Bank have had indepth discussions, both in Washington and in Accra, regarding our respective programs. These discussions culminated in mid-May with a full day workshop in Ghana, where both the proposed AID and World Bank programs were presented to the Ghanaians and thoroughly vetted, resulting in a much greater understanding of the programs of the two donors on the part of the Ghanaians. In addition the two donors gained a much better understanding of the issues to affecting trade and investment from the perspective of the Ghanaian public and private sectors.

Coordination between the World Bank and AID will continue through the implementation of our respective programs. Both agencies have agreed to the use of TIMO as a coordinating mechanism. The resident heads of both agencies will be members of the TIMU.

Coordination with other donors will take place through regularly scheduled monthly donor coordination meetings. The chairmanship

of these meetings is on a rotating basis. These meetings serve as an excellent forum whereby donors can bring up issues and matters of mutual concern.

7.5 Waivers: TIP will require an exemption from the requirements of Section 592(b) of the 1990 Appropriations Act related to planned uses of dollars for the cash grant portion of TIP. This issue is discussed in Section 7.1.5 and a request and justification for this waiver is attached as Annex CC.

7.6 Gray Amendment Considerations: USAID/Ghana is committed to increasing the access of Gray Amendment entities to Mission program activities and will use small business minority-owned 8(a) firms to provide long-term and short-term technical assistance and training services required under the public and private sector components of the TIP. To implement the public sector program the Mission has identified Sigma One Corporation an 8(a) firm. The amount of the contract is expected to be approximately \$3.0 million. Current Africa Bureau guidelines permit sole source procurement with qualified 8(a) firms if the total amount of the contract is under \$3.0 million. The second contract will be with IMCC, a qualified 8(a) firm also to provide long-term and short-term technical assistance and training to producer associations and firms to improve the production and marketing of exports. The value of this contract is also estimated to be approximately \$3.0 million. These contracts will be established through the Small Business Administration in Washington. The total value of these contracts is estimated to be approximately \$6.0 million or 30 % of total projectized funding. In addition the Mission proposes to use, where possible, Gray Amendment Firms for short-term T.A.

8.0 PROCUREMENT PLAN

8.1 Overview: TIP is financed 100% from the Development Fund for Africa (DFA) appropriations account. All procurement will be conducted pursuant to the procurement guidelines for activities financed under the DFA and Agency procurement regulations. Accordingly, the project will utilize, to the extent practical, goods and services of US origin and from US sources. Most long-term technical assistance, except local Ghanaian consultants, will be of US origin. It is the intent of USAID/Ghana that all vehicles will be of US origin. Participant training will be conducted in the US, at local or regional training centers, or in other developing countries. Generally, commodities procured will be of US source and origin, with the exception of specialized equipment and materials which may need to be purchased from other free world sources (Code 935). Computer equipment purchases may be from other free world country sources and will be of US origin. USAID/Ghana with the assistance of AID/Washington's Transportation Division (FA/OP/TRANS), will make every effort to ensure that commodities procured directly by AID, or through AID contractors will be shipped on US flag carriers in compliance with the US Cargo Preference Act. The USAID project manager will maintain records of all project procurement by AID geographic code and will report this information annually to AID/Washington's Africa Bureau. With the development of the procurement plan in accordance with Africa Bureau guidelines, USAID/Ghana is maximizing US procurement to the extent possible.

8.2 Procurement Responsibilities: The majority of off-shore and local procurement will be done by AID. This includes procurement for technical assistance, training, as well as contractor support services.

8.2.1 Technical Assistance: All technical assistance contracts and grants will be handled through the resident USDH contracting officer. USAID expects to fund a number of contracts and grants under the public and private sector components of TIP. In addition contracts will be awarded to assist AID in program management, monitoring and evaluation and financial assessment and review.

There will be two principal technical assistance contracts awarded to achieve the objectives of the public sector component of TIP. The first will be to Sigma One Corporation, an 8(a) firm. Sigma One will provide both long-term and short-term technical assistance. This 8(a) contract will provide technical assistance to the Trade and Investment Management Office, the Trade Policy Unit, and the Ghana Export Promotion Council, under the Ministry of Trade and Tourism.

The Federal Acquisition Regulation (FAR), Part 19.805-1 and

current Africa Bureau guidance permits the SBA to accept a procurement of less than \$3.0 million on a non-competitive basis to a specific firm. USAID/Ghana has had experience with Sigma One on a number of short term studies. Sigma One has had extensive experience in a number of countries implementing similar types of programs for AID and other donors. Based on the experience of the firm, the Mission intends to seek SBA approval to negotiate and award a contract under the 8(a) program directly with Sigma One. The second will be a grant with the Foreign Investment Advisory Service (FIAS), a joint venture of the International Finance Corporation (IFC) and the Multilateral Investment Guarantee Agency (MIGA). FIAS was established to assist member governments of the IFC and MIGA to review and adjust policies, institutions and programs that affect foreign direct investment. FIAS advises on procedures for the promotion, appraisal, approval and monitoring of direct investment. The ultimate purpose of FIAS is to assist member governments in attracting beneficial foreign private capital, technology and managerial expertise. FIAS will provide short-term technical assistance to the GOG in developing an appropriate investment promotion strategy. The program activities under the FIAS grant are expected to take approximately two years.

In addition to these two major institutional programs, AID expects to have additional technical assistance available for other short-term needs. This could include technical assistance for specific economic and marketing studies. These studies would be implemented through appropriate AID/Washington buy-in mechanisms to regional or centrally funded projects.

Short-term technical assistance will also be contracted to assist TIMO in developing its database and reporting system. In addition, USAID intends to reserve up to \$300,000 for unspecified technical assistance to assist the GOG in implementing the investment promotion strategy to be developed with the assistance of FIAS. The details of the strategy will not be known for several years; therefore, it is premature to attempt to estimate realistic technical assistance needs at this time. The last procurement envisioned under the public sector program will be an inter-agency agreement with the United States Information Agency to implement the Distinguished Professors Program.

The Mission envisions three principal institutional arrangements with organizations to provide technical assistance and training under the private sector component of TIP. First will be a HB-13 grant to the African Project Development Facility (APDF). APDF will establish an office in Accra that will provide for specific project development needs of the private sector. APDF was established in 1986 to address the need for a mechanism to assist African entrepreneurs to identify and prepare viable projects. The UNDP, the African Development Bank and the International Finance Corporation are joint sponsors of APDF. In addition to

funding provided by the three sponsoring agencies, the governments of 15 countries have committed financial support.

APDF advises private entrepreneurs in Sub-Saharan Africa on the preparation of viable projects. The services APDF provides include helping entrepreneurs prepare market, technical and other feasibility studies needed for project preparation. APDF also identifies promising African entrepreneurs and helps them organize, diversify and expand their businesses and works with these entrepreneurs throughout the project preparation cycle until they secure funding. APDF supports projects with investment costs in the range of \$500,000 to \$5.0 million, but will consider smaller projects depending on the economic conditions in specific countries.

The second will be a contract with IMCC, a qualified 8(a) firm, to provide technical assistance and training to private associations and entrepreneurs in export production and marketing. IMCC is a firm that is qualified to provide the technical services since it is the principal contractor in the PRE Bureau, MTAP Program and will provide similar services in Ghana. IMCC is currently implementing similar programs in Guatemala and the Philippines.

The third principal agreement will be with the International Executive Service Corp (IESC).

In addition to the three agreements mentioned above, the Mission intends to contract with individual local firms to provide specific studies and analyses for the Private Enterprise Foundation. These analyses will be in the area of policy reform. On occasion it may be necessary to supplement the expertise of local firms with expatriate technical assistance. If this becomes necessary the Mission will utilize AID/Washington regional and central activities to provide needed short-term technical services.

In addition to technical assistance designed to specifically achieve program objectives, TIP provides for resources in the area of program management and support. Specifically, this includes the services of a full time USpsc Program Manager. The individual has already been contracted and is currently being funded under PD&S. The individual will be funded under TIP when resources become available.

Resources have also been programmed for two evaluations during the life of the project. These evaluations will be implemented through IQC arrangements, or through appropriate buy-ins to regional or central projects.

Impact and environmental monitoring are other important areas for programming. The Mission envisions utilizing local firms to

collect baseline surveys. If specific expertise is not available locally, the Mission will contract for US assistance through central or regional projects, or through IQC arrangements.

Finally financial assessments and review will form an integral part of program monitoring. There are a number of competent international accounting firms in Ghana. The Mission will contract with these firms to provide the services required.

8.2.2 Participant Training: Participant training under TIP will be coordinated by the various technical assistance teams. This will involve establishing itineraries and contacts for participants. The USAID/Ghana Training Office, under the Human Resource Development Office will process all participant training under TIP. This will include visa and health processing, procuring airtickets and maintenance costs.

8.2.3 Grant to the Private Enterprise Foundation (PEF):

8.2.3.1 Building Renovation: The Mission will make a grant to PEF, which will handle all procurement. PEF will utilize local contractors to perform the necessary renovations to the Private Enterprise Foundation Business Center. An Engineering Analysis and cost estimate for the renovation is contained in Annex M.

8.2.3.2 Equipment: PEF will procure major office equipment and furnishings for the Private Sector Center. Some furnishings, such as wood furniture will be procured by PEF locally. Most furnishings and equipment will be purchased from the United States.

8.2.4 Inter-Agency Agreement with USIS: USAID/Ghana will utilize the services of USIS/Ghana to implement the Distinguished Professors Program. The required 621(a) justification is contained in Annex DD.

TABLE 8.1

METHODS OF IMPLEMENTATION AND FINANCING

<u>METHOD OF IMPLEMENTATION</u>	<u>METHOD OF FINANCING OR DIRECT REIMBURSEMENT</u>	<u>APPROXIMATE AMOUNT</u>
<u>Institutional Contract</u>		
Sigma One 8(a)	Direct Payment	2,950
IMCC 8(a)	Direct Payment	2,990
Investment promotion Strategy Implementation	Direct Payment	300
<u>Grants</u>		
APDF	Direct Payment	3,123
FIAS	Direct Payment	1,150
Private Enterprise Foundation	Direct Payment	1,500
IESC	Direct Payment	3,364
<u>Inter-Agency Agreement</u>		
USIS	Direct Payment	200
<u>Buy-Ins</u>		
Short-term Technical Assistance	Direct Payment	1,194
Evaluations	Direct Payment	170
<u>USAID Procurement</u>		
Contractor support	Direct Payment	390
<u>Direct Contract</u>		
USPSC	Direct Payment	934
Local Technical Assistance	Direct Payment	250

9.0 FINANCIAL ANALYSIS

9.1 Cost Estimate and Financial Plan: The total cost of the Trade and Investment Program is \$120.6 million. AID will contribute \$80.0 million of the total cost of the Program. \$60.0 million will be in the form of a cash grant and \$20.0 million will be projectized assistance. The Mission recommends that \$70.0 million of the total cost come from its Operational Year Budget and that \$10.0 million come from the Africa Economic Policy Reform Program in FY 1993 for obligation under the cash grant. The Government of Ghana's contribution will be the equivalent of \$40.0 million in local currency. The Ghanaian private sector will contribute the equivalent of \$600,000. A detailed Summary Cost Estimate and Financial Plan is included as Table 9.1.

Resources under the grant will be programmed to achieve the two principal outputs of the program - improving the enabling environment for exporters and improving the capacity of firms to export. Of the total AID grant resources programmed 83% will be utilized for exacting improvements in the enabling environment. The remaining resources will be utilized toward improving the capacity of the private sector to export. Table 9.4 gives a more detailed breakdown of the allocation of resources among the principal outputs.

9.1.1 AID Financed Inputs: AID program funds under the cash grant will be disbursed upon the Mission's approval of GOG satisfaction of annual conditionality requirements. Funds will be disbursed in five tranches beginning in January, 1993 and terminating in January, 1997. A disbursement schedule is as follows:

	(Million U.S.\$)				
	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997
OYB	5.0	8.0	12.0	13.0	12.0
AEPRP	-	5.0	5.0	-	-
TOTAL	5.0	13.0	17.0	13.0	12.0

AID project funds will be utilized for the following purposes. First, technical assistance and training will be funded to assist the GOG with the analytical requirements for meeting some of the conditionality requirements under tranches 2 and 3. These have to do with the requirements for a duty relief program, streamlining procedures for exporters, developing transparent and internationally comparable business codes and laws and the development of the Export Credit Guarantee Fund. Second, funding will be provided for technical assistance and training which will strengthen key GOG institutions that will provide or coordinate key resources to exporters. These institutions include the Ministry of Trade and Tourism; the Customs, Excise and Preventive

Service; the Bank of Ghana; the Ghana Export Promotion Council; and the Ghana Investments Center. Third, AID will fund a "distinguished professors" program implemented through the United States Information Service. Fourth, technical assistance and training will be provided to assist business firms and associations to produce and market exports more effectively. Fifth, a grant to the Private Enterprise Foundation to assist the Foundation in coordinating policy dialogue with the GOG on issues pertaining to the private sector and to provide services to members. Sixth, funding for program management and support. The AID contribution will be limited to financing long and short-term technical assistance, training and limited commodity procurement primarily for contractor support. This will include vehicles, computers and office equipment and supplies. Detailed cost estimates can be found in Annex I.

9.1.2 The GOG Contribution: The Government of Ghana will contribute the equivalent of \$40.0 million in local currency from its General Budget. Specific contributions include: 1) the equivalent of \$21.4 million into the CEPS budget for funding the duty drawback fund; 2) the equivalent of \$3.5 million to fund the private sector Export Credit Guarantee Fund; 3) the equivalent of \$15.1 million for increased budget support to key implementing agencies such as the Ministry of Trade and Tourism, Customs Excise and Preventive Service, the Ghana Export Promotion Council the Ghana Investments Center and key GOG organizations involved in environmental monitoring. GOG support will be utilized for salaries, capital equipment, local technical assistance, training and operational costs of GOG agencies. Detailed cost estimates for each agency can be found in Annex I.

9.2 Recurring Cost Implications of the GOG Contribution: The TIP contribution should not present significant recurring costs to the GOG. The largest component, the CEPS duty drawback fund will grow as the value of exports grows. However, the revenue burden of the drawback fund will be mitigated by more thorough taxation methods when the GOG adopts a VAT system under the proposed World Bank program. Also, as both the amount of NTE's grow and the number of exporters increases additional revenues will be entering the GOG coffers through increased tax revenues. The second major cost component is operational support for key ministries. Much of this contribution is for resources already allocated to Ministries. The three exceptions are the TIMO, TPU and the CEPS duty drawback office. TIMO is being instituted purely to coordinate TIP activities. There is no necessity for the GOG to continue with TIMO after the Program unless the GOG wishes to continue the coordinating mechanism. The resources required to run the TPU and the CEPS duty drawback office are minimal and should cause no undue hardship in terms of recurring costs. The recurring costs implied for the GEPC and GIC are significant. However, TIP will actively pursue the strategy of merging the two organizations by the end of the Program in order

to consolidate operations, thus reducing overall costs. The merging of the two organizations will not cause undue concern for recurring costs.

The third principal element is the Export Credit Guarantee Fund. The resource requirement for the ECGF will grow as NTE's grow. However, as in the case of the drawback fund, increased NTE's should result in increased tax revenues to the GOG. Thereby, mitigating, or eliminating completely, the recurring cost implication of the Fund.

9.3 The Private Sector Contribution: The contribution of the Ghanaian private sector will amount to the equivalent of \$600,000. The contribution will consist of the cedi equivalent \$420,000 and \$80,000 as the private sector contribution to the cost sharing of the IMCC and IESC contracts, respectively. This includes fees for export market assessments, product business plans and other business services. The private sector will also contribute the cedi equivalent of \$100,000 as the contribution of building and land for the Accra Private Sector Center.

9.4 Obligation Schedule: The disbursement schedule for the cash grant suggests the following obligation schedule.

	(Million U.S.\$)				
	FY 1992	FY 1993	FY 1994	FY 1995	FY 1996
OYB	8.0	6.0	13.0	16.0	7.0
AEPRP	-	10.0	-	-	-
TOTAL	8.0	16.0	13.0	16.0	7.0

A disbursement schedule for the project component is included in Table 9.2. The schedule suggests the following obligation schedule for the project component.

	(Million U.S.\$)			
	FY 1992	FY 1993	FY 1994	FY 1995
OYB	4,900	5,475	5,429	4,196

A disbursement schedule for the GOG contribution is included in Table 9.3.

TABLE 9.1
SUMMARY COST ESTIMATE AND FINANCIAL PLAN
(000 U.S. DOLLARS)

<u>Description of Input</u>	<u>A.I.D.</u>		<u>G.O.G</u>	<u>Private</u>	<u>In-</u> <u>Kind</u>
	<u>Foreign</u> <u>Exchange</u>	<u>Local</u> <u>Currency</u>	<u>Local</u> <u>Currency</u>	<u>Sector</u> <u>Local</u> <u>Currency</u>	
A. Program Assistance	60,000		40,000		
1. Cash Grant	60,000				
2. Local Currency Support					
a. Duty Drawback Fund			21,400		
b. Export Credit Guarantee Facility			3,500		
c. Trade and Investment Management Office			4,856		
d. Trade Policy Unit			800		
e. Ghana Export Promotion Council			4,257		
f. Ghana Investments Center			3,467		
g. CEPS Drawback Office			720		
h. Environmental Monitoring			1,000		
B. Project Assistance	20,000			500	100
1. Public Sector Support	6,350				
a. Sigma One	<u>2,950</u>				
Long-term	1,740				
Short-term	1,210				
b. Contractor Support	<u>350</u>				
Housing/Utilities	160				
Household Furniture	106				
Vehicles/POV	54				
Office Equipment/Supplies	30				
c. Foreign Investment Advisory Service	<u>1,150</u>				
d. IPS Support	<u>300</u>				

	A.I.D.		G.O.G	P/Sector	In-
	Foreign	Local	Local	Local	Kind
	<u>Exchange</u>	<u>Currency</u>	<u>Currency</u>	<u>Currency</u>	
e. Buy-Ins/IQC's	740				
Short-term (local consultants)					
f. Training					
Short-term	500				
g. Inter-Agency Agreement (USIS)	200				
2. Private Sector Support	11,177			420	
a. IMCC	2,990				
Long-term	1,040				
Short-term	1,286				
Local Consultants	60				
Local Staff	219				
Operating Expenses	250				
Home Office Support	135				
b. Contractor Support	200				
Housing/Utilities	107				
Household Furniture	53				
Vehicles/POV	25				
Office Equipment	15				
c. International Executive Service Corp.	3,364			80	
Long-term	60				
Short-term	1,614				
Local Staff	141				
Operating Expenses	1,200				
Housing/Utilities	160				
Household Furniture	106				
Vehicles/POV	53				
Equipment/Supplies	30				

	A.I.D.		G.O.G	P/Sector	
	Foreign	Local	Local	Local	In-
	<u>Exchange</u>	<u>Currency</u>	<u>Currency</u>	<u>Currency</u>	<u>Kind</u>
d. African Project Development Facility	3,123				
Long-term	989				
Short-term	843				
Local Staff	208				
Vehicle/POV	53				
Office Equipment/Supplies	38				
Housing/Utilities	160				
Household Furniture	106				
Operating Expenses	726				
e. Private Enterprise Foundation	1,500				100.0
Renovation Costs	400				
Office Equipment/Supplies	400				
Technical Assistance	400				
Training	300				
3. Program Management and Support	2,633				
Program Manager	934				
Field Support Unit	85				
Impact Monitoring	644				
Monitoring Evaluation System	100				
Environmental Monitoring	200				
Evaluation	170				
Financial Assessments/ Review/Audit	500				

TABLE 9.2
TRADE AND INVESTMENT PROGRAM
DISBURSEMENT SCHEDULE
FOREIGN EXCHANGE

TRADE AND INVESTMENT PROGRAM
SUMMARY OF LOCAL COSTS
(OOO U.S. DOLS)

	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	TOTAL
A. <u>PROGRAM ASSISTANCE</u>	5,000	13,000	17,000	13,000	12,000	60,000
B. <u>PROJECT COMPONENT</u>	3,771	5,856	5,754	3,599	1,020	20,000
1. <u>TECHNICAL ASSISTANCE</u>	<u>2,949</u>	<u>4,390</u>	<u>4,562</u>	<u>2,766</u>	<u>500</u>	<u>15,167</u> ⁴
a. SIGMA ONE	780	1,080	1,045	235		3,300
b. FIAS	290	510	350			1,150
c. IMCC	472	1,066	1,116	536		3,190
d. APDF	707	712	830	874		3,123
e. IESC	600	822	821	821	300	3,364
f. IPS SUPPORT			100	100	100	300
g. BUY INS/IQC SUPPORT	100	200	300	200	100	740
2. <u>TRAINING</u>			<u>300</u>	<u>200</u>		<u>500</u>
3. <u>USIS INTER-AGENCY AGREEMENT</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>		<u>200</u>

⁴ Direct payment to contractor plus AID Contractor Support Costs for lines 1a,c,d and e

TABLE 9.2 (CONT'D)

	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	TOTAL
4. <u>PRIVATE ENTERPRISE FOUNDATION</u>		<u>1,000</u>	<u>200</u>	<u>200</u>	<u>100</u>	<u>1,500</u>
a. Renovation Costs		400				400
b. Office Equipment/Supplies		400				400
c. Technical Assistance		100	100	100	100	400
d. Training		100	100	100		300
5. <u>PROGRAM MANAGEMENT AND SUPPORT</u>	772	416	642	383	420	2,633
a. Program Manager	285	226	230	193		934
b. Field Support Unit	25	20	20	20		85
c. Impact Monitoring	292		157		195	644
d. Monitoring Evaluation System	20	20	20	20	20	100
e. Environmental Monitoring	50	50	50	50		200
f. Evaluation			65		105	170
g. Financial Assessment/ Reviews/Audit	100	100	100	100	100	500

TABLE 9.3
 TRADE AND INVESTMENT PROGRAM
 GOG DISBURSEMENT SCHEDULE

	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	TOTAL
CEPS Duty Drawback Fund		3,600	4,500	5,800	7,500	21,400
Export Credit Guarantee Facility		500	700	1,000	1,300	3,500
Trade and Investment Management Office	1,696	790	790	790	790	4,856
Trade Policy Unit	212	147	147	147	147	800
Ghana Export Promotion Council	811	788	795	922	941	4,257
Ghana Investment Center	466	490	753	816	942	3,467
CEPS Drawback Office		210	210	150	150	720
Environmental Monitoring	200	200	200	200	200	1,000
TOTAL	3,385	6,725	8,095	9,825	11,970	40,000

TABLE 9.4
 TRADE AND INVESTMENT PROGRAM
 COSTING OF PROGRAM OUTPUTS/INPUTS
 \$000 OR EQUIVALENT

Project Inputs	<u>Project Outputs</u>		Total
	Improved Enabling Environment for Exporters	Improved Capacity of Firms to Export	
<u>AID Appropriated</u>			
Program Component	60,000		60,000
Project Component	7,450	12,550	20,000
Government of Ghana	40,000		40,000
Private Sector		600	600
TOTAL	107,450	13,150	120,600

10.0 MONITORING AND EVALUATION PLAN

The TIP Monitoring and Evaluation (M&E) Component will track and assess program performance and impact, providing periodic feedback on progress toward the attainment of the program outputs and purpose. This information will be used by the USAID, the GOG, and various private sector organizations in adjusting efforts to keep the program on course, as well as for reporting the results achieved to AID/Washington. The detailed Monitoring and Evaluation Plan, which is summarized here, is presented in Annex N.

Monitoring and evaluation of this program involve both public and private sector dominated components. TIP monitoring activities by the public sector will be headed and coordinated by the Trade and Investment Management Office (TIMO) of the Ministry of Trade and Tourism (MOTT). Other key GOG entities involved in monitoring include the Trade Policy Unit (TPU), the Ghana Export Promotion Council (GEPC), the Ghana Investment Center (GIC), and the Customs, Excise, and Preventive Service (CEPS), as well as their parent organization, the Ministry of Finance and Economic Planning (MFEP).

The tracking of private sector focused activities will be led by USAID/Trade, Agriculture and Private Sector Officer (TAPSO) with the assistance and guidance of the long term personnel contracted to provide technical assistance and training to the private sector. The cooperation and participation of key private sector organizations, including the Association of Ghana Industries (AGI), the Ghana National Chamber of Commerce (GNCC), the Federation of Associations of Ghana Exporters (FAGE), the Private Enterprise Foundation (PEF), and a series of relevant trade and industry specific associations, will be important to the overall private sector monitoring effort. As the private organizations such as these develop and strengthen in capacity and leadership, they will assume even greater responsibility for TIP monitoring and evaluation activities.

USAID will have overall M&E responsibility and will review both public and private sector reports. TAPSO will supervise implementation of the TIP monitoring and evaluation plan with the assistance of the Mission's Program Economist and Monitoring and Evaluation System (MES) Manager. USAID has exclusive responsibility for tracking two of the four purpose-level indicators, i.e., increases in income and employment of men and women engaged in the NTE sector. These involve measuring people-level impact through increases in employment and income.

10.1 Monitoring: Monitoring will include tracking and reporting program outputs and conducting periodic surveys.

Public sector TIP performance will be monitored by measuring the

achievement of the TIP purpose, Increased Private Sector Non-Traditional Exports, and Logical Framework Output 1, An Improved Enabling Environment for Export Firms. Achievement of these objectives will be monitored by applying the corresponding indicators in the TIP Logical Framework. In order to assess implementation of the public sector program, information needed to apply the program and impact indicators listed in the Policy and Program Matrix will be collected.

In the case of private sector performance, monitoring will measure achievements related to Logical Framework Output 2, Improved Capacity of Firms to Export. As in the case of the public sector program, this objective will be monitored by measuring the indicators listed in the Logical Framework. Assessment of the implementation of the private sector component will be done by measuring the program and impact indicators given in the Policy and Program Matrix.

Of particular importance will be the collection of data by USAID on people level impact, i.e., increases in income and employment of men and women engaged in the NTE sector. Collection of these data will require special surveys. An initial baseline survey will establish values for employment and personal income in four sectors in which NTE's are growing or which have a particularly good potential:

- * NTE Food Products
- * Wood Products
- * Apparel/Textiles
- * Giftware and Decorative Accessories

Exporters will be sampled from each of these industries, as will suppliers, wholesalers, transporters and producers involved in the chain back from each exporting firm. Income and employment data will be gathered from each. Two follow-up surveys will be carried out, one mid-way through the program and another at the end of program activities.

One variable which will be monitored particularly closely in relation to all program activities is the impact on women. As noted earlier, the expectation is that substantial benefits will accrue to women. This will be assessed through the on-going monitoring work, the special surveys and the evaluations.

10.2 Environmental Monitoring: TAPSO will also be responsible for the Environmental Monitoring, Evaluation and Mitigation Plan (EMEMP) implementation. TAPSO will track environmental studies and statistics from the relevant Ministries and Trade Associations to monitor harvests in relation to sustainable yields, as well as to environmental impact. For example, fishery and forest harvest rates will be assessed in relation to their sustainable yields and commercial agricultural activities will be tracked to determine whether they are resulting in unacceptable

levels of deforestation, soil degradation and agro-chemical pollution. If these activities are having a negative impact, remedial steps will be taken.

Public sector statistics will be collected by the appropriate ministry offices and fed through the Environmental Protection Council (EPC) into the Trade and Investment Management Office (TIMO) database. Similarly, private sector statistics will be collected by USAID and the appropriate trade and professional associations and fed through EPC into the TIMO database. EPC will report to TIMO and USAID at least annually on the status of harvests in relation to sustainable yields.

10.3 Evaluation: Monitoring tracks progress towards established objectives. Evaluation goes beyond monitoring to assess impact and effectiveness, and to consider possible design alterations. The TIP Monitoring and Evaluation Plan prescribes two rounds of evaluation, a mid-term evaluation in year three, and a final evaluation at the end of the program in year five.

10.3.1 Mid-Term Evaluation: USAID will contract for the mid-term evaluation. This evaluation will:

- * Summarize progress toward the TIP program purpose and outputs;
- * Analyze factors facilitating or impeding progress;
- * Evaluate changes in the Ghanaian and world market environments influencing the TIP program; and
- * Analyze implications for program adjustments.

Data for the Mid-Term Evaluation will be drawn from the monitoring database, the TIP surveys, and contextual reports. The Mid-Term Survey will provide concrete data on attainment of people level impact, i.e., increasing employment and income in the NTE sector.

10.3.2 Final Evaluation: The Final Evaluation will follow the same methodology as the mid-term evaluation, with corrections for any mid-term adjustments in the program. It will draw conclusions about the impact of this program and develop lessons learned for others undertaking similar NTE programs.

10.4 Special Studies: Over the life of the program, TIP will carry out several special studies. Of particular interest is a study of border trade. This study will focus on men and women traders marketing goods over land with countries neighboring Ghana. It will assess:

- * The potential impact of TIP on the employment and income of border traders marketing goods to neighboring countries;
- * The relationship of further inclusion of these traders

in TIP interventions to increase exports and GOG foreign exchange earnings; and

- * Potential TIP policy and administrative reform and projectized interventions to facilitate non-traditional exports by border traders.

Within the West African region, Ghana stands out as a strong and growing economy among its hard currency (CFA) neighbors. This study is designed to evaluate the potential contribution to TIP objectives which could be realized by capitalizing on this regional situation and on the incorporation of largely informal sector border traders in the TIP effort.

11.0 SUMMARY OF FEASIBILITY ANALYSES

USAID/Ghana undertook preliminary analyses as part of the PAIP development and since its approval has expanded and updated those findings. Analyses were completed in the areas of economic, financial, institutional, social, environmental and technical soundness. A summary of the analyses is as follows:

11.1 Economic Analysis Summary: The parallel TIP and World Bank projects are designed to address the critical constraints to export production. These are; the financial sector, which has none of the financial instruments used by exporters in successful exporting countries; a series of technical constraints specific to product subsectors and regulatory issues affecting exports some of which are generic and some of which are sector specific. The economic analysis undertaken for TIP attempts to estimate the economic return from a program that addresses the above three constraints. Since the Bank and AID programs have been designed concurrently to be comprehensive, the economic analysis looks at their impact taken together. Neither program above would be sufficient to generate as much impact on export performance per dollar spent as the two programs together. The cost-benefit analysis begins with the initial AID investment of funds in 1992 and Bank funds in 1993 and projects the effect of the alleviation of constraints through 2013. The discounted value of benefits beyond 2013 are not included in the analysis.

Given the diversity of products involved in the non-traditional sector (in 1991 there were approximately 158 separate products exported), the Mission decided for the purpose of the economic analysis to limit the cost-benefit analysis to pineapples and wood products. These two products were picked because they are representative of both the agro-industrial and the value added sector. Also both products have shown impressive growth in recent years, pineapple increasing from essentially zero in 1986 to \$5.1 million in 1991, while wood product exports increases from \$1.5 million in 1986 to \$6.2 million in 1991. Moreover, in the case of pineapples, many of the constraints described apply to the other rapidly growing horticultural exports with the exception of specific technical constraints.

Pineapple Exports. The internal rate of return to the project for increased pineapple exports was 31.9% as pineapple production increased to the more favorable economic environment. The AID, World Bank programs were projected to have resolved the following pineapple specific constraints; the elimination of minimum export prices; simplification of documentation; working capital; market information; improved agronomic practices; and improved shipping schedules; which accounted for the increased imports with as compared to without the project.

Wood Products. In the case of wood products the estimated internal rate of return for resources invested in the project is

25.9%, a lower rate than for pineapple but still quite substantial. The cost-benefit analysis for wood product exports utilize several simplifying assumption. First, it is assumed that the requirement not to exceed a sustainable yield is respected. Given international environmental pressures in this area this is assumed to be a reasonable assumption. Under the AID and World Bank projects the production of logs and lumber for export are assumed to decline over time and exports move to higher value added products such as veneers, furniture and parts etc.

The AID and World Bank projects are seen as critical to the success of wood product exports. The adoption of more sensible regulation and elimination of controls such as minimum price requirements would allow a rapid increases of production. the installed capacity exists to expand production and the availability of production technology will help to reduce the substantial wastage that exists now. Likewise the developing of market contacts with U.S. buyers offers the possibility of expanding export to the U.S.

While pineapple and wood products were chosen for the economic analysis these were illustrative products. There are numerous other NTE's. Tuna has significant growth possibilities and in fact exports are increasing. Garments and textiles also show real potential and the introduction of effective duty drawback export financing and abolition of price controls or guideline will encourage investment in the area. Recent interviews with investors present in Ghana suggest that they reasonably expect to be exporting \$20.0-\$30.0 million in garments and textile products by 1995.

The economic analysis also examines NTE growth in relation to alternative grow scenarios. This analysis revealed that in either a medium or high growth scenario, annual NTE growth of 29% would be required by the year 2000 to keep the Ghanaian economy at a 5-7% growth rate, reconfirming the importance of NTE's.

The examination of prospects in the various non-traditional export categories has led the Mission to believe that the policy changes and assistance provided under the AID and World Bank programs are both necessary and sufficient to stimulate their growth. This leads the Mission to conclude that creating an enabling environment while providing market product and credit services will result in a return on investment of AID funds equal to the rates of return on pineapple and wood products.

11.2 Institutional Analysis Summary: The Institutional Analysis portrays five GOG agencies impacting on various aspects of the export process: the Ghana Export Promotion Council (GEPC), the Ghana Investments Center (GIC), Customs, Excise, and Preventive Services (CEPS), the Ministry of Trade and Tourism (MOTT), and the Bank of Ghana (BOG).

While the agencies listed above are in the public sector, an analysis is also made of the following private sector organizations: Aid-to-Artisans, Inc. (ATA/US), Aid-to-Artisans, Ghana (ATAG), the Federation of Associations of Ghanaian Exporters (FAGE), product associations of Ghanaian Exports (15), the Africa Project Development Facility (APDF), the Ghana National Chamber of Commerce (GNCC) and the Association of Ghana Industries (AGI).

In the short term, while private sector organizations develop, GEPC is seen as having the greatest potential to facilitate NTE promotion. Despite adverse budget constraints, it has been the leader in NTE promotion to this point.

In light of the emerging role of private sector NTE-support organizations, it becomes necessary to redefine GEPC's role in export promotion and its relationship to these organizations. Its current role of executing regulatory and certification functions will be eliminated, and greater emphasis given to trade facilitation and support.

GIC has been operating as an investment approval, control-oriented agency. Some of the control tendencies of the GIC are a carry over from the previous policy environment when the government was interested in controlling the private sector, especially with regard to investment inflows and outflows.

Furthermore, there are still conflicts with Ministries and other government officials over who has the authority to approve projects and issue licenses.

In recasting GIC, the broad mandate will be to focus on, promotion of domestic and foreign investment. The regulatory and project approval role will be eliminated and focus will be given to registration, promotion and investor support services.

The Materials [duty] Drawback Program (MDP) is administered by CEPS and involves rebates to exporters of customs duties paid on imported export production inputs. Exporters have not availed themselves of MDP to any great extent. MDP will be restructured to include rebates for sales and excise taxes paid by exporters, and a mechanism should be established to expedite rebate disbursement.

The Ministry of Trade and Tourism is responsible for the formulation of Ghana's internal and external trade policy. It is responsible for the development and promotion of Ghana's exports, especially the non-traditional export items and for tourism. A Trade Policy Unit (TPU) was created in 1991 and three economists were assigned to it. They have been developing data sources, computer facilities, offices, and providing some analysis to date. However, the range of questions that can be addressed at this point is limited by availability of data, staff technical

knowledge, lack of research materials, limited computer capability, the need for Ghanaian and expatriate technical assistance, and other support.

There are four major functions of the Trade Policy Unit. These are:

- + providing information and statistics on trade to policy makers,
- + analyzing data,
- + analyzing constraints to increased exports, and
- + recommending policy changes.

Specifically, the TPU will address the following types of questions:

- + What are the current restrictions, tariffs, taxes, fees, and other impediments to importing particular goods?
- + What is the effective rate of protection on key imports?
- + What are the advantages and disadvantages of higher and lower levels of protection?
- + What kind of supply response might occur if the tax burden on particular sectors was lowered?
- + How might streamlined, export-oriented procedures improve exports?
- + What effects would there be if the exchange rate were devalued another 10% or 20%?

The Unit needs training and technical assistance for staff development in the areas of trade policy analysis methodologies, research and practices, as well using related databases. Expanding the Unit's computer capability will also be essential. The Unit informally reports to the Economic Advisor, who reports directly to the PNDC Secretary and Deputy Minister. TIP recommends that the de facto reporting structure be made permanent and have the Unit report to the Economic Advisor. This will then enable Unit to provide policy advice directly to the Deputy Minister of Trade and Tourism, and act, at the Deputy Minister's direction, to study issues brought up by the interministerial committee that will be set up in response to TIP conditionality.

The institutional analysis for the Bank of Ghana focuses on the Development Finance Department (DFD) along with the BOG's past experience in credit guarantee programs.

The Development Finance Department serves as the major financing link between the BOG and financial institutions and industries. The Department performs specialized, non-traditional central banking functions that ensure the channelling of available funds, especially foreign credits, through development and commercial

banks to eligible private sector enterprise.

An examination of the Bank's administration of earlier guarantee schemes that started in 1969, points out problems encountered in their management. This, coupled with the deteriorating economy in the late 1970s and early 1980s caused a decline in the use of the guarantee funds.

Section 5.4.4, Export Credit Guarantee Fund, discusses details of the Fund's operations. The primary difference proposed by TIP is that the Fund will be established with private sector institutions. The Bank's role will be oversight and regulatory. Once the Bank nominates a private sector dominated board of trustees and capitalizes the Fund, its role will be to monitor its development.

Aid-to-Artisans, Inc. (ATA/US) is a nonprofit organization dedicated to providing employment opportunities for disadvantaged artisans across the world. By providing funding for materials, help in product design, training and a crucial link to the U.S. marketplace, ATA puts a practical, structured program in place and sets an important process in motion. This process, which begins with the making and marketing of quality crafts, creates income - and ultimately a better quality of life - for the artisans in developing countries and in economically depressed areas of the U.S.

In 1987, ATA/US received a grant for a reconnaissance Mission to Ghana to investigate the status of the handicraft industry and the possibility of assisting Ghanaian craftspersons to use their skills to increase their incomes through improving their products for the export markets. The result of this trip was the formation of a local NGO, modeled after ATA/US, called Aid-to-Artisans, Ghana (ATAG). ATAG was established by the Ghanaian private sector to assist various crafts-weaving of baskets, weaving of kente and leather products to improve the products and find markets, both locally and for export.

Currently, there are fifteen (15) private sector producer associations of Ghanaian exporters and groups involved in exports. These organizations represent a wide range of products - horticulture, furniture, salt, kola nuts, fisheries, yams, minerals, scrap metal, vegetables, foodstuffs, etc. They vary greatly in their level of development, type and quality of service provided to their members and their interaction with the GOG and other associations.

One of the outcomes resulting from the GEPC/USAID sponsored Policy Implementation Challenge Workshop, "Diversifying Ghana's Exports", was a need endorsed by a large majority of exporters, to establish a viable private sector "umbrella" export promotion organization. They realized the need to restructure themselves to improve the delivery of services to their membership.

They felt one way of doing this would be to establish a Federation of Associations of Ghanaian Exporters (FAGE). This organization would serve the entire NTE sector, as well as each member association. While assisting the member organizations with their export promotion-related needs, at the same time it would mount an advocacy program for the broader issues related to all of the organizations. To this end, the Federation of Associations of Ghana Exporters (FAGE) was officially formed in April 1992.

Project support to assist in the development and expansion of viable export businesses will be provided by the Africa Project Development Facility (APDF). APDF is a joint effort of the African Development Bank (ADB), the International Finance Corporation (IFC), the United Nations Development Programme (UNDP) and the U.S. Agency for International Development (USAID).

It provides advisory services to private African entrepreneurs in the preparation of viable projects. It assists them in obtaining technical and managerial assistance needed to start or expand projects. APDF does not provide financing, but does assist firms in obtaining capital.

Two organizations that will play critical roles along with FAGE in the emerging private sector are the Ghana National Chamber of Commerce (GNCC) and the Association of Ghana Industries (AGI). Both organizations have been assessed as needing training and technical assistance in the areas of program development, membership building, financial control, human resource development, general management skills, improved research and information services and fee generating or funding capabilities.

The Ghana National Chamber of Commerce (GNCC) was established in 1961 by Executive Instrument to promote and protect trade, commerce and industry. Registered members comprise approximately 1,000 companies and businesses, of which over half are actively involved in diverse activities. There are nine district chapters located in various regional capitals in Ghana.

The governing body of the Chamber is an elected Central Council comprising a President, Vice President and Treasurer, and representatives of the various district chapters. Administrative offices are located in Accra, Kumasi, and Takoradi. An appointed Executive Secretary, supported by a small secretariat of 15 employees, is in charge of the day to day operations of the Chamber, reporting to a Central Executive Committee.

The Chamber is represented on various Government committees by its Executive Secretary. It endeavors to provide access of members to international trade information through its relationships with other foreign chambers or trade associations. It promotes trade through sponsorships of local trade fairs and participation in foreign fairs and trade missions. It also

provides various support services to both members and non-members including certification of trade documents.

The Association of Ghana Industries (AGI) was formed in 1958. From that time until 1985 it was known as the Federation of Ghana Industries and later, the Ghana Manufacturers' Association. It is a non-profit voluntary business association with over 1,500 members from large, medium and small industries in all parts of Ghana.

Membership of the Association is open to all companies registered in Ghana and engaged in industry in one form or the other.

AGI derives its funds from member contributions. These are mainly annual subscriptions which are in three categories; for large, medium and small companies.

The main objectives of the Association are:

- a) to provide a central organization for the promoting of the interests of industry in Ghana;
- b) to study and support or oppose legislative or other measures affecting industry in Ghana;
- c) to consider all questions related to with operating in Ghana and to present the views and suggestions of industry to Government.

The Association also encourages its members to undertake active exportation of their products by the organizing trade fairs, serving on trade delegations, providing answers to trade enquiries and support to individual members in the export trade.

STRUCTURE

AGI is governed by a National Council made up of a) seven members, who are elected once every two years at an annual general meeting, b) the chairman from each of the Regional Committees and c) Chairmen of the various industry sector committees. Below the national council are 14 industry sector committees. The sectors covered are:

1. Automotive services
2. Drugs and chemicals
3. Electrical and electronics
4. Food, drinks and tobacco
5. Garments and knittings
6. Metals and buildings
7. Printing, stationery and packing
8. Leather, rubber and plastics
9. Textiles
10. Toiletries and cosmetics

11. Wood processing
12. Joint ventures
13. Small scale industries
14. Miscellaneous

11.3 Financial Management Assessments: Assessments were completed by an independent accounting firm of the following agencies: Ministry of Trade and Tourism Policy, Planning, Monitoring and Evaluation Division, Trade Policy Unit (MOTT/PPME/TPU); Ghana Export Promotion Council (GEPC); Ghana National Chamber of Commerce (GNCC); and the Association of Ghana Industries (AGI).

The purpose of the assessments was to review, evaluate and report on the general financial management capabilities of the organizations and make recommendations to correct weaknesses for their improvement. The major internal controls evaluated were the accounting and information systems, receipts and disbursements of funds, procurement procedures and practices and controls over bank accounts with particular emphasis being placed on each organization's ability to record, process, summarize and report financial data correctly.

While all of the assessments are important, those of the private sector organizations, GNCC and AGI, take on added significance because of TIP's private sector development thrust. The project design had been to channel all private sector funds directly through AGI. However, the results provided by the financial management assessments clearly revealed that AGI and GNCC were not capable of managing the funds.

More specifically the key findings indicated the following:

1. Internal control structure

In general the internal control structure of the Association is inadequate for its operations and the proposed TIP project. There is a need to review and document the important and higher risk areas and produce an accounting system and procedures manual.

2. Financial management capabilities

AGI does not currently have sufficient financial management capability for the implementation of TIP.

Detailed recommendations were presented for remedying AGI's deficiencies. Some of the key ones are:

1. The AGI Secretariat should define the financial information requirements and their timing to guide their production.

2. Internal control systems, procedures and manuals should be developed for all the major areas; activity driven budgeting, banking, procurement and reporting.
3. Additional accounting personnel should be employed to ensure that the existing workload on the finance officer does not prevent prompt preparation of financial reports. Alternatively, reallocations or redefinitions of responsibilities should be made to ensure individual's work loads are not unreasonable and are performed on a timely basis.

Just as the above findings and recommendations are given for AGI, the same was done for all the other agencies/organizations. They will form the basis for designing and implementing the training and technical assistance efforts to strengthen these entities and raise them to an acceptable management performance level.

The Analysis gives a report of the scope of work, key findings and recommendations, for improving each agency.

All of the organizations described in this section have the potential to perform the proposed TIP activities. The assessments have detailed their deficiencies and corrective actions have been programmed to assist their development.

11.4 Social Soundness Summary: Ghana suffered substantial declines in average income during the 1970s and early 1980s, resulting in problems of poverty and deterioration of services. The last five years have shown a reversal of that trend, and increases in both traditional and non-traditional exports have led to noticeable improvements. While this growth promises to benefit the country as a whole, specific policies are needed to insure that the diffusion of benefits occur as rapidly and widely as possible and that displacements, inevitably associated with economic change, are identified and alleviated.

Future export policies and programs will determine the ultimate balance of opportunity for large and small entrepreneurs and have an important influence on the level of social welfare.

Larger business will benefit the most from continuation of the status quo in the export sector. Ownership is often established by well placed public sector employees, who are educated and can access credit and handle the bureaucratic procedures that prevail in the export industry. their advantages will be reduced if financing becomes more equitable and bureaucratic bottlenecks are reduced.

Export growth will affect the small-scale sector in a complex fashion that will benefit many. This group accounts for most of Ghana's economic activity and employment and is especially important for women who control many areas of commerce and

cottage industries. In the last few years numerous opportunities have arisen. Hundreds of small firms expanded into export operations. Further improvements for this group will depend upon the elimination of privileges and regulations that favor large operations; the expansion of appropriate credit, business management training, and technical assistance programs; the development of effective cooperatives that can share information, capital equipment and locate appropriate overseas markets; and the improvement of intra-regional West African trade linkages, which favor low scales of operation.

The export sector studies that were done in the pineapple, and textile areas give some indication of the potential effects accruing to program beneficiaries in employment and income. Employment and incomes will increase significantly in two manners. First, the improvements in the enabling environment will cause new firms to enter into NTE activities. TIP estimates that the number of registered exporters will increase by 1,500 to approximately 4,300 by the end of the program. Second, the private sector support services provided by the project will help the firms to expand into new markets and to increase in efficiency. The first set of effects will yield an expansion of employment, and the second will cause incomes to increase through increased profits and wages.

New firms will be formed by the existing formal entrepreneurial class, by the transformation of small and medium enterprises from the informal sector into formal sector firms, by former employees of these firms becoming entrepreneurs and by the entry of international investors and entrepreneurs into Ghana's NTE sector. By removing the policy and regulatory barriers to entry, TIP will broaden the base of participation beyond those currently engaged in protected industrial and state owned enterprises to include persons from the informal sector, from craft occupations and from the agricultural sector. An important source of new entrepreneurs could also be the displaced workers from the public sector and the SOE's (about six thousand persons per year, in recent years). It is explicitly recognized that a major segment of the trading and marketing enterprises in the informal sector are operated by women. Some of these women-operated enterprises will participate directly in export related activities, others will participate by providing services within a more integrated marketing system.

Recent research on the impact of the ERP on women traders indicates that women traders have benefited from improved market access from the recent investments in rural roads and the removal of harassment from officials. The principal problems faced by women entrepreneurs are the low levels of economic activity (low purchasing power), under-capitalization, and the entry of displaced workers into informal trading activities. The women traders of the research cited also credited the ERP with benefits from investments in farm to market roads, because the traders are

heavy users of road transport. Faster and more frequent trips have allowed them to turn their scarce capital over more rapidly.

Continued refinement of the exchange regime will also benefit informal cross-border exports to Ghana's neighbors, particularly into the CFA countries. Again, many of the participants in these activities are lower-income men and women.

The NTE expansion in Ghana will first develop by using low cost labor and the existing resource base. At first employment will expand at the prevailing wages; subsequently, as investment increases, labor productivity (and hence wages) will increase. Under current labor market conditions in Ghana, each ton of pineapples exported embodies approximately \$25 of farm labor and each acre of pineapples generates one person year of permanent employment, at wages higher than the legal minimum wage. In the farms that use modern production techniques, each job is created with \$2000 to \$5000 of investment. Currently, Ghana exports ten thousand metric tons of fresh pineapples per year and its neighbor Cote d'Ivoire exports 150,000. If Ghana were to reach this level of output it would generate approximately 7,000 new permanent jobs in pineapple production. Additional jobs would be created in transporting, packing and handling of the increased production.

The fruit and horticultural sector generate 100 to 200 permanent jobs for each million dollars of increase in exports from these sectors. While these will be low skilled jobs for fruit pickers, sorters, packers, etc., certain job specific skills and knowledge will be necessary, thus, these jobs will tend to pay wages above the prevailing wage rate to insure retention of the work force.

In the case of textiles, approximately 10,000 persons are employed in the formal parts of the sector. The prevailing wage is approximately \$2.00 per day (comparable to low skilled wages in Indonesia). Much of the production is for the domestic market. The potential in this sector lies in "stitch - and sew" operations for export. In Mexico under the "Maquiladora" scheme these operations were able to more than double employment from 15,000 to 35,000 in five years in the mid eighties. With the growth of the maquiladoras in Mexico, labor costs there have begun to rise (as in other Latin American and Asian countries). The "stitch and sew" operations produce approximately \$2.00 of value added per person-hour of labor. Ghana's labor costs would seem to offer an attractive advantage to establish a significant apparel processing sector on the basis of the present installed capacity in the textile sector. A doubling of employment to 20,000 seems feasible in the next five years in the textile sector if Ghana were to exploit its non-quota status under the multifiber agreement.

The increased consumption generated by the increased personal incomes in the NTE sector will also generate jobs in the other

sectors of the economy. With enhancements in the tax system through adoption of a VAT, there would be more revenues to provide for public health and education services. The increased foreign exchange earnings will also enable Ghana to become a more attractive home for foreign direct investment in other sectors such as tourism. Some of this investment would come from repatriated Ghanaian financial and human capital. With appropriate safeguards for environmental concerns, the people-level impacts of the TIP should be positive and broad based. These economy wide effects will provide direct positive impacts on the livelihood of Ghana's women and men traders as their scale of business increases.

11.5 Environmental Analysis Summary: The Environmental Analysis contains a discussion of potential environmental impacts resulting from TIP, including an Initial Environmental Examination (IEE). The analysis concludes that education and training activities are recommended for categorical exclusion pursuant to Reg. 16 (Section 22 CFR 216.2 (c)(2)(i)), as is the institutional support for various GOG entities.

The IEE concluded that TIP is not expected to have direct significant impacts on threatened or endangered species or critical habitat, but the over-all objective to provide the support for a rapid expansion of non-traditional exports, is liable to have long-term impacts (positive and negative) on the natural resource base. It therefore recommended that four Environmental Impact Assessments (EIAs) be carried out by the Ghana Environmental Protection Council (EPC) in each of four individual sectors, Commercial Agriculture, Mining, Fisheries and Forestry to clearly identify long-term impacts, and to provide a baseline for present status of the resource base. Also, a special Tropical Forestry Environmental Assessment (TFEA) should be carried out to delineate, define and ensure impact mitigation of any Primary Tropical Forests which may be affected by the program over the long-term.

Furthermore, it stated the long-term impacts due to policy reform will be mitigated by an Environmental Monitoring, Evaluation and Mitigation Plan (EMEMP), which will ensure course correction of the TIP program as appropriate during implementation. This be mostly achieved by feed-back to the GOG regarding changes in policy reform and/or regulations. In this case it recommended that the policy reform sections of TIP receive a negative determination (as per Section 22 CFR 216.3 (a)(2)(i)).

The four EIAs, the TFEA and EMEMP were completed and the details of each are presented in the Analysis.

Non-Traditional Agriculture Export Sector (NTAE)

The impact review focussed on the key agricultural products: pineapple, yams, kola nuts, palm oil and others. For each of

these products, it characterized and assessed the principal types of environmental impacts: deforestation and land-use changes; soil capability and erosion; pesticide use and repercussions - residue in products, contamination of water, soil and vegetation, harm to user's health, resistance of pests; fertilizer; archeological diversity and socioeconomic implications.

Recommended responses were given for policies, legislative and institutional reforms: EPC must be involved in the policy dialogues, legislative and policy enforcement reforms and institutional strengthening; mitigation measures: training and education must focus sound on NATE production, extension services, processing and transport capacities and the role of decentralized government. Finally, monitoring capability must be developed and identified needs prioritized and satisfied.

In conclusion, carrying out the identified recommendations is needed to avoid degrading resources in the NTAE sector. Giving serious attention to environmental considerations is critical to ensuring the sustainability and productivity of NTAEs and to benefit Ghana in general.

Salt Mining Industry on the Coastal and Riverine Lagoons

The review points out significantly that Ghana is signatory to three international conventions that relate to the conservation of wetlands and the fauna and flora they contain. Therefore, Ghana has an obligation to promote wise use of her wetlands and is expected to demand proper assessment of environmental impacts before development projects in wetland areas are approved, provide continuing evaluation during project execution and to implement appropriate environmental conservation measures.

It presents an overview of the environmental impacts of the salt mining industry on coastal wetland and details the salt industry's production in coastal Ghana, production levels, marketing, proposed developments and major constraints. Potential impacts of the development of the industry on the environment with particular reference to the biological value of the coastal wetlands are discussed next.

In conclusion, mitigating measures are given for biodiversity consideration: restricted pan development and siting must be taken to maintain adequate natural areas within the habitat; protective measures and conservation education: impose restrictions on access to known best sites during the breeding season and educate the salt pan workers, visitors and the area community about the conservation importance of the area; and aquaculture developments: positive measures should be taken to use the salt pans to enhance fish production through aquaculture.

Shrimp and Prawn Industry

The report gives information on aspects of Ghana's shrimp and prawn industry. Discussions are presented on shrimp and prawn industrial and artisanal harvesting. Next, an overview of two aquaculture projects - freshwater and coastal plans - is presented. The actions required for the monitoring, evaluation and motivation of any impacts that promotion of this sector would have on the environment are detailed as related to issues of policy, legislation and institutional linkages.

To implement these actions, it is recommended that either EPC or GEPC set up a committee to act as a forum for the sector and provide a mechanism for feedback to GOG for environmental policy reform. And finally, manpower development is essential to improve the predictive and analytical capabilities of the sector.

Assessment of the Ghanaian Forest Sector

The assessment presents a discussion of the state of Ghana's forest resource - the forest reserve system and the preliminary results of the forest inventory now in progress. This is followed by an overview of the forest management systems employed, timber concession policy and tropical timber exports and markets. The four aspects of which are the industry as a whole, tropical timber exports, export levies and restrictions and regulatory and monitoring agencies for the timber industry. The GOG has taken a number of steps in effort to sustainably manage their tropical forest resource. However, the report presents a series of conclusions and recommendations to ensure sustainable utilization such as developing a new concession policy, a new forest management policy to replace the girth limit system with a modified selection system, charging royalties on a per cubic meter basis and developing markets for the lesser known timber species.

Environmental Impact of the Furniture Industry

The report starts out with a presentation of the timber industry's resource base, the tropical hardwood industry and constraints on the industry: natural resource availability, access to market information, pricing, supplies of labor and capital and access to capital. This is followed by a treatment of the environmental considerations related to project activities, socio-economic impact and conflicts with agriculture and fisheries. Finally, recommendations are given for environmentally sound development of the furniture industry.

These are 1) lesser-known timber species should be promoted by the industry, 2) additional timber concessions should not be issued for this sector, 3) the industry should invest in capital improvements that will allow for more efficient utilization of the raw material, 4) a new concession policy should be formulated and promoting effective enforcement of existing policies.

Monitoring, Evaluation and Mitigation Plan (EMEMP)

Each of the Environmental Impact Assessments (EIAs) presented environmental indicators for monitoring their impact. These were compiled into a comprehensive EMEMP that was developed by the Environmental Protection Council (EPC). Responsible GOG and NGO that will be providing data to be used to monitor performance have been identified as well as other mitigation measures. Furthermore, lists of suggested projects and research needs have been given for each area and decisions will be made on those to be approved and funded during the life of the project.

It is important to stress that the project will take note of the above findings and recommendations. Project implementation includes funding for a comprehensive monitoring and mitigation program.

11.6 Technical Analysis Summary: Ghana has made significant strides in recent years in creating a positive environment for increased investment and exports. The foreign exchange regime is favorable and while the investment climate is not perfect it has improved greatly. However, there are a number of constraints existing which limit the export potential of Ghana. Pre-project studies and subsequent analyses of exporters and commodities have identified these constraints.

The four principal constraints limiting Ghana's export potential are: 1) the enabling environment for exports, 2) the present capacity of existing and/or potential export firms, 3) the limited financial services available to exporters and 4) inadequate infrastructure.

The commodity studies demonstrate very clearly that the potential for increased diversity, quantity and quality of exports exists. Furthermore, there are export markets available for these products.

To achieve the project's goal, Mission's approach will focus providing resources of training and technical assistance the public sector to enhance the enabling environment while simultaneously strengthening the private sector to play a more effective role.

Provision will be made for direct intervention to private sector non-traditional exporters and their related associations to identify promising export markets; to produce internationally competitive products; promote and sell products in established and new markets; to obtain information and changing markets; and to expand export production.

Ghana has confronted the twenty year devastation of its financial system and taken strong remedial action. To revitalize the financial sector, the government has worked jointly with the

World Bank and the IMF since 1988 to implement a structural adjustment program. A new Banking Act was passed in 1989 which provides for capital adequacy requirements, lending limits based on net worth, and routine bank inspections. The Bank of Ghana's supervisory role has been given teeth. Open market operations of the Bank of Ghana have mopped up excess liquidity and lowered inflation.

Changes in regulations and tax laws and improvements to the enabling environment have altered the shape of the financial sector and the credit worthiness of NTE borrowers. Exporters have been allowed to retain a growing part of the foreign exchange proceeds from trade. Progress has been achieved by removing the handicaps and giving the private financial institutions room to run. In short, the World Bank has declared the FINSAP a success -- so far. The real test will be increasing credit facilities to the NTE sector without straining the capacity of the banking system.

New institutions have been born while the old state owned enterprises (SOEs) in finance are being reorganized and restructured. Two discount houses have emerged to create an interbank market and allow banks to adjust reserve positions. One of them intends to concentrate on rediscount of trade-backed corporations with a variety of debt and equity products. On the equity side, the stock market began operations in November of 1990, and two venture capital operations have been established. Furthermore, one leasing company, is now operational.

Management in the secondary banks have been replaced with interim teams of contracted foreign bankers. The Non-Performing Asset Recovery Trust (NPART) replaced a large amount of bank's non-performing loans with low-yielding but performing bonds, thereby cleaning up banks balance sheets and giving them room to reform. Heads of state-owned banks proudly announce that they are being left to do their jobs without telephone calls and pressure. New commercial courts are expediting the settlement of claims and disputes.

Will the improved capacity of banks and financial institutions be brought to focus on NTE opportunities? NTE financing will be a new direction among institutions which have fought for the few choice customers in the market. Increasing the exports of fruit, furniture, fish, salt, and manufactured products will require continued progress to expand the already expanding scope of financial operations.

Export finance operations will have to intensify their depth of penetration into the various sub-sectors of production. Each of the sub-sectors has its own particular operating cycle of production and sales. At each step, appropriate financial services and products track the cashflow, extending funds when they are lacking and drawing them in when they are flush. And

each stage of the cycle has its own risks which are shared, mitigated or avoided by the banking sector.

The cash flow and riskiness of the exporter will dictate the field of possibilities. At the export stage of the operating cycle, banks provide letters of credit and instruments for refinancing which turn over quickly. The exporter plows his proceeds back into working assets and inventory. Banks extend pre-export finance against firm orders to prepare for shipping.

Below the export cycle, producers need machinery and labor and a layer of working capital to see them through their operating cycles of inventory and payables. They need land and factories. This requires investment and financial arrangements to match the lifetime of their assets. Risks become increasingly complicated and compounded as the calendar unwinds and analysis of management performance becomes progressively wrapped in business conditions and in the state of the local economy and in the economies of the foreign buyers. At this stage, direct investment and venture capital replace loans as a financing vehicle. Exporters seeking this capital will be looking for technology, management and access to many markets.

ANNEX O

**INITIAL ENVIRONMENTAL EXAMINATION (IEE)
AND ENVIRONMENTAL MONITORING, EVALUATION,
AND MITIGATION PLAN**

ANNEX O
INITIAL ENVIRONMENTAL EXAMINATION
or
CATEGORICAL EXCLUSION

PROJECT COUNTRY: Ghana
PROJECT TITLE: Trade and Investment Program (TIP)
FUNDING: FY(s) 1992 - 1996 US\$ 80 million
IEE PREPARED BY: Clement Dorm-Adzobu,
Environmental Protection Council of Ghana

ENVIRONMENTAL ACTION RECOMMENDED:

Positive Determination	_____
Negative Determination	_____XXX_____
Categorical Exclusion	_____XXX_____
Deferral	_____

SUMMARY OF FINDINGS:

(see Text below)

CLEARANCE: Mission Director: Joseph B. Gado DATE: 5/25/92
CONCURRENCE: Bureau Environmental Officer: APPROVED: ✓
DISAPPROVED: _____
DATE: 5/28/92
CLEARANCE: GC/Africa: _____ DATE: _____

SUMMARY OF FINDINGS:

The TIP is a \$ 80 million program designed to stimulate greater production and marketing of non-traditional exports. Components of the program include a sector cash grant, local currency programming and project funded technical assistance and training. Direct technical assistance will be provided to exporters in business development, management and production. The technical assistance component for education and training activities are recommended for categorical exclusion pursuant to Reg 16 (Section 22 CFR 216.2 (c)(2)(i)), as is the institutional support for various GOG entities.

TIP is not expected to have a direct significant impacts on threatened or endangered species or critical habitat, but the overall objective to provide the support for a rapid expansion of non-traditional exports, is liable to have long-term impacts (positive and negative) on the natural resource base. It is therefore recommended that four baseline environmental reviews, or Environmental Impact Reviews (EIRs), be carried out by USAID/Ghana in cooperation with the Environmental Protection Council (EPC)¹ in each of four individual sectors, Commercial Agriculture, Mining, Fisheries and Forestry to clearly identify long-term impacts, and to provide a baseline for present status of the resource base. In addition, a special Tropical Forestry Environmental Assessment (TFEA) will be carried out by USAID/Ghana (in cooperation with EPC, other donors, AID's Forestry Support Program (R&D), Conservation International, etc.) to delineate, define and ensure impact mitigation of any Primary Tropical Forests which may be affected by the program over the long-term. This TFEA will provide compliance for the TIP program, in relation to Section 533(c)(3) of the FY1991 FAA, which requires that an assessment be carried out in cases where commercial timber extraction may occur in any primary tropical forest. This assessment will: 1.) identify potential impacts on biological diversity; 2.) demonstrate that all timber extraction will be conducted according to an environmentally sound management system which maintains the ecological functions of the natural forest and minimizes impacts on biological diversity; and 3.) demonstrates that the activity will contribute to reducing deforestation.

The long-term impacts due to policy reform will be identified by an Environmental Monitoring, Evaluation and Mitigation Plan (EMEMP), which will also pass on recommendations to the appropriate body within the GOG who in turn will ensure corrective measures are taken as appropriate. This will also result in the feed-back to the GOG

¹ The EPC is a Government environmental entity established by Presidential Decree in 1973 as an advisory body to the GOG. It has a wide mandate and acts very much like the US-EPA.

regarding desired changes in policy reform and/or regulations. In this case it is recommended that the policy reform sections of TIP receive a negative determination (as per Section 22 CFR 216.3 (a)(2)(i)).

1.0 PROGRAM DESCRIPTION

The Ghana Trade and Investment Program (TIP) is a US\$ 80 million program aimed at increasing the capacity of the non-traditional export sector of the economy. Program components include a sector cash grant, as well as local currency, technical assistance and training to improve the institutional capacity of the Ghana Export Promotion Council, the Ghana Investments Center, the Ministry of Trade and Tourism to increase non-traditional exports. The program will also address key financial constraints by assisting the Bank of Ghana and the Customs, Excise and Preventive Services initiating refinance program, loan guarantee program and a duty draw-back buffer account. Technical assistance will also be provided to assist exporters in developing bankable projects and with production and marketing problems.

The principle objective of the program is to stimulate greater production and marketing of a number of non-traditional export commodities such as pineapples, salt, prawns and shrimps, furniture and other wood products. Others are yams, kola nuts, palm oil, aluminum sheets, scrap metal, cocoa waste and rubber sheets. It is not intended to make direct investment in the production of these commodities under the program.

2.0 BACKGROUND ENVIRONMENTAL INFORMATION

General:

The Republic of Ghana is a moderately sized country of some 238,539 square kilometers located half-way along the Guinea Coast of West Africa. It is bordered on the east by the Republic of Togo, on the west by Cote d'Ivoire, on the north by Burkina Faso, and on the south by the Atlantic Ocean. The population is currently estimated at around 14 million (1990), growing at the rate of between 2.6 and 3 percent per annum.

Geographical Regions:

Geographically and ecologically, the country falls into three broad divisions arranged approximately from south to north, namely:

- (i) the coastal plains
- (ii) the forest zone
- (iii) the interior and northern savannas.

The coastal plain is broad in the east and west, where it stretches over eighty kilometers inland, and narrow in the middle near Winneba and Accra where it does not extend more than sixteen kilometers inland from the sea. The plain may be divided into two broad sections: the south east coastal plains east of Accra, and the plains west of Accra. The south east coastal plains are very flat and carry only a few isolated hills. The general elevation is not more than 75 meters (246 feet) above sea level, and at some places on the coast, eg. at Keta, the land is even below sea level and is subject to periodic invasions by the sea. Between Accra and the Songaw lagoon, the coastline is often cliffed; but further east the coastline is fairly smooth and marked by sand bars, the Volta delta and by numerous lagoons, the largest of which is the Keta lagoon.

West of Accra the plains show different characteristics. The land is undulating and at some places the hills show steep sides and rise almost abruptly from the surrounding plain.

The forest zone consists of a highly dissected peneplain composed of ancient crystalline and metamorphosed rocks belonging to the basal complex of Africa. Altitudes range from 240 to 300 meters (787-984 feet), and there are a number of prominent ranges, most notably the Akwapim-Togo Ranges which start from near the mouth of the Densu River, west of Accra, and run in a north-easterly direction with altitudes reaching up to 900 meters (2,952 feet). The predominant vegetation is tropical semi-deciduous forest, except in the extreme southwest, where the vegetation is nearly evergreen.

North of the forest zone and occupying about 60 percent of the country's total area is relatively low-lying plain. The central part which is formed by the basin of the Volta River, has an elevation of around 150 meters (492 feet) rising gently outwards to 300 meters (984 feet) and above. The rocks consist predominantly of horizontal and ancient beds of sandstones and shales. As in the coastal plains, the vegetation is predominantly bush savanna, but it assures a more open character in the extreme north-east, which is more properly described as the Sudan type of savanna, in contrast with the Guinea type found to the south.

Climate:

Temperatures throughout the country are typically high. Average figures range between 25 and 26 degrees centigrade (77 and 79°F) although values as low as 24°C (75°F) and as high as 29°C (84°F) or more have been recorded in the southern and northern parts respectively, as a result of seasonal and diurnal ranges. Humidity is also almost uniformly high throughout the year, but there is usually a marked drop between December and February, when the warm, moist south-west winds from the sea, which are mostly responsible for the country's rainfall retreat southwards, and the dry, cooler-harmattan winds from the north-east across the Sahara Desert

become dominant.

Rainfall distribution is seasonal. The forest zone experiences annual averages of between 150 and 205 centimeters (59 and 81 inches) separated by a short dry season, while in the interior and northern savannas, the annual average is 100-110 centimeters (39-43 inches), occurring in one main rainy season followed by a long dry season. The coastal plains record much lower rainfall, with averages of only between 75-80 centimeters (30-32 inches) but occurring in two seasons separated by two relatively short dry seasons. The major air masses which control the rainfall pattern in the country are the Tropical Maritime from the Gulf of Guinea, and the dry Tropical Continental from the Sahara.

Soils:

Soils in Ghana are generally a reflection of both the underlying rocks and the climatic characteristics. Most of the best soils are found in the tropical forest zone, but reasonably good soils also occur in the coastal and northern savannas. In all cases, however, the depth of the soils is not very great and the thin layer of humus in the top horizon, so essential for agricultural purposes, is largely due to the organic material derived from the vegetation cover.

Some of the major soil groups in Ghana are those found under the rain forest and under the south-east coastal savanna. Soils found in the rain forest area are the forest oxysols, whose color ranges from brown to orange. They are porous, well-drained and generally loamy. The heavy rainfall experienced in this area leads to a high degree of leaching and therefore to serious reductions in the quantities of nutrients that the soils hold. The leaching has also made the soils rather acid, thereby restricting their suitability to such tree crops as rubber and the oil palm. There are several soil groups within the south-east coastal savanna zone. These range from coastal savanna ochrosols, lateritic sandy soils, tropical black clays or Akuse soils, and coastal sands. Their nutrient holding capacities differ and some support many kinds of crops.

Drainage:

In Ghana, all the major rivers flow into the sea. The river valleys show diverse characteristics, some are narrow because they have been cut in hard rocks or because they are still being deepened by swift flowing rivers, especially in the forest areas.

In areas where rainfall is highly seasonal, as in northern Ghana, the rivers are intermittent, and in areas of high rainfall, well distributed within the year, the rivers are perennial. By far the longest river is the Volta, and within its basin lies nearly two-thirds of the total land surface area of the country. Although

most of its tributaries are not permanent, the flow of the main river is now regulated to some extent by the vast artificial Volta Lake which has formed behind the dam at Akosombo. Other major rivers are the Tano, Ankobra, Pra and Densu. The Densu serves as the principal source of water supply for part of the city of Accra.

Primary Occupations:

The activities described in this section relate to those occupations which involve the direct working or exploitation of the physical environment to produce food and other raw materials for sale locally or for export. These include fishing, agriculture, wood cutting and salt mining. About 62% of the active population is engaged in the primary occupations. Of this number, agriculture (farming and animal rearing) employs about 92%, fishing about 4%, mining (including salt making) and quarrying about 3%, and wood-cutting about 0.6%.

Fishing:

There are four main sources of fishing in the country: rivers, ponds and lakes, lagoons and the sea. Together, they yield a total catch of about 250,000 metric tons a year. All the major rivers are stocked with freshwater fish but the quantity of fish caught in them is relatively small. This is because fishing is not regarded an important occupation among the populations in the hinterland. On the other hand, the lower ends of the rivers near the sea are fished more intensively. In the last few years a number of Ghanaians have taken to fish farming.

The Volta lake provides immense opportunities for developing a large scale fishing industry. Fishing in the lake is already an important occupation, with average output of about 40,000 metric tons a year. Fishing gear includes gill nets, cast nets, traps, and hook and line. Development into a well organized large scale activity will call for the use of a fleet of small fishing trawlers, the building of harbors for the trawlers and the provision of efficient storage, distribution and marketing facilities.

The lagoons on the coast are important fishing grounds. They are well supplied with fish food which is brought into them by numerous small rivers and streams. The type of fish caught in the lagoon is specially adapted to the changing salinity and the higher temperatures of the lagoons. They include fishes of the crustacea variety such as shrimps, crabs and oysters. They live generally in the sea where they spawn, but the young enter the lagoons during the rainy season to fatten. In the dry season when the salinity of the lagoons becomes too high, they leave once more for the sea. There has been a steady increase in the export of shrimp, prawn and lobster each year since 1984. The entire production comes from capture fisheries along the coast and in the streams and rivers of

southern Ghana. Export, practically negligible in 1983, had increased to 84 metric tons in 1988, with a projected exported of 120 metric tons for 1989.

The methods of fishing in the lagoon are not different from those employed in the rivers. Fishing continues throughout the year and becomes very intensive for a period after the rainy season when the sand bars or sand spits separating the lagoons from the sea are breached by the waters of the lagoons. Then the sea flows into the lagoons, bringing with it large quantities of fish, until a barrier develops again to separate the lagoons from the sea. Of the lagoon fisheries, that at Keta is the most important, both from the point of view of the quantity of fish caught and the number of people engaged in the occupation. The average quantity of fish caught in the rivers, ponds and lagoons is estimated at 10,000 tons each year.

The sea is the main source of fish for the country. About 200,000 tons of fish are landed annually from the sea including such popular species as herring, plaice, tuna and mackerel. Sea fishing is practiced along the whole length of the coast, but more intensively east of Cape Three Points. Sea fishing is a year round activity with the period from July to November as the peak season.

Wood Cutting:

The forest plays a vital role in the economic life of the country. In addition to providing a suitable environment for cocoa and other tree crop cultivation, it also provides wood or timber which serves a variety of purposes, including the manufacture of furniture of all kinds. Wood has been used for many domestic purposes for a long time, and its further usefulness as a major export item and therefore an important source of foreign exchange did not begin until near the end of the 19th century. The Western, Brong Ahafo and Ashanti Regions together produce about 90 percent of the timber exported from the country.

The timber industry is mainly in the hands of private companies which export not more than a dozen of the large number of species of trees in the forest. The timber logging industry has been governed by forestry laws whose strict enforcement has been stepped up in recent years. The regulations include the demand that new trees should be planted to replace those felled and that immature trees should not be felled. The laws also prohibits the export in round logs of all the prime timber species harvested. This indirectly encourages local processing of timber and reduces the volume of wood harvested for export. Present forestry practices encourage sustainability and are aimed at protecting biological diversity.

Mining:

The principal minerals exported by Ghana are gold, diamonds,

manganese and bauxite. With the exception of gold, which had been mined and exported for not less than a thousand years, all the minerals were first discovered between 1914 and 1920.

Salt making is gaining importance as an activity related to the mining industry. Two methods are employed in salt production: by extracting it from salt-impregnated earth and through evaporation of sea water. The first method is used almost exclusively in the Northern Region, where the salt-impregnated earth is collected, mixed with water and boiled. The salt-crystals are then removed after the mixture cools down.

The sea is the principal source of salt for the country. Where the land near the sea is low and flat, portions of it are enclosed with low mud walls to contain the sea water that flows into them at high tide. The trapped sea water is evaporated, leaving salt crystals at the bottom of the enclosures. This method is employed mainly in the Central Region (Elmina, Cape Coast and Apam).

The lagoons constitute another important source of salt on the coast. In the dry season, portions of the lagoons dry out, leaving salt crystals on the beds. The Songaw lagoon near Ada is, and has been for over 200 years, an especially important source of salt. Indeed, nowhere on the coast is salt making so important and on such a large scale as around this lagoon. A recent study indicates that there are seven (7) salt mining cooperatives in the Songaw lagoon area, with a total membership estimated at 7,000. The total amount of salt produced by the cooperatives is about 20,000 tons per year. In addition to the cooperatives, four private companies have also been established in the Songaw lagoon area, out of which only one is presently active. Salt is also being made on a large scale with the aid of mechanized devices by local and foreign companies at Weija, near Accra, and at Apam. Recent increases in salt exports have provided opportunities to boost local production. For example, studies have been initiated to develop a modern large scale salt production facility in the Songaw lagoon area capable of producing 1.2 million tons of salt per year.

Commercial Agriculture:

The term is used in a very restrictive and arbitrary sense to briefly describe the cultivation of the following crops which have assumed increasing importance as export commodities.

1. Kola nuts: have for many centuries constituted the principal agricultural commodity which entered world trade from this country. Kola nuts have remained among the most valuable exports to the interior of West Africa and quantities of the nuts are now also exported by sea to Europe and North America. The cola tree grows naturally in the closed forest and the major producing areas are found in the Ashanti, Brong Ahafo, Central and Eastern Regions.

Many old cocoa farms are being converted to the cultivation of the kola tree. Increased production for export will not have any adverse environmental impact.

2. Oil Palm Products: Palm oil became an alternative export commodity following the abolition of the slave trade at the beginning of the 19th century. The oil palm tree grows naturally or wild in the closed forest. The export trade in oil palm products (palm oil and palm kernel oil) has fluctuated during the past century but in recent years, the cultivation of oil palm has been on the increase mainly as a result of government encouragement and the introduction of high and quick yielding varieties. Oil palm cultivation on plantation scale could naturally result in initial deforestation but such vegetation removed is replaced by permanent stands of the oil palm.

3. Rubber: was an important cash crop before the emergence of cocoa. It was first exported from the country in 1880 and by the end of the 19th century had become a major agricultural export but its importance was short-lived. In recent years attempts have been made to revive the industry, especially in the Western Region where the heavy rainfall is ideally suited to the growth of the tree.

3.0 ISSUES, IMPACTS AND MITIGATION

The TIP intends to promote activities within the non-traditional export sector by increasing the capacity of the private sector to produce some specific commodities for export. Figure 1 (Annex 1) illustrates the four general sectors in which increased production is expected to occur. Long-term impacts to some degree are expected in these sectors, and these can be mitigated as indicated in Fig.1.

1. Commercial Agriculture:

Tree Crops- Oil Palm, Rubber and Kola Nuts:

As explained above, these tree crops are already well established in Ghana, either in smallholder stands or larger plantations. Sometimes new plantings are started on old cocoa plantations or on newly cleared forested or marginal land.

Mitigation: Because new land clearing and encroachment of forested land could result, the land use patterns in areas where new plantations are liable to be started must be carefully monitored. Also training of extension agents must be encouraged so that extension agents respond to the needs of farmers in such areas. Proper forest management must be ensured, and in the case of primary tropical forest, the GOG should establish and/or re-inforce stringent conservation measures.

Pineapples:

Cultivation of pineapples for the export market has so far been largely confined to an area within 50 km radius of Accra. This pattern is likely to persist in view of the need to reduce transportation costs and avoid losses. The favored areas are, and probably will continue to be, the rolling hills of the middle Densu Basin, the Akwapim highlands and other areas within the Greater Accra Region.

The direct impact of increased pineapple cultivation may include intensified deforestation and soil degradation. Also, large-scale cultivation of pineapples could promote the use of both organic and inorganic fertilizers and some basic agro-chemicals. As a result, the nutrient enrichment of rivers and streams resulting from the improper use of inorganic fertilizers in the area and in other parts of the country has caused a general concern.

Mitigation: The Ministry of Agriculture in collaboration with the Environmental Protection Council has mounted a project to study and control the impact of agro-chemicals. A detailed monitoring program of the quality of the Densu river, the major river in the impacted area, should be established in order to determine the rate of eutrophication.

In addition, appropriate and sustained training programs should be intensified through the extension services of the Ministry of Agriculture. Such training will yield positive results by increasing the awareness of farmers in the preparation and maintenance of the land for cultivation.

2. Salt Mining:

Since much of the salt mining and evaporation for salt production goes on in the coastal and riverine lagoons, direct impacts of this project may include the reduction of the importance of certain lagoons as sanctuaries for migratory birds. It may also result in a permanent imbalance of some natural lagoon ecosystems. A pre-feasibility study has been undertaken for a private sector project to increase the salt producing capacity of the Songaw lagoon from the present figure of about 20,000 metric tons (mt) to 1.2 million mt. The project will involve the construction of new installations along the northern shores of the lagoon, which has a total water surface area of 79 km².

Mitigation: The immediate and long term impacts of increased salt production in the Songaw lagoon, has been the subject of extensive discussions between responsible government ministries and concerned agencies and NGOs. USAID cannot support programs which, among others relate to water management without additional environmental study and review. A firm commitment will be made by the TIP program to review the expected environmental impacts prior to the provision of technical assistance to salt producers.

3. Fisheries:

General Fisheries

In the fisheries sector, shrimp and prawn harvesting is the most dominant activity. Although there has been a general increase in shrimp and lobster exports since 1984, there is currently a lack of knowledge on the biology of the local species that are harvested. Furthermore, there is no reliable data on the actual tonnage produced annually or the amount that can be sustainably harvested in Ghanaian waters without depleting existing stocks. It is also contended that current production which comes entirely from capture fisheries cannot reliably sustain the export drive and must be supplemented by a vigorous program of prawn and shrimp culture, on which only preliminary work has been done locally.

Mitigation: In general, a detailed study of the biology of the local species, is needed, especially of those that are harvested. Furthermore, there must be a system established to provide reliable data on the actual tonnage produced annually or the amount that can be sustainably harvested in Ghanaian waters without depleting existing stocks.

Shrimp mariculture:

The development of shrimp culture in many tropical areas has resulted in drastic ecological consequences such as the destruction of valuable mangrove stands, eutrophication due to discharge of nutrient-rich effluents from ponds and the importation of diseases through the introduction of new species.

Mitigation: Attempts to introduce prawn and shrimp culture into Ghana must be carefully phased, and should be preceded by detailed planning and research, in order to determine the most environmentally-sound and most efficient culture system for local use.

4. Forestry:

Commercial Agriculture:

As noted above, it is possible that the long-term effect of the present project will result in local increases in devegetation, with loss of soil fertility and an increase in soil erosion particularly on hill slopes, due to increased cultivation of non-traditional crops for export. This would have general impacts on the social and cultural environments as well.

Mitigation: Because new land clearing and encroachment of forested land could result, the land use patterns in areas where new plantations are liable to be started must be carefully monitored. Also training of extension agents must be encouraged so that extension agents respond to the needs of farmers in such areas. Proper forest management must be ensured, and in the case of primary

tropical forest, the GOG should establish and/or re-enforce stringent conservation measures.

Furniture:

Also as noted previously, the timber industry is mainly in the hands of private companies which export not more than a dozen of the large number of species of trees in the forest. The timber logging industry is governed by forestry laws, but in the present case technical assistance will be provided for small- (and large?) scale furniture production.

Mitigation: Strict enforcement of forest management has been stepped up in recent years. The regulations include the demand that new trees should be planted to replace those felled and that immature trees should not be felled. The laws also prohibits the export in round logs of all the prime timber species harvested. This indirectly encourages local processing of timber and reduces the volume of wood harvested for export. Present forestry practices encourage sustainability and are aimed at protecting biological diversity.

How can the TIP program help to ensure that furniture manufacturing does not make the situation worse, e.g. by expanding the cutting of rare or threatened species of trees? The TIP program will be providing technical assistance in this sector, therefore it would be important to ensure that the TA be provided on a carefully selective basis. That is, the methods and techniques encouraged by this TA should support an ecologically correct approach. It should: advocate the use of composite material (chip board e.g.), or recycled wood substitutes (pressed wood from sawdust), or veneers in order to reduce the total cutting, promote non-rare species, substitute species or encourage the furniture industry to start their own plantations, etc.

To assist in this process, the USAID/Ghana should also carry out a special Tropical Forestry Environmental Assessment, that could be done in cooperation with the EPC and other donors (esp. the World Bank and the U.K.) and would enlist the help of US organization participating in the USAID Debt for Development Project (e.g. Conservation International) to delineate, define and ensure impact mitigation of any Primary Tropical Forests which may be affected by the program over the long-term. This TFEA and the EIA to be done in this sector, should be required reading for TA personnel who are assigned work in the furniture sector.

4.0 POLICY REFORM COMPONENT

General

The TIP program includes many items bearing on policy reform, in this case Section 496 of the Foreign Assistance Act, which sets out the terms of the DFA should be noted, because this

specifically requires that "policy reforms shall also include provisions to protect...long-term environmental interests from possible negative consequences of the reforms." Meeting this requirement will be difficult, because little is known for sure either about the impacts of policy reform on the environment or about how to mitigate those impacts.

This requirement of the DFA calls for an analytical consideration of the kinds of policy reforms which are likely to have an impact on the management of the environment in the long run. At a glance, the list might include reforms which have some impact on:

- the forms of land tenure which are permitted by law or tradition;
- how land is used, and how its use responds to economic change;
- structures for marketing and pricing agricultural products;
- trade policy and the terms of trade between agriculture and industry;
- import pricing, subsidies, quotas, tariffs, and other trade policy tools; and
- exchange rates.

The present project will therefore be designed with built-in "feed-backs" to ensure that through a carefully planned and implemented monitoring and evaluation program, negative environmental impacts will be discovered and reviewed, resulting in appropriate actions needed to mitigate impacts. This approach is in response to the concern that Reg 16 is not a "balancing test". If a project has the potential to bring about any negative impacts, even if outweighed by significant positive impacts, a positive determination would normally be required relative to the Initial Environmental Examination.

Mitigation:

In order to achieve the above, the TIP program will have an active and well-coordinated Environmental Monitoring, Evaluation and Mitigation Plan (EMEMP), which will also ensure course correction of the TIP program as appropriate during implementation. This kind of environmental monitoring will evaluate the more important positive and negative environmental impacts, therefore it must be designed and budgeted within the program implementation plan.

In order to ensure that the results of the monitoring and evaluation effort will be used to change the course of project implementation, if need be, it is essential that during the PAAD design the short-term environmental consultant set out specific environmental indicators to be used by the GOG. Also the PAAD will identify the responsible GOG institutions that will be providing the data that will be used to monitor performance in the environmental sector.

The information derived from the indicators and evaluation of performance will be fed back to the GOG perhaps this could be done during annual conferences or workshops put on by the EPC. At these sessions the latest data acquired could be compared to the Baseline Data set out in the EIRs to determine whether impacts are significant, and whether they are positive or negative. The TIP program staff will then be charged with ensuring that the GOG is made aware of the impacts and recommendations of the conference/workshops, in order to allow for needed course correction in the GOG and in the TIP program implementation.

Some indication should also be included in the PAAD design as to how this monitoring and evaluation program will be carried forward after the PACD.

5.0 RECOMMENDED ENVIRONMENTAL ACTION

USAID support under the program will stimulate greater productivity within the non-traditional export commodity sector of the economy. Direct technical assistance will be provided to exporters in business development, management and production. However, considering the possible impacts on the environment of increased production of the identified commodities, the following actions are recommended:

Threshold decisions:

1. The technical assistance component of the program for education and training activities are recommended for categorical exclusion pursuant to 22 CFR 216.2(c) (2) (i), as is the institutional strengthening support for the GEPC. The research and monitoring projects are recommended for categorical exclusion pursuant to 22 CFR 216.2 (c) (2) (iii).
2. TIP is not expected to have a direct significant impact on threatened or endangered species or critical habitat, but the over-all objective to provide the support for a rapid expansion of non-traditional exports, is liable to have long-term impacts (positive and negative) on the natural resource base. It is therefore recommended that four baseline studies, Environmental Impact Reviews (EIRs), be carried out by the Ghana Environmental Protection Council (EPC) in each of four individual sectors, Commercial Agriculture, Mining, Fisheries and Forestry to clearly identify long-term impacts, and to provide a baseline for present status of the resource base. In addition, a special Tropical Forestry Environmental Assessment (TFEA) will be carried out by USAID/Ghana (in cooperation with EPC, other donors, AID's Forestry Support Program (R&D),

Conservation International, etc.) to delineate, define and ensure impact mitigation of any Primary Tropical Forests which may be affected by the program over the long-term. This TFEA will provide compliance for the TIP program, in relation to Section 533(c)(3) of the FY1991 FAA, which requires that an assessment be carried out in cases where commercial timber extraction may occur in any primary tropical forest. This assessment will: 1.) identify potential impacts on biological diversity; 2.) demonstrate that all timber extraction will be conducted according to an environmentally sound management system which maintains the ecological functions of the natural forest and minimizes impacts on biological diversity; and 3.) demonstrates that the activity will contribute to reducing deforestation.

3. The long-term impacts due to policy reform will be mitigated by an Environmental Monitoring, Evaluation and Mitigation Plan (EMEMP), which will ensure course correction of the TIP program as appropriate during implementation. This will be mostly achieved by feed-back to the GOG regarding changes in policy reform and/or regulations. In this case it is recommended that the policy reform sections of TIP receive a negative determination (as per Section 22 CFR 216.3 (a)(2)(i)).

Baseline Information and Studies Needed:

1. Four Environmental Impact Reviews (EIRs) should be carried out as soon as possible by USAID/Ghana in cooperation with the EPC in each of four individual sectors, Commercial Agriculture, Mining, Fisheries and Forestry to clearly identify long-term impacts, and to provide a baseline for present status of the resource base. In several sectors, data already exists in Ghana that would provide the baseline information needed (e.g. World Bank and U.K. studies in Forestry sector), in other cases work has already gone forward to assemble relevant information (e.g., in the World Bank Multi-donor National Environmental Action Plans, NEAP), and in some cases the information may be assembled shortly (e.g., the pre-feasibility study for salt mining), and in still other cases it is yet to be generated (e.g., under the Special Action Programs as described in Annex 2).
2. Special Tropical Forestry Environmental Assessment, should be done by USAID/Ghana in cooperation with the EPC and other donors (esp. the World Bank and the U.K.) using existing information. USAID could enlist the help of US organization participating in the USAID Debt for Development Project (e.g. Conservation International) to delineate, define and ensure impact mitigation of any Primary Tropical Forests which may be affected by the program over the long-term. It would follow an

existing Guideline for TREAs recently published by the US Forest Service for use in developing countries. (Copies available from REDSO Regional Environ. Officer, or from Bureau Environmental Officer AID/W). This TFEA and the Forestry Sector EIR as described above, should be required reading for TA personnel who are assigned work in the furniture sector.

3. **Special Action Programs**, three of which are described in Annex 2, below, would supply the needed background data in several sectors where background information is presently sparse.
4. **Environmental Impacts of Agro-export Policies in Ghana**, a special program to be done by USAID/Ghana in cooperation with a centrally-funded effort by the World Resources Institute and EPC. This study is described in more detail in Annex 3 below, but it would be cost-free to the Mission and would provide the kind of baseline and background information that would be of great help to the EPC and GOG during the tracking of indicators for environmental soundness in the TIP program.
5. **Annual Environment Conferences/Workshops** could be mounted by USAID with the coordination provided by EPC to review progress in assembling and handling the baseline information and any new indication of impacts (positive and negative) uncovered during TIP program implementation. These meetings will also allow for coordination session to be held with the National Environmental Action Plan Secretariat, to ensure other donor awareness and input into the process, and feed-back to the GOG.

Monitoring, Evaluation and Mitigation Plan for PAAD:

1. In order to achieve the above, the TIP program will have an active and well-coordinated Environmental Monitoring, Evaluation and Mitigation Plan (EMEMP), which will also ensure course correction of the TIP program as appropriate during implementation. This kind of environmental monitoring will evaluate the more important positive and negative environmental impacts, therefore it must be designed and budgeted within the program implementation plan. In order to ensure that the results of the monitoring and evaluation effort will be used to change the course of project implementation, if need be, it is essential that during the PAAD design the short-term environmental consultant should actually set out specific environmental indicators to be used by the GOG. Also, the PAAD will identify the responsible GOG institutions that will be providing the data that will be used to monitor performance in the environmental sector.
2. The information derived from the indicators and evaluation of performance, described above, will be fed back to the GOG

perhaps during annual conferences or workshops described previously. At these sessions the latest data acquired could be compared to the Baseline Data set out in the EIRs to determine whether impacts are significant, and whether they are positive or negative. The TIP program staff will then be charged with ensuring that the GOG is made aware of the impacts and recommendations of the conference/workshops and the progress in terms of environmental indicators, in order to allow for needed course correction in the TIP program implementation.

3. The loop can be closed in this case by incorporating into the PAAD an Environmental Policy Reform Study to be carried out during the life of program to define: a) how the above "feedback" can be accomplished; and b) defining the appropriate regulatory changes for export of marine and forest products.
4. There is also a need for a similar contribution to the "Investment Promotion Strategy", which is part of the program conditionality and will be responsive to the need for a long-term sustainable export expansion strategy.
5. The PAAD design should also address the question as to how this monitoring and evaluation program will be carried forward after the PACD.

Annex 1

Figure 1. Summary of Sectors, Activities, Impacts and General Means of Mitigation by the GOG. (TIP Program, Ghana).

Major Sector	Activity	Impacts	Mitigation
Forest	1. Furniture 2. Kola nut harvesting	*/† 1. Exploitation of specific forest species */† 2. Increased cutting a/o disturbance of forest	Strengthen GOG policies and regulations regarding forest use/management
Salt Mining	1. Small-scale salt mining (coops) 2. Large-scale mechanized salt mining 3. Evaporation for salt prod.	* 1. Local lagoon and near-shore erosion * 2. Siltation of near- and off-shore ecosystems	Institute and/or strengthen GOG sust. management plans (incl. containment of silt)
Commercial Agriculture	1. Pineapples 2. Kola nuts 3. Oil palm 4. Rubber	*/+ Local effects (incl. soil erosion, irrig. impacts, and fertilizer run-off)	1. Strengthen existing GOG agric. extension in area of sust. agric. 2. Monitoring, eval., and mitigation water quality
Fisheries	1. Off-shore 2. Lagoon & fish shrimp farming 3. Lake & River	*/† Effect on biodiversity (incl. inland, off- and near-shore ecosystems)	Strengthen GOG policies and regulations regarding fisheries management

* = Environmental Impact Review (EIR) needed for these Impacts (The EIR would be a general document to cover the sector, using NEAP data/info input).

† = Special TFEA needed to satisfy FAA Section 533(c)(3) on Tropical Forests and Biological Diversity (To be carried out by USAID using World Bank and U.K. inputs and existing data, with TA from Conservation International (USAID/Ghana Debt-for-Nature Project) and USFor. Sup. Program).

+ = Special EPC/WRI study on Local Level Environmental Impacts of Agro-export Policies (Centrally-funded on-going program).

Special Action Programs:

1. Monitoring Water Quality in Agricultural Run-Off Area- The Densu Valley

Implementing Institution: Institute of Aquatic Biology (IAB) of the Council for Scientific and Industrial Research (CSIR).

Objective: Assistance to IAB to determine the rate of eutrophication in the Densu valley resulting from the excessive supply of nutrients from crop lands.

Activities will involve an increase in the frequency and number of existing sampling points over the next five years to determine nutrient levels. It is noted that the IAB presently undertakes some monitoring activity along the Densu river.

Duration: 5 years

Funding Level: Consumables and personnel emoluments. US\$10,000/pa x 5 = US\$50,000 (estimated). Baseline studies of the biology of prawns and shrimps along the coasts of Ghana/Study of Prawn and Shrimp culture in Ghana.

2. Background Study of Prawn and Shrimp Culture and the Feasibility of Its Development in Ghana

Implementing Institution: Departments of Fisheries and Oceanography and Zoology, University of Ghana.

Objective: To determine the breeding habits, population and migration patterns of prawns and shrimps in the coastal waters of Ghana. To investigate the feasibility of developing prawn and shrimp culture in Ghana.

Duration: 5 years

Funding Level: US\$100,000 (\$20,000/pa x 5) (Estimated). In addition, it is recommended that the Government of Ghana be encouraged to increase its participation in the Regional Seas Program for West and Central Africa, sponsored by the United Nations Environment Program

(UNEP). This will enable participating institutions in the country to study fish habits and fishing trends in the West African waters.

3. Sustainable Harvest Studies on Fish, Shrimp and Lobster in Ghana

Implementing Institutions: Department of Fisheries and Oceanography, University of Rhode Island and Departments of Fisheries, Oceanography and Zoology, University of Ghana.

Objective: To develop realistic projections of the sustainable harvest capability for fish, shrimp and lobster.

Duration: 1 year.

Funding Level: US\$300,000 (Estimated).

ENVIRONMENTAL IMPACTS OF AGRO-EXPORT POLICIES

Ghana Initiative

Preamble

The agricultural practices of smallholder farmers throughout the world emphasize organic farming activities, including inter-/multiple-cropping, green manuring, mulching, integrated pest management. In many countries, agroecological and sustainable agricultural activities are being developed by grassroots groups and in small departments of agricultural ministries and research stations. These efforts are expanding as they receive more attention and have gained increasing support. Still, in most countries the predominant path promoted by the government agricultural institutions continues to emphasize conventional modes of high-input, monocultural agriculture.

In many countries, there has been a strong push to increase production of non-traditional agroexport crops (NTAEs). The promotion of NTAEs has often been undertaken for well-intentioned goals and has benefits such as diversifying production, increasing foreign exchange earnings, and providing new market opportunities for those involved. However, this strategy often poses serious socio-economic and environmental dilemmas. Growth of NTAEs often entails displacement of poor people, loss of subsistence crops and erosion of local genetic resources, increasing use of marginal lands and inappropriate farming techniques, and heavy use of agrochemicals which provoke increasing hazards. It is also clear, that NTAEs tend to benefit large-scale wealthy farmers, more than smallholders who often do not have access to the necessary new techniques, markets, and financial/credit support.

Policymakers and bureaucrats face conflicting pressures and economic imperatives for agricultural development. Even if government leaders desire sustainability and equity goals, these aims usually are secondary vis-a-vis the intense demands for increasing foreign exchange earnings, servicing debts, and achieving structural adjustment. Government policies, legislation, and actions designed to achieve these national interests translate into complex agricultural and environmental dilemmas for farmers already struggling to meet immediate needs. In effect they add yet another set of constraints on those already restricting farmer decisions and actions at the local level. Such policies also often threaten to thwart the efforts of community, grassroots, non-governmental organizations in sustainable agriculture.

Cocoa Production in Ghana: A Brief History

Agriculture is the principal sector of Ghana's economy, accounting for about one-half of Gross Domestic Product (GDP) and employing about 55 percent of the working population. Cocoa is traditionally Ghana's most important crop, occupying more than one-half of the country's cultivated land and providing, on average, 65 percent of total export earnings.

During the 1960s Ghana was the world's leading producer of cocoa beans, with yearly harvests averaging 450,000 metric tons, reaching 557,000 tons in 1964. During the 1970s, however, output declined steadily to less than 250,000 tons per year, owing to a combination of factors, which included a lack of financial incentives for farmers, caused by fluctuating and declining world cocoa prices, an overvalued cedi (local currency), unreliable payment procedures and low producer prices; aging and diseased trees; shortages of fertilizers and pesticides; and poor transport and distribution services. The decline continued into the 1980s, exacerbated by drought, bush fires and smuggling. The 1983-84 crop fell to 158,000 tons, after the drought and fires destroyed about 40 percent of cocoa farms.

Beginning in October 1983 the government, as part of its Structural Adjustment Programme (SAP), launched a multi-million dollar campaign to revitalize the cocoa sector. Cash incentives were offered to farmers to replant crops in burnt or abandoned farms, producer prices were increased with a bonus for exceeding production targets (from C12,000 per ton in 1983 to C165,000 per ton for the 1988-89 season; an increase of almost 1300 percent in 5 years.). The government improved extension and distribution services, research, disease-control (principally, black pod disease) and plant-breeding, rehabilitated roads and constructed 3,000 kilometers of feeder roads. Essential inputs, such as insecticides and other chemicals, sprayers, and building materials were brought in. Almost 350,000 hectares of land was designated as special cocoa farming zones for rehabilitation and received priority attention.

Meanwhile, the sector was commercialized by the progressive reduction of state subsidies on fertilizers, tools, herbicides and insecticides; the sale of state-owned plantations, cocoa-processing factories, and transportation services; and by encouraging farmers to seek credit from commercial banks, rather than from the government. In addition, attempts were also made to reduce cocoa-smuggling with some success; in 1983 smuggling accounted for losses of about 50,000 tons per year, by 1985 this dropped to an estimated 10,000-20,000 tons.

Despite the loss of nearly 40 percent of cocoa farms in 1982-83 to fires and drought, these measures helped increase output to 175,000 tons in 1984-85 (up from 158,000 tons in 1983-84). Never-the-less this was output well below the targeted increase of 25 percent to

197,500 tons. In 1985-86 output increased to about 220,000 tons and in 1986-87 output reached 225,000 tons, again far below the target of 350,000 tons. In 1987-88 production reached only about 200,000 tons, actually a fall of 9 percent compared with the previous season.

Progress has been slow for several reasons, principally owing to shortages of labor to plant new trees and resistance by farmers to the uprooting of old trees in order to prevent the spread of disease to new pods. In 1985 more than 3 million hybrid cocoa pods were distributed to private farms, but only a fraction were actually planted. Rather many farmers chose to plant food crops because of the difficulty of cashing their government cocoa-payment checks and of the sufficiently high (and certain) prices of surplus subsistence crops. In a few years, the late arrival of rains affected the beginning of the growing season and consequently, production.

In July 1986 a new international pact between cocoa consumers and producers was signed, with agreements on reference prices and buffer stock procedures, to stabilize prices on the international market. Yet, increased output from other cocoa-growing countries led to a set-back in the international price for cocoa, which in 1988 reached its lowest level for more than five years. In addition, there is considerable doubt in Ghana about further reducing smuggling; the official government price per ton amounts to only about one-half of the price obtainable in neighboring Ivory Coast.

Non-Traditional Agroexport Crops

In the face of this slow progress in the cocoa sector, the government of Ghana in collaboration with various international donor agencies embarked on an effort to diversify the economy and principal sources of foreign exchange, and thereby reduce the risks associated with an economy dependent on a single-commodity. One aspect of this strategy includes increasing the production of non-traditional exports, including agricultural crops, fish, forestry products, salt, wildlife, and tourism.

Regarding NTAEs, the government developed new policy to establish or strengthen needed institutions -- Ghana Export Promotion Council (GEPC), Ghana Investment Centre, Bank of Ghana, Ministry of Trade and Tourism and Customs, Excise and Prevention Service -- and put in place a series of incentives -- corporate tax rebates, custom duty drawbacks, duty exemptions, 35 percent retention scheme, no export tax -- to promote production and export of NTAEs. Disincentives have also been established to discourage imports -- duty taxes -- and improve Ghana's balance of trade. The government is also working to ensure that the necessary infrastructure -- private sector financing, promoting Ghana produce, encourage foreign investment, simplifying export application procedures, cargo planes/ships, pilot "Export Production Villages" -- and

information -- markets, packaging requirements, improved production techniques/practices -- are available to facilitate the production and export of the NTAEs. The government is now enacting legislation to back this policy.

To date, most of the government NTAE efforts have emphasized the establishment and efficiency of export enterprises. Less attention has been put on promoting the production of NTAEs. According to the GEPC the supply of NTAEs is not a principal constraint for expanding exports. Likewise, the government has not emphasized the processing of NTAEs, and as a result most produce are exported raw.

The initial results of the government's efforts are encouraging. In 1984 earnings from non-traditional exports were US \$1.9 million; in 1990 they were \$62 million. GEPC has a target of \$250 million in 1995. In 1990, NTAEs contributed almost \$5 million or 17.2 percent to this total -- an increase of 95.3 percent from the 1989 NTAEs contribution. The principal NTAEs are pineapples and yams, and to a lesser extent peppers, coconut, and lemons. rather the number and capacity of exporters are important bottlenecks. However, in the last few years, the number of private sector exporters has increased significantly. The principal market for the NTAEs is Europe, but increasingly Ghana products are reaching markets in Africa, North America, and Asia.

Ghana Environmental Policy Impact Program

The Environmental Impacts of Agro-export Policies (EIAP) program in Ghana is part of an Africa-wide effort by African institutions and the World Resources Institute in Washington, D.C. to better understand the effectiveness of public policy/legislation and the local-level socio-economic and environmental impacts. The Ghana EIAP will examine the effectiveness and impacts of government policies and programs promoting the production and export of NTAEs. It will also attempt to identify some of the potential or real contradictions in government policies, legislation, and programs -- especially between those related to NTAEs, community development, and natural resource management. The findings of this work will be discussed at a series of subnational and national-level workshops and will lead to a series of policy and program recommendations to help resolve the NTAEs/sustainable smallholder development dilemma.

An investigation of the impacts of Ghana's agroexport policies and their compatibility with other government policies designed to ensure sustainable development and sound natural resource management at the local level is urgently needed and particularly timely. Throughout sub-Saharan Africa, governments are seeking to diversify their economies through the increased production of NTAEs. And while the government of Ghana has recently successfully expanded its efforts to increase NTAEs production, it also has longstanding interests in community development and equity (decentralization) as

well as environmental protection and natural resource management (establishment of protected areas).

Post-independent Ghana has a long history of devoluting central authority for development and environment purposes. The current government has worked to democratize political decision-making, decentralize power, ensure popular participation in the development process, and revive traditional communal spirit and self-help at the local level. In many cases, government policies are backed by specific legislation, and institutional infrastructure that reaches the community level (revolutionary organs -- CDRs, Mobilization Squads, 31st December Women's Movement), and programs to engender local involvement in the planning and implementation of development programs (District Assemblies).

The government has also recently prepared a National Environmental Action Plan (NEAP) to define a set of policy actions, related investments, and institutional strengthening activities to make Ghana's development strategy more environmentally sustainable. It is now working to implement the priority actions that were identified in the plan. To facilitate the implementation of the NEAP, the Environmental Protection Council -- formerly an advisory body -- is being strengthened.

NTAEs usually require significant agrochemicals (fertilizers, pesticides) which pose serious health hazards. Many, including pineapples, also have an economy of scale suggesting that, unlike traditional export crops -- cocoa, coffee -- which for the most part are produced by smallholders, small farmers will not be able to successfully compete with NTAE production on large plantations. Much of what is known regarding the environmental and socio-economic impacts of NTAEs comes Latin America, in particular Central America, where governments have long been promoting NTAEs. But unlike Latin America where perhaps 70 percent of the population is urban, in sub-Saharan African, more than 70 percent of the population is rural and production is principally for subsistence purposes. The implications for this large portion of the working force are significant.

Activities and Methodology

The Ghana EIAP program will be divided into three sets of complimentary activities -- an effort to determine which NTAE policies influence crop selection/production at the local-level; an investigation to better understand how relevant community development and environmental policies/legislation interact with these agroexport policies; and the development of a series of recommendations for policymakers regarding the development of policies/legislation and the implementation of actions that will help lead to improved resource management and socio-economic well-being at the local level without jeopardizing the contribution of

agriculture to GNP and foreign exchange earnings.

The first exercise of the country program will be inductive. A series of discussions and semi-structured interviews will be conducted with farmers and community leaders in several selected regions in Ghana -- some of which emphasize NTAE production, others which focus on subsistence farming and traditional export crop production. The field exercises will survey the principal farm-level causes for local crop selection/production. When appropriate and applicable, the causes will be traced to specific subnational/national policy or legislation that contribute to the local circumstances influencing the farmer's action.

This aspect of the program will also include discussions and interviews with extension officers, local government authorities, and national policymakers in Accra, the nation's capital, to query their understanding of the full range of effects of NTAE policies and to better understand why these policies have or have not been effectively implemented and influential at the village-level.

The second phase of the work will attempt to better understand how effective public environmental and community development policies/legislation have been in achieving local-level sustainable development, and how well they compliment the NTAE policies. The approach will be deductive. Initially, an inventory, review, and evaluation of relevant NTAE, environmental, and community development policies and legislation will be undertaken. Interviews will be conducted with policymakers in Accra and at the local level to better understand the premises, logic, and assumptions behind these policies, their intended effects at the local-level, and the process/mechanism of implementation. The effort will also include a series of discussions at the village level to determine local opinion as to the appropriateness of these policies, why they have/have not worked, and how the farmers have factored these policies into their decision-making processes regarding crop selection/production, in particular NTAEs.

The third aspect of this work, will involve the development of a series of recommendations from the previous two research phases for policymakers regarding the development of policies/legislation and their implementation for sustainable development at the household and village levels. A preliminary list of policy recommendations will be presented and debated at a series of 2-3 subnational workshops in Ghana involving local leaders, development assistance agencies, NGOs/PVOs, and decentralized government authorities. Based on the conclusions of these workshops a brief statement of the research results and principal policy recommendations will be prepared and presented to the government at a national conference of mid- to high-level policymakers. The agreed upon recommendations that emerge from this conference will be incorporated into a final report, including a summary of recommendations, for greater distribution.

ANNEX U

**ENVIRONMENTAL IMPACT REVIEW OF THE
NON-TRADITIONAL AGRICUTULTURAL EXPORT SECTOR
IN GHANA**

**ENVIRONMENTAL IMPACT REVIEW OF THE
NON-TRADITIONAL AGRICULTURAL EXPORT SECTOR IN GHANA**

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1.0 INTRODUCTION

The production and export of non-traditional export (NTE) products have been promoted by the Government of Ghana (GOG) and international donor agencies with the aim of increasing foreign exchange earnings and diversifying the economy. The proposed Ghana Trade and Investment Program (TIP) is an US \$80 million program to be supported by the United States Agency for International Development (USAID) aimed at increasing the capacity of NTEs. The NTE strategy focuses on increasing exports of a variety of high value products that are in demand in temperate countries (and also other African nations), and that are suitable and economical for production and manufacture in Ghana. Policies and institutional capacities have also been established by the GOG to support and facilitate the marketing and export of NTEs.

Non-traditional agricultural exports (NTAEs) are an important subsector of NTEs.¹ The main NTAEs produced in Ghana are pineapples, kola nuts, and yams. Other fruits, vegetables, and nuts are also emerging as potentially important export crops. The growth of NTAEs offers important opportunities for generating foreign exchange, and has strong future economic potential for both small and large-scale producers in Ghana. The realization of this potential requires that attention be given to the impacts of NTAE production on natural resources. NTAEs are not expected to have direct impacts on threatened or endangered species or critical habitats; however, the production of these crops inevitably involves changes in the use of natural resources and impacts of new technologies. In order to secure the success of NTAEs in Ghana, the challenge is to ensure that production is environmentally, economically, and socially sustainable.

This Environmental Impact Review (EIR) is being undertaken as a critical step to begin the assessment of actual and potential impacts of NTAE production on environmental conditions and natural resources. The EIR is required by USAID as part of the preparations for the TIP in Ghana. It summarizes: a) NTAE crops and their characteristics; b) the main environmental impacts and some of their socioeconomic implications; and c) recommended responses, which include policy, institutional, and legislative reforms, a variety of mitigation measures, development of monitoring capabilities, and research activities. The development of these actions and responses is essential to avoid and minimize adverse environmental impacts and to ensure the sustainable use of resources and long term productivity of NTAEs.

¹ In this context, the concept of 'non-traditional' refers to: a) crops which are 'new' or exotic to Ghana (not produced traditionally in Ghana), or b) crops which have been traditionally produced for local consumption, but are now being exported in foreign markets or in unprecedented volumes.

2.0 BACKGROUND ON NON-TRADITIONAL EXPORT AGRICULTURE

2.1 Overview of Non-Traditional Export Crops in Ghana

Initial results of the government's efforts are encouraging. NTE earning expanded from US \$1.9 million in 1984 to \$62 million in 1990. The commercial agricultural export subsector, including horticultural products, fish/seafoods, game/wildlife, medicinal plants/seeds, and other agricultural products, is the fastest-growing NTE subsector. In 1991, the value of NTAEs reached \$33.93 million (54.24 percent of total value of NTEs), an increase of 17.9 percent from 1990. From 1990-1991, the number of NTAE exporters increased by over 60 percent.

The horticultural products exports, the most vigorous product sector in agriculture in terms of numbers, contributed 24.72 percent of NTAE value in 1991 and continues to show an upward growth. Some of the highest value crops, pineapples, yams, peppers, and coconuts have experienced dynamic growth trends. In addition, kola nuts contributed 2.66 percent of NTAE earnings and other agricultural products accounted for 5.26 percent.

At the end of the TIP program in 1997, it is projected that NTEs will be at least \$390 million annually and growing at a rate of 30 percent per annum. The 12 leading NTEs will constitute only 70 percent of the total value (down from the current 85 percent). And the total number of NTE exporters will double from the current 1800 to 3600 in 1996. More specifically, the GEPC projects that pineapple exports will expand from \$3.82 million in 1990 to \$12.54 million in 1995, and yams from \$0.967 million in 1990 to \$7.0 million by 1995 (up from \$0.183 million in 1988).

The main market for NTAEs is Europe. In 1991, for example, the EEC market (principally the United Kingdom, Holland, and Spain) absorbed 44.53 percent of the total exports by value. But increasingly, Ghanaian products are also reaching markets in Africa, North America, and Asia. For example, in 1991, the ECOWAS markets (primarily Ivory Coast, Togo, and Burkina Faso) accounted for 20.83 percent of total NTAE exports.

Several NTAE products are well-known to Ghanaian producers, since they have been produced for local consumption for many centuries. However, such crops often have special requirements to meet specified quality standards for foreign markets. Many are also perishable, which demand new mechanisms and changes in marketing, packaging, transport, customs, and infrastructure. The timing and quantities of exports must be strategically planned in order to fulfil market demands at optimal times. These requirements place demands for production technologies and processes, including use of specified chemicals -- which create challenges to Ghana's agroexport producers. These kinds of sophisticated production and marketing strategies are necessary to

compete with other exporters in the international market.

The government is attempting to develop and implement policies to promote the growth of NTAEs. These policies include incentives for exporters, such as tax rebates, custom duty exemptions, and a retention scheme. In addition, other planned policies, some to be supported by the TIP, include simplification of export procedures, establishment of market infrastructure, legislation and credit packages for encouraging agroexports, and strengthening institutions such as the Ghana Export Promotion Council (GEPC) and Ghana Investment Centre (GIC).

Marketing bottlenecks, periodic market gluts, along with lack of efficient export and transport processes have been identified as central constraints in the NTAE sector. Therefore, to date, most NTAE projects have emphasized attempts to improve the efficiency and growth of export enterprises and marketing. Little attention has so far been given to natural resource issues which could pose increasing problems if the TIP projections for NTAEs are attained.

Ensuring the sustained success of NTAE production will require attention to natural resource issues and the environmental impacts of certain crops and production practices. If consideration is not given to conserve and rationally use the resource base upon which these crops depend, significant production constraints could emerge in the future.

2.2 Key Agricultural Products and Production Characteristics

2.2.1 Pineapples (Ananas comosus). The leading NTAE crop in Ghana is pineapples. The main variety is Smooth Cayenne. Importers usually prefer half-ripe to ripe fruit, but there is variation in the preferred color. There are no international grading standards for pineapples, but Ivory Coast standards are applied. Pineapples are normally packed by size, appropriately labelled, and transported by air or sea.

Pineapples have been produced for many decades in Ghana as a local crop, but have been commercialized for export in large volumes only in the past ten years. Rainfed pineapple production does well in areas of fair rainfall distribution of annual magnitudes of at least 1000 millimeters. In view of the need to reduce transportation costs and avoid losses, pineapple cultivation for the export market has been largely confined to an area within 50 kilometers of Accra. The favored areas are the hills of the middle Densu Basin, the Akwapim highlands, and other areas in the Greater Accra Region. An estimated 50-80 percent of pineapples exported are produced by smallholders; the remaining is on a few large plantations.

Pineapple production for export involves the clearing of all vegetation, sometimes with the use of a herbicide. The land is

then ploughed, occasionally with the use of a bulldozer. Commonly, approximately 20,000 suckers are planted per acre.

Pineapple production for the export market is generally chemical-intensive. Usually a balanced fertilizer containing Nitrogen-Phosphate-Potassium (NPK) is applied just before planting or at 4-6 weeks after planting. Ammonium Sulphate or Urea and Potassium fertilizers are also applied at specified times after planting. Pineapples do not tolerate weeds; many farmers use herbicides such as Diuron, and/or with Bromacil. Because mealy bug wilt can spread rapidly, some farmers treat suckers before planting with a systemic insecticide such as Dimethoate, Rixion, Perfecthion, Dimeton methyl, or Phosphomidon. Phytophthora (heart/root) rot is controlled by using Hetalaxil or Aluminium ethyl phosphite. Base rot can be treated in similar fashion or with Captafol. Re-cropped land may be infested with nematodes, which are sometimes controlled with nematicides.

Calcium Carbide is applied to force fruiting. Many farmers add a small quantity of kerosine or Ethrel plus urea to get better results. The fruit is normally treated with ethylene prior to harvest to ensure ripening and good coloration. Fruit is harvested with the stalk trimmed and treated with a solution of Benomyl (Benlate), Thiabendazole, or fungsil Benlate mixture immediately before packing to control watery heart or black rot. Pineapple yields of 25 tons per acre are achieved, but it is estimated that on average only half of the yield is exportable.

A major constraint for increasing production is available capital to purchase suckers and agro-chemical inputs. Few small farmers have capital (or access to credit) to purchase all or sufficient chemical inputs; many pineapples are not of export quality and losses to pests and diseases can be high. Outgrowers rely on their buyers to force and artificially ripen the fruit.

Another problem in pineapple production is market gluts at certain times of the year, which reduces prices and saturates the exporting avenues. Market gluts are attributed to dependency on rainfed production, and constraints of storage, processing, marketing, and transportation. Soil erosion and the heavy use of agro-chemicals also pose serious environmental and health problems discussed later in this report.

2.2.2 Yams (Dioscorea spp.). Tropical root crops, such as yams, cocoyams, cassava, and sweet potatoes are important staples throughout the tropics and sub-tropics in Africa. The two most commonly cultivated yams in Ghana are the white (Guinea) yam (Dioscorea rotundata) and the water yam (D. alata).

The yam varieties grow well on fertile land that is well drained. They adapt well to a climate with a long dry season. The white yam varieties develop and mature for harvest in about 8

months. The "Puna" and "Laborkor" varieties of white yams are highly rated in terms of their tastes and palatability, and are the principal yam varieties exported.

Virtually all of the yam exported is produced by smallholder farmers in the transitional zone in central Ghana. Because of its importance in the local diet, yam production is well known to farmers. Yams for export are monocropped on land cleared of all trees and vegetation. Traditionally, yams are propagated by tuber sections/cuttings. The cuttings and whole tubers are susceptible to bacteria, fungi, insects, and rodents, but are rarely treated with a pesticide. The export markets require small yams weighting 500-1000 grams, which are seed yams produced with non-traditional methods. The main markets are Europe and North America.

Yams for export are cultivated on small mounds or on ridges; between 20,000-30,000 stem sector/cutting are planted per acre. Most yam farms are weeded by hand; herbicides are rarely used. Stalks from split bamboo or tree branches are used to support the yam plants. Yams for export are harvested after 5-6 months with the use of a sharp stick. Maximum care must be taken at harvest and while the tubers are being packed, loaded, transported, and stored; cuts or bruises increase the likelihood of attack by microorganisms, including nematodes, which can cause rot.

In some cases, the inadequacy of availability of yam for seed/section in the right quantities and quality hinders production. More important, the bulkiness of yams which does not lend them to easy handling, storage, and transport represents a significant constraint. In addition, larger markets need to be identified for the yam produced in Ghana.

2.2.3 Kola Nuts. The kola tree grows naturally in the closed-canopy forest. More recently, naturally occurring or planted kola trees have been used to shade cocoa and coffee trees. With the recent moves to increase and formalize export, some old cocoa farms are being uprooted and converted to the cultivation of kola trees, including the use of some hybrid varieties. Large plantations of kola trees have not yet been established. The major producing areas are found in the Ashanti, Brong Ahafo, Central and Eastern Regions.

Kola trees require 4-5 years to mature; they produce for 40-50 years. The kola tree pods are usually allowed to drop from the tree and harvested. The pods are manually opened and the nuts removed. To keep the nuts fresh, they are often sprinkled with ash and wrapped in large moist leaves for transport. Most farmers do not use any chemicals in the production or export processes.

Kola nuts have for many centuries constituted an agricultural export commodity from Ghana, and remain among the most valuable exports to the interior of West Africa. Kola nuts are consumed

principally in the savannah area, primarily by the Muslim population in the Sahelian nations. The principal constraint to increasing export volume and value are formal markets. The trade has for the most part been informal, although the GOG is attempting to formalize the effort -- especially with Nigeria -- to generate much needed foreign exchange. Recently, quantities of dry nuts have also been exported by sea to Europe and North America to service the growing African and Caribbean communities.

2.2.4 Palm Oil and Other Agricultural Products. Other agricultural crops have potential to contribute to export earnings, including an assortment of fruits, nuts, vegetables, and spices/herbs. Promising fruits and nuts -- mostly tree crops -- include oil palm, mango, papaya, coconut, banana/plantain, and cashew. The ecological conditions vary for each of these crops. These tree crops are important not only because of their production potential and export value, but also because their cultivation techniques are well known to smallholders. Some tree crops, such as cashew nuts and coconuts, are durable and have longer shelf-lives thereby not restricting production to the Greater Accra Region. Perennial tree crops also protect the soil and reduce the risks of wind and water erosion. These factors bode well for smallholder participation throughout Ghana in export production.

Palm oil and palm kernal oil became important export commodities in the early 1800s. The oil palm tree grows naturally in the closed-canopy forest zone. The export trade in oil palm products has been informal and has fluctuated during the past century. In recent years the cultivation and export of oil palm has increased mainly as a result of government encouragement, export opportunities, and the introduction of high and quick yielding varieties. Many smallholder farmers have cleared land and established small oil palm plantations; only a few large plantations exist in Ghana. Hybrid oil palms are usually monocropped; production often involves the use of agrochemicals.

Vegetables such as peppers/chilies, okra, egg plant, beans are in demand throughout the year, both locally and overseas. In particular, there is scarcity in Europe from October to March. In Ghana it is possible to produce many of the vegetables in demand the year round. Vegetable production usually involves the use of agrochemicals including fertilizers and pesticides. Most vegetables have a short shelf-life and must be carefully handled to avoid damage; farms need to be located close to ports to avoid losses in transport.

Finally, two spices with significant potential for export are black pepper and ginger. Black pepper are found growing wild in the closed-canopy forest zones. Both spices can be commercially grown in the Eastern and Western Regions and areas along the fringes of the closed-canopy forests of Kintampo, Wenchi, Sunyani, and Kete Krachi.

3.0 ENVIRONMENTAL IMPACTS OF NON-TRADITIONAL AGROEXPORT CROPS

3.1 Introduction

The production of non-traditional agroexport crops directly depends upon, affects, and is affected by the natural resource base. A full understanding of NTAE production and its potential in Ghana requires knowledge of the environmental impacts of these crops, including repercussions on vegetation, soils, water, human health, and the wider ecology and society. These impacts influence productivity, yields, profitability, and long term viability of NTAE crops.

The specific environmental impacts of non-traditional agroexports vary considerably and depend largely on the type of crop, production technologies, and agroecological conditions. As will be described in this section, some of the production practices degrade the natural resources, and the resulting negative impacts may constitute high costs to producers, which jeopardize the potential to meet the production goals set by the TIP. These problems therefore require mitigation measures. When the negative impacts result in off-farm degradation of resources (i.e., 'externalities'), they represent high costs to society more broadly. In contrast, some environmental impacts may be neutral or even positive, if, for example, the production practices facilitate soil conservation or enhance agroecological diversity; and these cases offer lessons for sustainable achievement of the TIP production goals.

3.2 Principal Types of Environmental Impacts in NTAE production

It is important to characterize and assess the diverse types of environmental impacts in the NTAE sector, analyzed below.

3.2.1. Deforestation and Land-Use changes

The cultivation of some NTAE crops often entails clearing of land that is under forest cover. With the expansion of NTAE production as projected in the TIP, deforestation is increasing, and is also expanding into hilly areas, even in steeply-sloped marginal land unsuited for cultivation. Deforestation in Ghana is occurring at a rate of 25,000 hectares per annum. This is contributing to land degradation and soil erosion which can undermine production. (See next section.) This kind of land clearing is thus inappropriate and counterproductive. It is not known what specific rates of deforestation are attributable to NTAE production alone; but it is clear that the process will intensify in the future, if measures are not taken to control the expansion of NTAE production into forested and sloped land.

The problems associated with deforestation are particularly evident for pineapples and yams. The common use of wood stakes in

yam production also entails expanded exploitation of forest resources. It has been estimated that approximately two acres are deforested for every one acre of yams produced. On the other hand, kola nuts are grown in trees and on agroforestry systems which are better suited to maintain vegetative cover and crop diversity, while simultaneously utilizing the soil productively.

In other areas, the growth of NTAE production does not entail clearing of forested land, but instead involves conversion of diverse subsistence crops or grains to the new crops in monoculture systems. These land use changes may reduce the diversity of crops and vegetation in a given area, and may reduce the availability of food crops for local consumption.

Detailed data is not available on the transformations of land use that have occurred for NTAE production, and more information is clearly needed to understand the extent of deforestation and the repercussions of crop substitution.

3.2.2 Soil Capability and Erosion

Ghana is naturally endowed with a variety of soil resources suitable for agriculture, but optimal production of NTAE crops requires utilization of particular soil types, nutrients, and climatic conditions. Analyses have been undertaken in Ghana to determine soil capability for specific NTAEs. For this purpose, the country has been divided into five main agroclimatic zones. Characteristics of soil texture, structure, depth, and fertility must be adapted to the type of crop. If producers do not cultivate NTAE crops in areas which have appropriate soils, production can suffer and soil degradation may occur as well.

For example, in pineapple production, the soils must have moderately structure, loam to sandy texture, high organic content, and responsiveness to fertilization. Pineapples therefore can be grown in the semi-deciduous rain forest zone and the grass savannah zone. Black pepper, on the other hand, require deep soils acid soils, which are well to moderately well drained, high annual rainfall, and preferably soils with high organic content. Mangoes require soils with sandy clay loam to clay loam topsoils, high organic content and nutrient contents, and do not tolerate high salinity. If these crops do not have these soils conditions, their yields and quality will decline. Therefore, ensuring an appropriate match between the crops and the agroecological and resource capacities is critical.

Most of the upland soils described as 'suitable' for non-traditional export crops are fragile and susceptible to soil erosion hazards, especially when large tracts are cleared for agriculture. Soil erosion is evident throughout much of Ghana; over half of the land under production is subject to erosion. This area is likely to expand with the increase of NTAE production as

projected in the TIP. Soil erosion is particularly severe in NTAE farms when producers cultivate in steep areas and do not use soil conservation practices. For example, in some areas of pineapple production, analysts have noted that farmers' failure to plant on the contour has provoked erosion. Soil erosion leads to degradation of soil structure and declining fertility over time, resulting in internalized costs to farmers. It also can provoke off-farm damages to other farmlands and resources. For example, soil runoff into the Densu river has increased with the expansion of NTAEs. Siltation of the river disrupts fisheries and causes water pollution.

In addition, when cultivation and other farm practices are mechanized for a long period (as in large-scale pineapple production), the subsoils tend to become compacted. When this happens, the exploitable volume is reduced as air and water and roots cannot penetrate through the compacted layer. This condition induces soil erosion and again, hinders production. Furthermore, the use of bulldozers to level the land in pineapple production can shift topsoil in harmful ways.

3.2.3 Pesticide Use and Repercussions

For several NTAE crops, producers use considerable volumes of pesticides, including insecticides, nematicides, fungicides, and herbicides, for controlling a variety of pests and diseases. Producers perceive a necessity to use chemicals in order to meet phytosanitary standards, quality standards, and yield goals for external markets. The use of pesticides is especially prevalent and high in perishable crops such as pineapples, vegetables, and mangoes, which are subject to stringent quality controls. Large-scale monocultural plantations tend to use the largest amounts of pesticides per hectare, partly because homogeneous conditions that tend to be more susceptible to pests, and because they have strong pressures for increasing yields. For example, as explained earlier, numerous pesticides are used in fresh pineapples for export. On the other hand, pineapples produced for juicing or canning (rather than for fresh export) do not require as high quality, and therefore usually entail lower use of pesticides. Moreover, pesticides are rarely used for kola nuts and for yams.

Preliminary investigations and observations of agrochemical use in pineapples and other export crops in Ghana suggest that pesticides are frequently applied inappropriately -- for example, mixing chemicals incorrectly, using faulty equipment, applying ineffective products, or applying wrong dosages or at inappropriate times. Moreover, pesticides are often applied unsafely. For example, users have been observed without protective equipment, mixing pesticides with their bare hands, spraying without shoes, and reusing pesticide containers.

Such problems of pesticide misuse are particularly evident among smallholders. The reasons for the problems are largely related to the users' lack of information about alternative non-chemical methods of pest control, their lack of experience and information for safe and effective agrochemical use, and their lack of capital for purchasing appropriate equipment and products. Although smallholders in Ghana may be familiar with NTAE crops such as yams, kola nuts, and even pineapples, the switch to commercial production often obliges them to use chemicals with which they are often unfamiliar. Furthermore, both small and large-scale farmers tend to use pesticides as a 'weapon,' sometimes believing the myth that 'more is better,' rather than using chemicals judiciously and selectively.

These chemicals are very expensive, signifying a large cost burden on producers. In addition, several negative effects emerge from the inappropriate use of pesticides in NTAEs:

a. Residues in products: If pesticides are applied in excessive dosages or too close to the harvest time, the residues accumulate in the fruit in levels that exceed the residue standards established by governments of importing countries. Consequently, when such a violation is detected in the import inspection process, the entire shipment of the product is rejected for import, resulting in serious financial losses to the producers. This form of rejection from pesticide contamination has happened rarely in Ghana, but has occurred in numerous other countries where NTAEs are being promoted, and the rejections have resulted in losses of millions of dollars. It will become an increasingly serious risk to Ghanaian producers, with the rapid expansion of NTAEs and the increase in pesticide use. The problem of residue accumulation in products is particularly serious for persistent pesticide products, such as organochlorines; and residues in excessive levels also pose health hazards to the consumers.

b. Contamination of Water, Soil, and Vegetation: Some kinds of pesticides also accumulate in the wider environment -- in the water, soil, and vegetation, and air; and when they are used irrationally, they may result in pollution/contamination problems. For example, it has been reported that some small pineapple farmers have harmed their own crops and vegetation in their farms when they have used herbicides that are unsuited for the particular weed, or used with improper dosages. Pesticide contamination of the Densu River is suspected from the runoff of pineapple plantations. Soils in pineapple plantations also may be harmed with the accumulation of toxic nematicides which disrupt the useful functions of natural soil microorganisms over time. The extent of kinds of problems require further examination, and measures are needed to avoid such hazards.

c. Harm to Users' Health: Pesticides can also harm the health of those who apply the products and other people who are exposed. The

types of health impacts from pesticide exposure are categorized into acute and chronic damages. Acute effects are primarily poisonings, associated with symptoms such as vomiting, fever, vertigo, diarrhea, delirium, muscular convulsions, neural damage, or even death; and they are provoked usually by direct exposure to toxic products. The number of pesticide poisonings in Ghana per year is not known, but the incidence of the problem is likely to increase as the use of pesticides increases in NTAEs. Chronic effects include longer term impacts that are caused from exposure to pesticides, and they include headaches, allergies, dizziness, dermatitis, blurred vision, or mutagenic or carcinogenic effects that emerge over the long term. These health damages from pesticides are borne mainly by agricultural workers and small farmers, i.e., the poorest and most vulnerable in rural areas. The causes of the problems are often due to unsafe use of the products, peoples' lack of knowledge of the dangers, and similarly, gaps in the provision of information by pesticide distributors. The risk and numbers of poisonings and chronic damages from chemicals will increase with the expected growth in NTAE production, if measures are not taken to ensure rational integrated pest management and safe chemical use.

d. Resistance - The 'Pesticide Treadmill': Finally, a significant long-term effect and risk of pesticide use is resistance of pests to products. It is well-known to scientists that pests develop resistance to chemicals, as a result of basic genetic selection processes, and therefore, the pesticides lose efficacy over time. Farmers' response is often to increase pesticide applications; yet, this tends to aggravate resistance. This phenomenon can trap farmers into 'addiction' to pesticides that are ineffective, leading to high economic losses. The incidence of resistance in pineapples and other NTAE crops in Ghana has not yet been documented, but this situation has occurred in other countries and inevitably will occur in Ghana as well, if chemical-intensive production methods are continued.

In sum, these actual and potential negative impacts from pesticides create high costs and risks which can offset economic returns. Avoiding these kinds of problems is possible (and is essential), through integrated pest management methods and only minimal safe application of pesticides. Furthermore, all of these negative effects can be avoided in crops such as Kola nuts and yams that rarely use pesticides. In this sense, Kola nuts and yams appear to be more ecologically compatible and less expensive than crops that are more chemical intensive.

3.2.4 Impacts of Fertilizers

Although the use of fertilizer may be useful and needed in some crops for contributing to increases in yields and quality of products, the improper use of fertilizers can have negative impacts on production as well as harmful off-farm effects. In particular,

when pineapple farmers use fertilizers excessively or with an inappropriate nutrient balance, the fruit of the pineapple may be harmed. Incorrectly balanced fertilizer applications will create a wrong level of sweetness and shortened shelf-life of pineapples that are required for export standards.

In addition, chemical fertilizers are easily washed off by rain into streams, rivers, and other areas, where they become sources of pollution. When deposited into rivers and streams, heavy loads of chemical fertilizers contribute to an increased growth of vegetation and weed, leading to eutrophication and reduced water volume. This disrupts fish and aquatic life, as well as reducing water available for human consumption. A recent chemical analysis of the Densu River outside of Accra revealed pollutants from chemical fertilizers, especially near the urban area. An expansion of NTAEs to the production goals projected in the TIP is likely to exacerbate this problem (meaning high costs to society), unless steps are taken to prevent this pollution.

3.2.5 Agroecological Diversity Impacts

Although the promotion of NTAE crops is intended partly to encourage 'diversification,' ironically, the conversion of local food production to NTAE production sometimes entails a switch from heterogenous production systems (with a diversity of crops and vegetative types), to monocultural (or less diverse) systems. Moreover, standardized varieties and uniform genetic stock are required by international markets in many cases. This reduction of diversity within agroecosystems may have some advantages for economies of scale and efficiency, but the reduction of crop diversity can increase vulnerability of the agroecosystem to pests and diseases, reduces the nutrients in the farming system, and simultaneously may increase economic risks of production to farmers who depend on a single species or crop. Conversion to new standardized seeds may also mean the loss of indigenous seed varieties. In the case of Kola nuts, however, production generally maintains a diversity of crop species, since they are commonly intercropped with cocoa trees; and this type of agroforestry system therefore has agroecological advantages.

In sum, the main environmental impacts outlined above need careful consideration in the overall TIP program. There are multiple causes underlying the problems identified in this sector. One significant cause is the tendency of farmers to focus on short-term yield maximization in NTAE production. Other causes include lack of information, training, and policies concerning sound use of resources and agrochemicals in NTAEs, and gaps in research and institutional capacities. Addressing these environmental impacts and their causes is critical to ensure that the TIP goals are achieved in a sustainable way.

3.3 Socioeconomic Implications

The development of NTAE production in Ghana involves unique socioeconomic impacts that are interrelated with the environmental factors in some situations. In particular, it is important to consider the distribution of benefits of NTAE production -- i.e., who are the main beneficiaries of NTAEs? how is it contributing to local economic and social development?

One of the unique characteristics of NTAE production in Ghana is that a large proportion of production is by small scale producers. Although specific survey data is not available on the land tenure situation in NTAEs, initial rough estimations suggest that 80-90 percent of the total value of NTAEs are from small scale farmers. In fact, some of the crops are 'traditional' to smallholders, for internal markets. For example, small farmers have been producing Kola nuts, yams, and sometimes pineapples for generations for their own consumption, so the switch to export production in these crops offers them special opportunities. In these cases, the small farmers are 'outgrowers' who sell their produce to the large buyers and exporters. Furthermore, the Ghana Export Promotion Council has formed 'Export Production Villages' in five areas, which help support NTAEs for small producers. In sum, early indicators suggest that the NTAE sector appears to benefit a broad spectrum of farmers throughout Ghana.

At the same time, however, Ghana has several very large-scale NTAE producers, particularly in pineapple plantations, who have a growing share of the total land in pineapple production. These large land holders/exporters have influential and prominent positions in the NTAE sector, tend to have high levels of efficiency and productivity, and also have access to capital, technology, marketing connections, and other infrastructure required for export production.--It appears that these large scale producers have a competitive advantage to small farmers in some cases, in terms of their efficiency, market access, and economy of scale. Some analysts have suggested that a new land market is being created, and a land-consolidation process is occurring in parts of the pineapple-growing region. Apparently, some smallholder pineapple farmers are cultivating further into hilly areas, on increasingly marginal land. This process contributes to deforestation and land degradation, as mentioned earlier, and can hinder their productivity and access to markets.

Both small and large-scale farmers have to adapt their production practices to new standards and requirements for export markets, but small farmers face special constraints in this situation. Poor farmers often lack access to information and inputs for NTAE production, and therefore may be unable to meet the quality criteria. They also tend to lack resources and information for safe and rational use of agrochemicals (as noted earlier), so that they are particularly susceptible to problems from

agrochemicals. The small NTAE farmers have not been given attention and technical assistance that they need.

Furthermore, NTAE production has potential to generate off-farm employment and small rural industries in some situations. In other countries (especially in Central America), the growth of small processing industries, such as canning or juicing factories, has made a substantial impact to the NTAE sector. In Ghana, the expansion of such processing plants could increase socioeconomic benefits (if planned carefully) and could also avoid the risks of exporting perishable crops, as well as adding value to the product before it is exported.

In sum, addressing these socioeconomic issues as well as the environmental impacts, can help promote the sustainable and equitable development of NTAE production in Ghana.

4.0 RESPONSES TO ENVIRONMENTAL IMPACTS IN NTAE PRODUCTION: RECOMMENDED POLICY REFORMS, MITIGATION, MONITORING & RESEARCH

The above overview of actual and potential environmental impacts suggests that policy reforms, mitigative actions, and monitoring activities are needed - if the TIP production goals are to be achieved in a sustainable and productive way. It is also clear that more research is needed to acquire complete information on the environmental impacts. These necessary initiatives, summarized below, will require coordination and a leading responsibility by the Environmental Protection Council. They will also require actions and collaboration by several public institutions, farmers, and the private sector.

4.1 Policy, Institutional, and Legislative Reforms

The present encouraging performance of the NTE sector can only be sustained through a sound policy, legislative, and institutional framework. The existing policies in agriculture, trade, exchange rates, and the environment generally favor expansion in non-traditional agroexports. The NTE policies should coincide with the government's broader policies promoting decentralization and private sector expansion, and the National Environmental policy which seeks to reconcile economic development and resource conditions. However, these broad policies need to be harmonized to avoid and/or reduce undesirable land use conflicts and adverse environmental impacts.

4.1.2 EPC Involvement in Policy Dialogue on NTAEs

Institutions involved in the various aspects of the NTE process include GEPC, the Ghana Investment Centre (GIC), Customs Excise and Preventive Services (CEPS), and Ministries of Trade, Tourism, and Agriculture. In order to sustain and plan the

successful and sound expansion of NTAEs, policy dialogue and coordination is needed among these organizations. This kind of interaction may be assisted through the proposed 'Trade and Investment Management Office' (TIMO). The Environmental Protection Council (EPC) should be involved as an active member in the policy dialogue and decision-making of the TIMO. Non-government organizations or associations (e.g., the Horticultural Association) should also be involved in the NTE policy formulation. Any policy changes proposed in the policy dialogues must be analyzed in terms of their environmental impacts and their fit with the promotion of sustainable growth of NTEs.

4.1.2 Legislative and Policy Enforcement Reforms

Other policy reforms may be needed to help mitigate negative environmental impacts and to ensure the sustainability and equity of NTAE production. In particular, legislative or regulatory reforms may be needed in the following areas:

- land use policies to prevent deforestation and cultivation of marginal steeply-sloped lands and watersheds for NTE production;
- improved enforcement of pesticide policies and laws to avoid the negative impacts and ensure sound use of chemicals;
- policy incentives to encourage alternative non-chemical means of pest control, soil conservation, and agroforestry;
- improvement of infrastructure and marketing policies for NTAEs, especially to meet the needs of small farmers;
- review of land tenure policies, to ensure secure ownership and sustainability of production, especially for small producers;
- environmental standards that pertain to pollution levels in rivers and foods, and mechanisms to implement the standards, aimed to mitigate the off-farm impacts.
- establishment of guidelines for environmental impact reviews to examine new activities and investments that affect NTAEs.
- policy support for subsistence and local markets, to ensure food self-sufficiency and local nutrition needs -- to balance the support being directed to exports.

All of these policies aimed to improve the sustainability of NTAE production should be incorporated into the TIP planning and policy, in order to achieve the overall objectives of the program. If focus on yield maximization and financial targets is pursued at the expense of the natural resource base, NTE expansion may be jeopardized. Changes are needed to ensure a harmonious policy framework for sustained production.

4.1.3 Institutional Strengthening

Activities concerning mitigation of environmental impacts of NTAEs coincide with the interests and activities of the Environmental Protection Council (EPC). However, some changes and

improvements of capacities will be needed to strengthen the EPC to pursue policy-related work, mitigation measures, and monitoring for NTAEs. Moreover, efforts will be needed to build coordination among other institutions working on environmental issues, which are listed in the final section of this review.

4.2 Mitigation Measures

The negative environmental impacts of NTAE production may be minimized or prevented through the adoption of mitigation measures related to land use, soils, agrochemicals, agronomic practices, and training. It should be realized that some of these problems are found not only in the NTE sector; they require changes in the broader agricultural field. The following measures are therefore recommended to ensure success of NTAEs:

4.2.1 Training and Education on Sound NTAE production

The increasing production of NTAEs has necessitated the need to organize workshops and training for NTAE farmers, grower cooperatives, plantation owners/managers, workers, and extension agents. Educational opportunities for long-term courses and degrees, as well as short-term courses, will contribute to the overall productivity and sustainability of NTAE crops. The government, universities, donor agency, and private sector need to contribute support to training and educational programs. The main coordinating bodies should include the Ministry of Agriculture, the EPC, and the programs should last at least four years. The following specific areas should be trained and encouraged in NTAE courses:

- a. Sound Land Use -- including land-use planning, sustainable use of NTAE land, good tillage methods, agroforestry practices, and use of beneficial tree crops such as kola nuts in agroforestry.
- b. Soil Conservation and Fertility -- i.e, measures to avoid erosion and ensure soil conservation and soil fertility in NTAEs, including strip cropping, cover cropping, mulching, alley-cropping, intercropping, ploughing and ridging along the contour, rational and appropriate application of fertilizers, restricted use of agricultural machinery in areas with fragile soils or slopes, and soil capability analysis.
- c. Management of Pests and Pesticides -- especially Integrated Pest Management (IPM) in NTAEs, safe and rational pesticide use to avoid the negative impacts of pesticide use, with an emphasis on non-chemical methods that are feasible and economical, and use of pest monitoring and threshold analyses. (Special attention needs to be given to workers who tend to lack information.)

- d. Other agroecological practices -- including rational use of water, fertilizer, and organic manures, nutrient management methods, and selection of varieties.

4.2.2 Extension Services for NTAE Production and IPM

Also important is the need to develop reliable extension services for NTAE producers, especially to serve the needs of small farmers. Presently, producers have mentioned that lack of expert advice is a major constraint, and they have to seek expertise and information from other countries on specific agronomic issues in NTAEs. Often, such information is expensive and difficult to acquire. Extensionists need to give special attention to sustainable and environmentally sound practices which will contribute to productivity gains -- including sound land use, soil conservation, IPM and pesticide management, as summarized above. The main implementing institution for this should be Extension Services of the MOA, but more resources and people will be needed to strengthen their expertise. The private sector may have a collaborative role as well.

4.2.3 NTAE Processing and Transport Needs

Capital, technological capacities, and infrastructure are needed to develop processing -- i.e., canning and juice-making -- as well as maritime transport for NTAEs. These capacities are particularly crucial for pineapple, because fruit produced for canning and juicing have less strict requirements than fresh fruit exports, and in turn, this fruit would use lower inputs of chemicals in production. Also, shipping by boat rather than air enables exporters to export different quality of fruit that can be produced with less chemicals. At the present time, a great deal of fruit is rejected because it does not meet fresh fruit quality standards, but it could be exported if the fruit was canned or made into juice. There are very few processing companies in Ghana; and building this capacity could add value to crops, increase NTAE earnings, and avoid waste of NTAEs, as well as reducing expenses and potential problems from agrochemicals.

4.2.4 Activities of Decentralized Government in NTAE issues

The government of Ghana has long been concerned with the devolution of administrative responsibilities and political authority for local development and environmental management. NTAEs present new environmental opportunities and challenges that should be known to district authorities for appropriate planning and policy law formulation. A series of workshops can be organized at the district level to discuss the environmental and socio-economic impacts of increased NTAE production.

4.5 Development of Monitoring Capacities

An important way to help achieve the TIP targets in NTAEs in a sustainable way and to avoid adverse impacts is to develop an effective monitoring system. There is a need for improved knowledge about the resource factors, capabilities, and interacting elements that affect and emerge from NTAE production.

A fair amount of environmental data and information already exists in Ghana. However, these are scattered, uncoordinated, and inadequate. A major shortcoming of the monitoring system is the lack of a common framework and collection center. In addition, data collected does not provide complete information on the social, cultural, and economic aspects of the human environment.

Monitoring of the impacted areas of agroexport crops should be carried out by a number of government ministries, departments, and research institutions in a coordinated way. These agencies have specific mandates which control their routine activities. Their mandates should be modified in order to include monitoring of indicators pertaining to the sustainability of NTAEs.

In order to ensure effective monitoring and evaluation of the agroexport sector, the establishment of a National Environment Information System (NEIS) within the EPC as proposed under the Ghana Environmental Action Plan (GEAP) is timely. The NEIS is administered by the EPC, but is a network of information centers and institutions that work in the environmental field. All institutions participating in the monitoring and those gathering other environmental data will be required to furnish the EPC with prescribed data periodically. The NEIS has already started performing in a limited way. Its main functions are:

- a. to provide an information referral service on a wide range of environmental subjects;
- b. to serve as a readily accessible archive of homogenous data sets on environmental quality;
- c. to provide organized data on the state of the environment through publications and other means and to serve as information support for development planning;
- d. to provide a means for early warning and evaluating the impact of development and environmental activities;
- e. to provide inputs for environmental education programs.

The main services to be provided by the NEIS will include referral, data bank, data synthesis services, and publication and information support. The EPC with other agencies will prepare annual National Environmental Data Reports and other information. The reports will provide data on the quality of the environment and natural resources, and they should include specific sectors of the economy, including the production of agroexport crops.

Increased activities on NTAEs will imply additional responsibilities for institutions involved in monitoring, evaluation, and other activities. Special measures may be needed to ensure the incorporation of monitoring procedures that pertain to environmental impacts of NTAEs in the NEIS. The institutions that will collaborate with the EPC in the monitoring include:

- Ministry of Agriculture (Crop Services, Research and Extension and Plant Protection and Regulatory Services)
- Plant Protection and Regulatory Services
- Institute of Aquatic Biology, Council for Scientific and Industrial Research (CSIR)
- Water Resources Research Institute, CSIR
- Food Research Institute, CSIR
- Soils Research Institute, CSIR
- Department of Geography and Resource Development, UG
- Ghana Atomic Energy Commission
- Environmental Protection Council.

The Ministry of Agriculture has statutory responsibility for agricultural activities and the respective departments identified perform general roles which pertain to the production of NTE crops, eg. with respect to crop species and yields, extension services, and application of agrochemicals.

The research institutes of the CSIR have specific mandates governing their activities. Their participation in research and monitoring activities with respect to the NTE sector will exert extra pressure on their already limited resources. The Geography Department of the University of Ghana, the Ghana Atomic Energy Commission (GEAC) and the EPC have similar and important roles to play in promoting greater productivity within the non-traditional export commodity sector. However, the quality and reliability of their service delivery system falls short of what is required in a growing NTE sector. This is due mainly to the inadequate resources. The institutions need additional resources to enable them to render useful services. For example, the EPC could benefit from training in data management and analysis.

For effective monitoring of changes in the quality of land and other natural resources, baseline data and information will be systematically assessed and measured on several indicators. The indicators must be carefully selected to ensure they correspond to the environmental impacts of NTAEs. Following is a partial list of suggested indicators for monitoring.

a. Land-Use Trends

- Deforestation (location and rates) in NTAE area
- Changes in natural versus cultivated area
- Changes in vegetation (maps, Geographic Information)
- Cropping/fallow periods
- Introduction of new land uses.

- b. Measures in Soils
 - Erosion indicators
 - Soil fertility measures
 - Soil capability (agricultural potential) analysis
- c. Data on Agrochemicals and Pest Control
 - Volumes and types of agrochemicals used in NTAEs
 - Residue levels in products
 - Agrochemical levels in soils and water with special attention to pollution in the Densu River
 - Pesticide poisoning and other health impacts
 - Data on integrated pest management methods
 - Monitoring of pest resistance
- d. Agroecological Data
 - Agricultural yields
 - Crop species
 - Crop diversity indices on cultivated land
 - Biodiversity indices on fallow fields
 - Appearance and frequency of indicator species

4.6 Research Gaps

The NTE strategy has been implemented for 10 years. The full range of environmental and socioeconomic impacts of NTAEs are not well understood or are unknown. As the TIP aims to increase the production of NTAEs, it is urgent to improve data and understanding in this area. Several research priorities can be identified. The priority issues, in order of importance are:

- a. Local Environmental Impacts of NTAEs.
(Research by: Environmental Protection Council, Accra, and the World Resources Institute, Washington DC)
- b. Agrochemical Use and IPM in NTAEs
(Research by EPC, GAEC, MOA, FRI, FAO, and WRI)
- c. Impacts of Pineapple Production on the Akwapim Hills
(Research by: EPC and Dept. of Geography, UG)
- d. Environmental Impacts of Yam Production in Fragile Zones
- e. Improved Production of Traditional Crops
- f. Natural Resource Accounts
- g. Private Sector Research activities

5.0 CONCLUSION

In sum, carrying out the responses identified in this section -- including policy and institutional reforms, mitigation measures, monitoring activities, and research activities -- is needed to avoid degrading resources in the NTAE sector. They are also necessary to work towards the export goals of \$390 million by 1997 in the TIP. Giving serious attention to environmental considerations is critical to ensuring the sustainability and productivity of NTAEs and to benefit Ghana in general.

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7.0 ADDITION

7.1 Specifics on Research concerning Environmental Impacts

This section consists of summaries of the major research areas which should be developed regarding the environmental impacts of the NTAE sector in Ghana. They are listed in order of priority. The summaries also identify institutions that would be involved in such research endeavors, and estimated funds required. These figures should be seen as tentative estimations.

a. Local Environmental Impacts of NTAEs. More detailed analyses of the local-level environmental impacts of the increased production of non-traditional agroexport crops are needed. Included should be the effects of the environmental impacts on the local socioeconomic conditions. The results of such an investigation should be shared with both district and national policymakers as well as the development assistance community and can be used to help identify specific measures to prevent adverse impacts. The EPC in collaboration with the World Resources Institute (WRI) has recently launched an effort that will address some of these issues.

Implementing Institutions: EPC with technical support of WRI

Duration: 3 years

Estimated Funding Levels: \$20,000/per year x 3 = \$60,000

b. Agrochemical Use and IPM in NTAEs. More information is needed on the use of herbicides, fertilizers, pesticides, fungicides, and nematicides in the production of non-traditional agroexports; chemical residues in NTE crops, particularly pineapples and pepper/chilies; and contamination of soil and water resources. The FAO in collaboration with MOA and EPC has established a facility at GAEC to determine pesticide levels in agricultural produce, but more resources are needed to strengthen capacities of this facility and its functions for NTAE analyses. Particular attention should be paid to the use of agrochemicals by small farmers involved in NTAEs. The study should build on the initial study on pesticides by the Friends of the Earth in Ghana, and it should be aimed to identify feasible alternative pest management (IPM) methods and measures to avoid problems.

Implementing Institutions: EPC, GAEC, MOA, Food Research Institute (FRI), with WRI

Duration: 3 years

Estimated Funding Levels: \$40,000/per year x 3 = \$120,000

c. Pineapple Production on the Akwapim Hills. A special study should be conducted on the changing land use patterns in Akwapim South District. The area is the site of significantly increasing cultivation of pineapples and hot pepper. Particular attention should be given to changes in land tenure, erosion levels, and changes of vegetation and crops. Some of the information can be obtained from GIS and other remotely-sensed data, although ground-truthing and more detailed information on NTAE production and local socio-economic activities will require fieldwork.

Implementing Institutions: EPC and Dept. of Geography, UG. The two institutions are involved in Ghana Environmental Resource Management Project (GERMP) which will establish the required framework for such study.

Duration: 4 years

Estimated Funding Level: \$30,000/per year x 4 = \$120,000

d. Yam Production in Transitional Zones. There is urgent need to assess the rate of deforestation emanating from yam production for export in the fragile transitional zones of Ghana. Research findings in this area can be used to determine the extent and repercussions of deforestation, as well as potential mitigation measures.

Implementing Institutions: EPC, MOA, Forestry Department

Duration: 2 years

Estimated Funding Levels: \$20,000 per year x 2 years = \$40,000

e. Improved Production of Traditional Crops. Many of the emerging NTAEs in Ghana are traditionally cultivated by smallholder farmers or naturally-occurring and simply harvested, including kola nuts, coconuts, yams. As the demand for these crops increases, there will be the need to develop improved production means. Research should be conducted to examine the future demand/supply of these crops and to ensure the improved production means and/or value-added efforts that are developed are ecologically sound and environmental safe.

Implementing Institutions: MOA, Cocoa Research Institute (CRI)

Duration: 2 years

Estimated Funding Levels: \$20,000 per year x 2 years = \$40,000

f. Natural Resource Accounts. The common indicators of economic growth throughout the world are flawed because they ignore the costs of natural resource use. It is important for the government of Ghana to recognize the impacts economic growth has on the

resource base. Research efforts should be made to undertake economic valuation of natural resource conditions and develop natural resource accounts for the principal natural resources affected by NTAE production, including soils, water, and forests.

Implementing Institutions: Department of Economics, UG

Duration: 3 years

Estimated Funding Levels: \$25,000 per year x 3 years = \$75,000

g. The Role of the Private Sector. On-going privatization efforts by the government of Ghana, including the promoting of NTAEs, means an increasing role for private enterprises to become aware of and participate in natural resource management and ecological restoration and environmental reclamation efforts. Research should be conducted to examine alternative means for private-sector participation in environment management. The efforts should include workshops and/or roundtable discussions with for-profit organizations.

Implementing Institutions: Ministry of Agriculture and private sector companies

Duration: 2 years

Estimated Funding Levels: \$10,000/year x 2 years = \$20,000

7.2 Tentative List of Priority Actions for Funding

Of the actions, measures, and research activities mentioned in this report, the following are identified as important priority actions on environmental impacts, which require funding. Preliminary estimates of funding levels are also noted:

1. Support of Policy and Institutional Measures
2. Training and Education on Sound NTAE production (\$80,000)
3. Extension Services for NTAEs and IPM (\$150,000)
4. Monitoring Capacities on Environmental Impacts (\$60,000)
5. Research on Local Environmental Impacts (\$60,000)
6. Research on Agrochemical Use in NTAEs (\$120,000)
7. Research on Environmental Impacts of Pineapple Production in the Akwapin Hills (\$120,000)
8. Research on Yam Production in Transitional Zones (\$40,000)
9. Research on Improved Production of Traditional Crops (\$40,000)
10. Development of Processing and Transport Capacities
11. Activities of Decentralized Government on NTAE impacts
12. Research on Natural Resource Accounting for NTAEs
13. Research on Private Sector activities

ANNEX V

**A REVIEW OF ENVIRONMENTAL IMPACTS OF THE
SALT MINING INDUSTRY
ON THE COASTAL AND RIVERINE LAGOONS IN GHANA**

**A REVIEW OF ENVIRONMENTAL IMPACTS OF THE SALT MINING INDUSTRY ON
THE COASTAL AND RIVERINE LAGOONS IN GHANA**

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A REVIEW OF ENVIRONMENTAL IMPACTS OF THE SALT MINING INDUSTRY ON THE COASTAL AND RIVERINE LAGOONS IN GHANA

1. INTRODUCTION

The Trade and Investment Program (TIP) is a USAID/Ghana Government initiative designed to address the constraints that limit private sector investments and production for exports. In particular, the program seeks to strengthen the necessary policy and institutional framework; improve the financing and incentives available to the private sector, and improve the capability and capacity of individual firms and entrepreneurs to export. The TIP is designed to shift the dependence of Ghana's economy on a few principal exports by increasing and diversifying export earnings. In order to achieve this, the TIP will increase the private sector capacity for the production and marketing of non-traditional exports such as Pineapples, Yams, Shellfish, Wood products and Salt.⁽¹⁾

One of the requirements expected of USAID in the final preparations for the TIP, is to conduct an overview of the potential long term environmental impacts related to the proposed projects and develop a plan for monitoring, evaluating and mitigating those impacts. Salt mining has been identified as one of the projects which require evaluation in terms of the likely adverse environmental impacts.⁽²⁾

Much of the salt mining and production in Ghana occur in coastal wetland habitats, where the low lands near the sea are developed into salt pans and the brackish lagoons are exploited for salt when they dry up in the dry season. The coastal wetlands are valuable ecosystems, serving a variety of functions and providing essential resources for the local communities. Wetland habitats also support diverse array of plant and animal species, whose long term survival depend on the maintenance of the ecological integrity of the wetland.

Ghana is signatory to three international conventions that relate to the conservation of wetlands and the fauna and flora they contain (See Appendix 5). Ghana therefore has an obligation to the international community to promote wise use of her wetlands, and is expected to demand proper assessment of environmental impacts before development projects in wetland areas are approved, provide continuing evaluation during project execution, and implement appropriate environmental conservation measures.

This report presents an overview of the environmental impacts of salt mining industry on coastal wetlands. Section 2 reviews the salt industry; potential impacts of the development of the industry on the environment with particular reference to the biological value of the coastal wetlands are discussed in section 3. Suggestions on measures to minimize adverse impacts are provided in section 4 and activities for monitoring of such impacts are outlined in section 5

2. THE SALT INDUSTRY

2.1 SALT PRODUCTION IN COASTAL GHANA

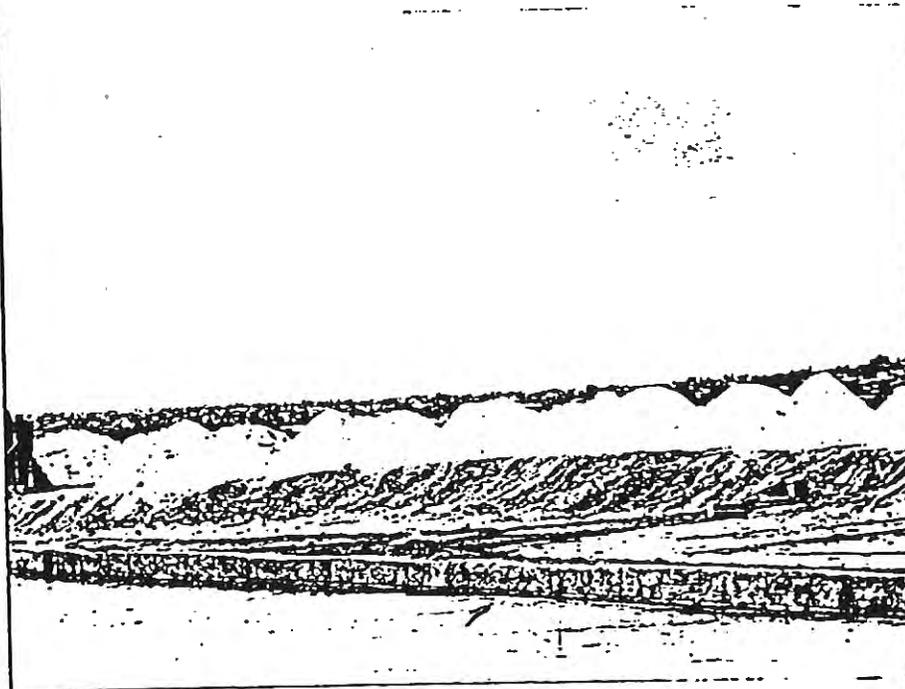
Salt in Ghana is obtained mainly by solar evaporation of saline water. Two sources are currently used for salt production along the coast:

The brackish lagoons: In the dry season, (November to March) large areas of the lagoons dry up depositing large quantities of salt crystals on the lagoon bed, which is scraped up by people living around the lagoons. This is the traditional method of salt winning common around the Songor and Keta lagoons. Quantities of salt available for collection each year depend on the duration of the dry season and intensity of sunshine. Songor lagoon is the most important traditional salt mining area on the Ghana coast. Salt mining is a major commercial activity and majority of the people who live around the lagoon derive their livelihood from salt collection. Seven Salt Mining Cooperatives with membership of about 6,400 (comprising local people) currently operate in the area. In addition to the cooperatives, four salt companies owned concessions in the Songor area: Vacuum Salt Production Ltd., Star Chemical Industries, Ada Traditional Council, and Solar Chemicals and Allied Enterprises. Only Vacuum Salt Production Ltd. was operational. Ownership of the lagoon and salt mining rights have in the past been a source of serious conflict between the local people and outside private salt mining companies.

Salt Pans: Low lying flat lands in estuarine and lagoon habitats are enclosed in low mud walls and filled with sea water, which is evaporated, leaving salt crystals at the bottom. The crystallising pans may be concrete or mud. At the low technology level, the pans are filled with saline water by gravitation or manually with buckets of water collected directly from the sea, lagoons or backwaters which are filled at high tide. This method is used by small scale artisanal salt miners, mainly individual holdings, particularly at Nyanyanu and Adina. It entails practically no operational costs but only small quantities of salt can be produced. At a slightly higher level of technology, the sea water is pumped into reservoirs using diesel or petrol driven or electrical pumping machines. This is then pumped into concentration ponds, from where the concentrated brine is fed into crystallising pans. The crystallised salt is scraped into mounds, and carried (mainly by women) to storage points ready for bagging and sale (Plate 1). This method is used by the salt producing companies. (A list of the salt producing companies identified during this study is given in Appendix 6). Salt production takes place during September-May, but the peak season is November-March.



a



b

PLATE 1. Salt production at Panbros Salt Company Ltd.
a) Lay out of pans b) Salt production

2.2 PRODUCTION LEVELS

There are no reliable data on the salt produced by the Cooperatives at Songor but annual production is estimated at 40,000-45,000 metric tonnes. Quantities of salt collected annually from the Keta lagoon is also unknown. Data on production levels from the small scale salt pan operators were not readily available. Appendix 1 gives production figures provided by the main salt companies. Records available to the Ghana Export Promotion Council (GEPC) give annual production since 1988 from the nine major salt companies and co-operative societies as 145,000 metric tonnes. Even without the development of any new infrastructure (e.g. such as the one proposed for Songor) it is estimated that the country has the capacity to produce c.250,000 metric tonnes of salt annually if the existing production facilities were put into full operation.

The salt produced in Ghana presently is unprocessed. Three grades are available; the top grade is used for human consumption as table salt and fish processing; grade two is used in industry especially for tanning, and grade three is used for animal feed production.

2.3 MARKETING

Much of the salt produced is sold on the site to middlemen, who either resell on the local markets or export to neighbouring West African countries. Salt exports increased significantly from 39,590 mt in 1988 to a maximum of 75,480 mt in 1990, but dropped in 1991 (Appendix 2).⁽³⁾ The 1990 figure valued at US\$ 7,002 represented 21.15% of the manufacturers sub-sector export earnings. Salt exports go to six main countries Niger, Burkina Faso, Togo, Cote d'Ivoire, Nigeria and Benin, with Niger and Burkina Faso taking 75% of the exports. The GEPC projects annual growth of 9 - 53% in salt exports between 1992 and 1995.

2.4 PROPOSED DEVELOPMENTS

Proposals contained in the Economic Development Policy of the Keta District Assembly include allocation of 12,600 ha. of the lagoon for salt production. The proposed area is more or less rectangular, between Alakple, Anyako, Kedzi, and stretching along the coast to Kpotaputa. A feasibility study undertaken for the Minerals Commission in 1991 advocates the development of a large scale industrial salt complex at Songor, with estimated production level of 1.2 million tons yr⁻¹.⁽⁴⁾ The project proposes construction of pans at the west, east and northern edges of the lagoon and sea water inlets at Lolonya and Totokpe. Sea water will be pumped into the lagoon, using the entire lagoon area (with the exception of the portion carved out for the local fetish) as concentration ponds to feed concentrated brine into the pans. Fresh water inflow and run-off within the Songor basin will be diverted from the natural courses and channelled into the sea. The project proposed a total crystallizing area of 1,709.00

ha. distributed between the interested parties as follows:

Vacuum Salt	7,690,000 m ²
Star Chemicals	3,461,300 m ²
Ada Traditional Council	2,700,000 m ²
Solar Chemicals	1,462,000 m ²
Co-operative Societies (Traditional Miners)	1,776,800 m ²

A recent Government directive took over the leasehold interest of the Vacuum Salt Company and Star Chemicals Company with effect from 24th April, 1992. It is not clear how this move will affect the proposed expansion of the salt industry at Songor.

2.5 CONSTRAINTS

The major constraint on the salt industry presently is lack of finance and access to credit facilities. The problem is particularly acute with the small scale producers, who complained of lack of money to purchase even basic pumping machines and to repair pans.

Another constraint is the lack of facilities for refining the salt. The salt produced currently is unprocessed and has a high content of water and unacceptable levels of impurities.⁽³⁾ There is also the problem of decolorisation during storage. Provision of a refinery will greatly increase the quality of the salt and also facilitate supplementation with essential materials such as iodine. The iodine content of salt marketed in Ghana is presently very low.⁽⁵⁾

Disputes over land ownership has affected salt production in the major traditional salt production area, Songor lagoon, and there is an urgent need to resolve the issues involved.

3 ENVIRONMENTAL CONSIDERATIONS

3.1 ENVIRONMENTAL CHARACTERISTICS OF THE SALT PRODUCTION SITES

Keta Lagoon: The Keta lagoon forms part of the Anlo-Keta wetland situated to the east of the Volta river estuary (Fig.1). The wetland comprises open lagoons, (Avu, Angaw and Keta), extensive flood plain, marshland and mangroves. Keta lagoon is a brackish lagoon covering c.250 km² and stretching for 40 km along the coast. The Keta lagoon is heavily fished; the lagoon fishery is a major commercial activity and the main source of livelihood for many of the people living around the lagoon. Tilapia and mudfish are the main species caught. The extensive shallow water, mud banks and mud flats within the lagoon habitat provide good feeding grounds for sea- and shore- birds. The site is the most important site for water birds along the Ghana coast, supporting an estimated population of 110,000 water birds, including eight species which occur in internationally significant numbers (Appendices 3 & 4).^(6,7)

Songor Lagoon: Songor lagoon is situated to the west of the Volta river estuary, and extends 20 km along the coast and 8 km inland behind a narrow sand dune. The vegetation around the lagoon consists of saline marshes, water logged grassland in the lowlands, scattered patches of secondary growth mangroves, riverine woodland along the streams feeding the lagoons and scattered thickets, shrubs, climbers and small trees on the higher ground. Fish is available in the lagoon only during the wet season; in the dry season the lagoon becomes hyper-saline, causing the death of many fish. Species caught were mainly tilapia and lagoon crabs. Songor lagoon supports spectacular concentrations of water birds comprising terns, waders, herons and ducks. There is evidence that Songor serves as a stop-over point for migrant shorebirds. Its importance, therefore, in terms of the populations of migratory birds it supports, is much higher than what is portrayed by the site's estimated bird population of 110,000 (Appendix 3). Songor lagoon is the most important site on the Ghana coast for terns, and it also supports internationally important populations of seven species of waders (Appendix 4).

Ningo: The lagoon is separated from the sea by palm-fringed dunes. Much of the lagoon and adjoining low lands has been developed into salt pans (total area of pans is approx. 30 acres). Surrounding vegetation is grassland dotted with neem trees. Small numbers of birds feed on the edges of the lagoon.

Prampram: The salt pans are situated on the north eastern edge of the Laiwi lagoon. This is a narrow lagoon with well developed mangroves along its edges. The vegetation surrounding the pans is mainly grasses with scattered thickets. The pans and the banks of the lagoon are used as feeding grounds by shorebirds. The site is also important as nesting grounds for White-faced tree duck Dendrocygna viduata.

Densu Delta (Weiija): The Densu delta wetland situated 11 km west of Accra, is the site of Panbros salt pans. The wetland is fed mainly by the Densu river which is dammed upstream (the Weiija dam) for water supply. Freshwater inflow from the river into the wetland is controlled by the management of the Water Works. The Panbros Salt Company has a concession of 2,792.53 acres. Approximately 80% of this area has already been developed for salt production and the Company has plans to develop the remaining area. In addition to the salt pans, four other habitat types are recognisable in the wetland, namely: sand dunes, brackish lagoon, freshwater marsh and coastal savanna grassland and thickets. Despite the habitat fragmentation resulting from the construction of the salt pans, substantial areas of open lagoon and freshwater marsh still remain in the wetland. Scattered stands of mangrove are found in some areas around the lagoon. Imperata sp. and Typha sp. are the dominant plant species within the less saline areas. The Densu delta wetland has a record of 57 species of water birds and an estimated bird population of 35,000 (Appendices 3 & 4). The site is the second most important site for terns. The species of terns using the site include the threatened Roseate tern Sterna dougallii: the Roseate population at this site is equivalent to 20% of the European breeding population. In addition to the extensive feeding sites provided by the wetland, the site is also important as nesting grounds for Black-winged stilt Himantopus himantopus (Plate 2b), Little tern Sterna albifrons (Plate 2c) and Pratincole Glareola pratincola. Wooden pegs within the salt pans and the mud walls delineating the pans are favourite roosting sites. (Plate 2a).

Nyanyanu: The lagoon forms a series of tidal creeks fringed with mangroves. Salt pans have been developed upstream in the flat areas (total area of pans c. 1.5 km²). A total of 92 salt miners operate in the area, each owning a small plot. The surrounding vegetation is a carpet of grasses with patches of shrubs. Small numbers of birds, mainly herons feed along the lagoon banks.

Apam: Most of the area around the lagoon has been developed into salt pans operated by eight small companies. Vegetation in the area consists of grasses, neem trees, a few coconut trees and a few secondary growth mangroves on the north eastern side of the pans. Total bird population at the site is under 1,000.

Iture (Cape Coast): The narrow tidal lagoon passes under a bridge on the Cape Coast-Takoradi road to connect with the sea. The lagoon is fringed with dense mangrove. The eastern side of the lagoon has been developed into salt pans, but these are no longer used and most are overgrown with grasses. Small numbers of shorebirds feed in the area.

Elmina: Almost all the suitable flat areas along the Benya lagoon between Elmina town and Bronyibima village has been developed into salt pans. Approximately 30 companies/individual enterprises operate in the area, of which the Edinaman Salt Industries is the largest. Parts of the lagoon and river banks

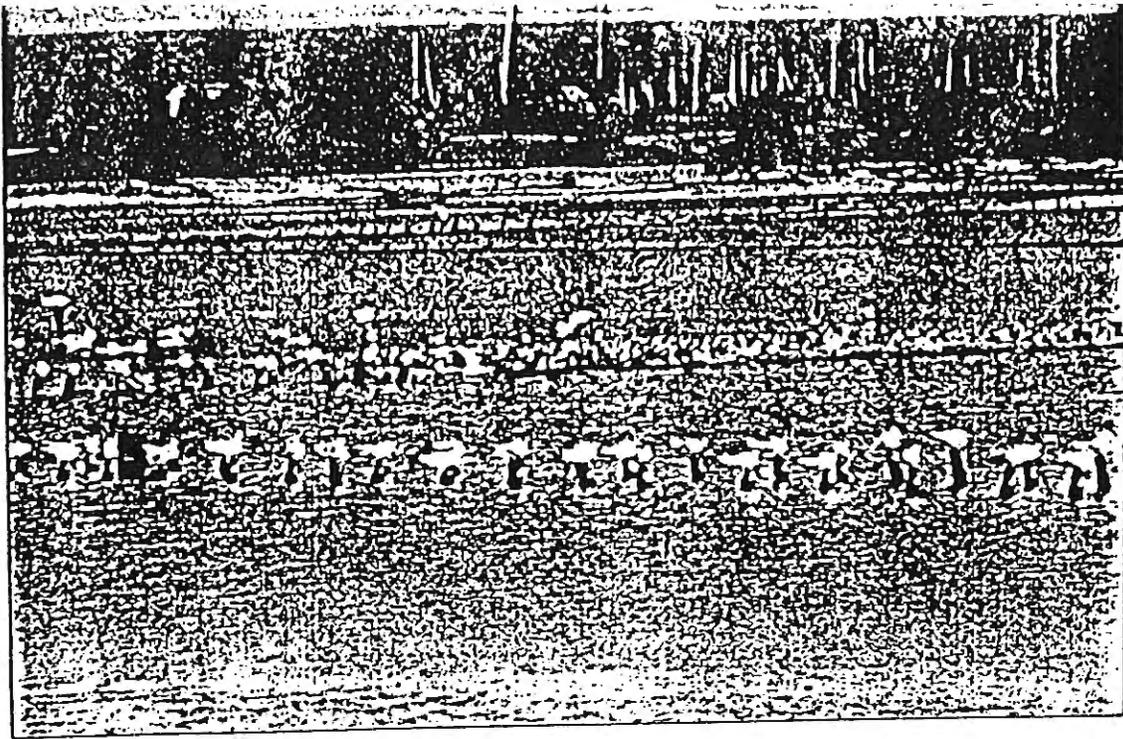
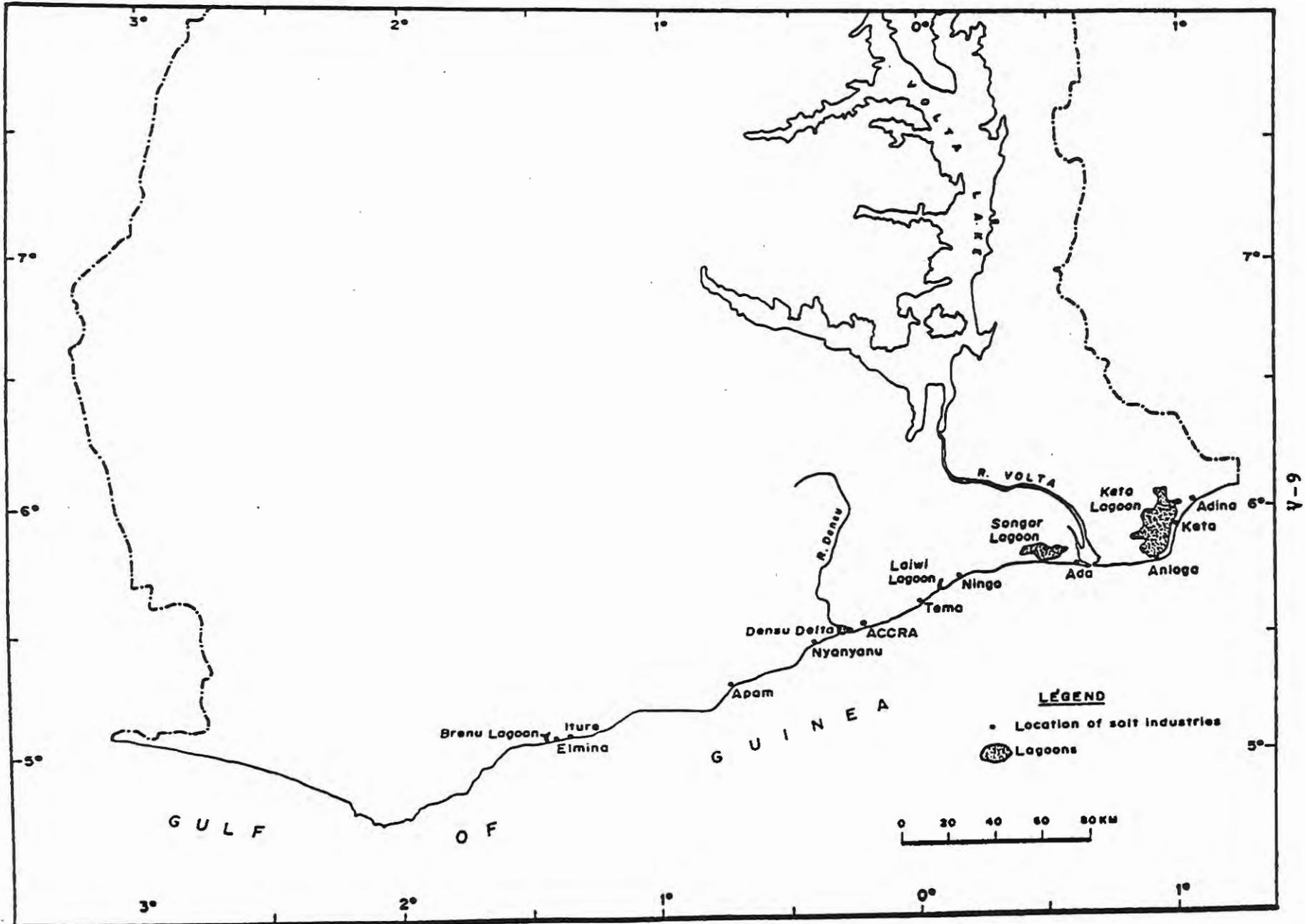


PLATE 2. Use of salt pans and surrounding marshland by birds.
a) Terns roosting on wooden pegs in a pan at Panbros
Nest and eggs of; b) Black-winged stilt, c) Little tern

Fig. 1 MAP OF COASTAL GHANA SHOWING LOCATION OF SALT INDUSTRIES



are covered with dense mangrove, mainly Rhizophora sp. At low tide, significant numbers of shorebirds feed in the exposed muddy areas under the mangroves and along the edges of the river. Large numbers of herons and egrets also roost in the mangroves. The site is internationally important for three species of waders (Appendix 4).

Nana Brenu (Brenu Akyenu): The lagoon is small and irregularly shaped, and is bordered by patches of mangrove forest. The surrounding vegetation consists of grasses, bushes and a few palm trees. A small area in the north-eastern border of the lagoon has been developed into salt pans. The site supports very small numbers of shorebirds.

3.2 IMPACTS OF PROJECT ACTIVITIES

The existing salt mines and areas targeted for development of the salt industry are within coastal wetland habitats. These wetlands are important in terms of the ecological functions they perform e.g. flood control and storm protection, the products they provide e.g. wildlife, fisheries and forest resources, and their biological diversity. In view of the lack of knowledge on the functioning of the Ghanaian coastal ecosystem, and the processes that maintain the ecological integrity of the wetlands, developments that are likely to affect the wetland ecosystem must be critically assessed. The major potential impacts of the development of the salt industry on the environment are wetland habitat destruction ; and hydrological changes which will affect the functional integrity of the wetland ecosystem.

3.2.1 HABITAT DESTRUCTION

Destruction of habitat in salt mining operations result from the construction of pans, and also from construction of access roads and other infrastructure such as offices and storage facilities. Habitat destruction leads to direct loss of vegetation and biodiversity, loss of bird habitats, and potential decrease in fish yield.

Loss of Vegetation and Biodiversity: Sensitive plant communities within Ghana's coastal zone include the mangrove forests. The two main species occurring on the coast are the red mangrove Rhizophora sp. and the white mangrove Avicennia sp. (Plate 3). Mangrove forests have peculiar adaptations that enable them to grow in the rather unstable difficult environments within wetlands. They form a major food base of the complex food web encompassing hundreds of estuarine and marine organisms such as microbes, invertebrates, reptiles, fish, birds and various mammals and ultimately, man. Destruction of mangroves and other wetland vegetation will therefore adversely affect a whole lot of organisms which depend on them. Loss of biodiversity can also arise from destruction of benthic communities as a result of scraping material from the bottom of the lagoons during pan construction to form the bunds, and also to create the right

slope for water to flow from one pond to the other. Data on animal life in the coastal wetlands, other than the avifauna, are very scanty and there is a need for baseline data which will form the basis for future monitoring.

Much of the original mangrove forests on the Ghana coast have been destroyed through heavy exploitation (mainly for fuelwood and building poles); and various developments. Whatever natural vegetation existed in the salt mining areas within Brenu Akyenu, Elmina, Iture, Apam, Nyanyanu and, to a lesser extent, Laiwi and Ningo has already been destroyed through the construction of the salt pans, and only scattered patches of mangroves exist in these areas. There is also not much flat lowlands left in the areas for expansion of the pans. Activities for increasing production in these areas, therefore, are likely to concentrate on provision of inputs and finances to make the existing infrastructure fully functional. This should have no significant impact on the existing habitats. The existing traditional method of salt mining within the Songor and Keta lagoons is compatible with the conservation of the ecology of the lagoon. The proposed expansions and new salt pan developments planned for Songor and Keta, however, could cause severe destruction of the wetland habitat and associated fauna.

Loss of Important Bird Areas: The ornithological importance of the salt mining sites as feeding, roosting and nesting sites for sea- and shore- birds has been outlined in section 3.1. Loss of feeding and nesting sites can result directly from pan construction or from flooding of exposed mud flats and islands, and increases in depth of the lagoon, to the extent that available food becomes inaccessible to small waders. The two areas, Songor and Keta lagoons, where the planned increase in salt production is likely to involve development of salt pans and additional infrastructure, together constitute the most important bird area along the Ghana coast. The two sites support over 70% of the total water bird population on the Ghana coast and constitute the fourth largest known concentrations of migratory water birds along the West African coast (Table 5).^(7,8,9)

The two, sites together with the Densu delta and Panbros Salt complex, Sakumo Lagoon, and Muni Lagoon have been proposed for designation as Ramsar¹ sites by the Ghana Government. The fact that the Densu delta and Panbros Salt Complex still holds a large population of water birds despite the extensive development of salt pans, suggest that salt pan development can be compatible with the conservation of the ecological integrity of wetlands. Survival of birds on these sites depends on availability of prey items as well as nesting and roosting sites. The planned developments for Songor and Keta lagoons and the extensions at Panbros should take cognisance of the extreme importance of the sites for shorebirds, and institute measures which will maintain and enhance the value of the sites as bird habitat.

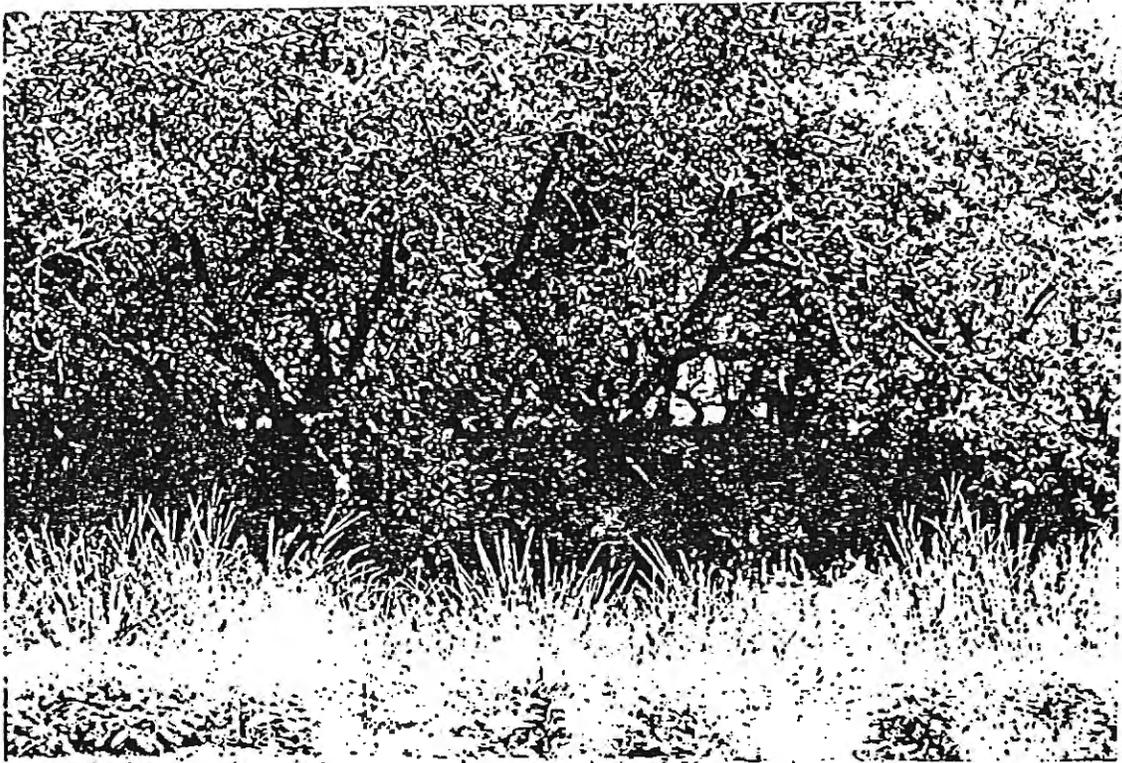


Plate 3. Mangrove forest

Potential Decrease in Fish Yield: Fish provides an important source of protein in the Ghanaian diet, accounting for some 30% of the estimated protein requirement.⁽¹⁰⁾ Available records indicate that the country's marine and lagoon fish resources are declining rapidly.^(11,12) Coastal wetlands provide nutrient rich, sheltered habitats used by fish for spawning and as fish nurseries and are known to be vital for the survival of the marine fishery industry. It is estimated that two-thirds of the fish we eat depend upon wetlands at some stage of their life cycle.⁽¹³⁾

There are few data on the role of healthy coastal wetlands in maintaining lagoonal and marine fisheries in Ghana, but the evidence in other countries is enough to demand judicious use of our coastal wetlands for the sustenance of fisheries, and makes it imperative that developments do not destroy the ecological integrity of the wetlands.

Table 5. Major Concentrations of Migratory Water birds on the West African Coast.^(7,8,9)

Country	Site	Estimated Total Bird Population
Mauritania	Banc d'Arguin	2,038,000
Guinea-Bissau	Arguipelago dos Bijagos	980,000
Dem. Rep. Guinea	Entire coast	400,000
Ghana	Volta delta and lagoons	200,000+
Sierra Leone	Sierra Leone River	50,000
Liberia	Entire coast	35,000

3.2.2 HYDROLOGICAL CHANGES

The main impacts result from pan construction, i.e. the building of bunds and embankments needed for the pans; and the operation of the pans which causes changes in salinity gradients. Instead of the natural gradual change from saline to fresh water in the estuary and lagoon, there is a series of abrupt changes from one concentration pond to the other. The bunds act as barriers, preventing free movement of fish within the habitat. Tidal influences are minimized and also areas of mud-flats which used to be exposed at low tide and provided good bird feeding grounds are lost. Another hydrological change which could have profound effects on the natural drainage and fresh water inflow into the wetland habitat is the diversion of freshwater and surface run

¹ Ramsar site is a wetland which qualifies as important under the criteria of the Convention on wetlands of international importance especially as waterfowl habitat (see Appendix 5).

off from the catchment to avoid dilution of the brine. These changes are bound to result in the loss of fauna.

3.2.3 DISTURBANCE

Construction works and other activities associated with the salt works operation could cause disturbance to feeding, roosting and nesting birds. Severe disturbance to feeding birds can lead to inadequate food intake which can affect survival and fecundity, while prolonged absence of incubating birds from nests as a result of disturbance can lead to reduced hatching success, high predation on eggs and nestlings and general low reproductive success. Losses in egg clutches could also result from collection and trampling by salt pan workers.

3.3 POLLUTION OF SALT BY OTHER DEVELOPMENTS

The only pollutants which could possibly contaminate the salt produced in the coastal areas of the country are heavy metals. Industrial effluent containing non-biodegradable substances arise from a variety of sources, e.g. petro-chemical, ore mining and metal refining, and can contain a wide range of metals such as mercury, lead and cadmium.⁽¹⁴⁾ Possible sources of threat along the coast, particularly the Densu delta, are metal industries and agro-chemicals. Although the levels of metals in Ghana's coastal waters presently are insignificant,⁽¹⁵⁾ there will be a need for continuous monitoring.

4. MITIGATING MEASURES

4.1 BIODIVERSITY CONSIDERATIONS

The extent of pan development and siting of pans could be restricted to ensure that the wetland habitats are not completely turned into pans. In many cases, the salt pan industry can be compatible with the conservation of the wetland habitat if measures are taken to maintain adequate natural areas within the habitat.

In Songor and Keta, some improvements to the existing technology could increase productivity and benefit the local communities without necessarily destroying the ecological value of the wetlands. The dimensions of the large scale industrial salt complex proposed for Songor lagoon and the proposal to channel fresh water input from the Songor catchment is particularly disturbing. Such scale of operation could cause major changes in the ecological integrity of the lagoon and affect its value as a wildlife habitat. A detailed environmental impact assessment (EIA) should be undertaken before any developments proceed at Songor. The Minerals Commission has commissioned the Institute of Aquatic Biology and the Department of Geography and Resource Development (Legon), to collect baseline data on biological resources and land use in the area. This is not an

EIA. A complete EIA is required and it should evaluate the multiple uses and values of the lagoon and recommend measures which ensure that developments are compatible, and will not destroy the ecological value of the Songor wetland.

Particular efforts should be made during the selection of sites for pan construction to identify areas of high biodiversity and sensitive habitats for exclusion. Areas of special concern are mangrove forests and nesting habitats for birds.

Habitat enhancement and restoration: Specific efforts should be made to improve the habitat within salt producing areas. Some of the habitat lost can be compensated for through mangrove forest rehabilitation and restoration programmes; and the creation of new brackish areas using the fresh water diverted from the salt pan areas and saline water from the sea water inlets. This will require detailed engineering studies. Extent of areas required to be created will depend on species requirements and size of populations using a particular site. It should also be possible to create islands and structures for roosting birds (eg. the wooden pegs within some pans at Panbros) and provide additional nesting grounds.

4.2 PROTECTIVE MEASURES AND CONSERVATION EDUCATION

Disturbance to breeding birds can be reduced or completely avoided by imposing restrictions on access to known nest sites during the breeding season. Major construction works should be restricted to the period of year when most of the migrant bird species are absent from the site and bird populations are generally low. Fortunately this period coincides with the lean season for salt production.

There will be a need for education of the salt pan workers, visitors to the site and communities living around the area, about the conservation importance of the area and the measures instituted to protect particular flora and fauna. Without this kind of education it will be impossible to obtain their support and participation in the protective work. It should be possible to get the Save the Seashore Birds Project and the Department of Game and Wildlife to undertake the education activities.

4.3 AQUACULTURE DEVELOPMENTS

Apart from ensuring that the salt industry developments do not destroy the coastal wetland habitats and subsequently decrease fish yields, positive measures should be taken to use the salt pans to enhance fish production through aquaculture. Concentration ponds and reservoirs constructed for salt production have great potential for use as shrimp farms.⁽¹⁶⁾ With very little or perhaps no modification, the primary reservoirs of the salt works can be ready-made ponds for farming of mullets

or euryhaline tilapia. Fisheries in the lagoon and reservoirs at Panbros salt complex currently provide livelihood for a substantial number of fishermen and their families (Plate 4)

4.4 POLICY

There seem to be no specific guidelines related to environmental health as it pertains to the salt industry operations. The Minerals Commission is currently working on general guidelines on environmental monitoring in the mining sector in conjunction with the Environmental Protection Council. The salt industry should be included in the exercise.

4.5 CHEMICAL INDUSTRY

Presently there seem to be no immediate plans for the production of caustic soda. Should the salt industry develop in that direction a full EIA must be undertaken and adequate safety precautions should be instituted. The EIA would include, among other things, a risk assessment which will identify the specific hazards, potential exposures and effects on population.

5 MONITORING AND RESEARCH NEEDS

5.1 MONITORING

The IEE prepared for the TIP stresses the importance of instituting programs to monitor the effects of the TIP activities on the environment.⁽²⁾ Indicators and parameters required to be monitored for effective assessment of the impacts of the salt industry are given below.

Hydrological: water budgets, ground water, sediment transport.

Water quality: (with particular reference to sources of water pumped into the pans): physico-chemical parameters, biological parameters, pollutants.

Ecosystem change indicators: invertebrates, fish (stocks, catch, fishermen numbers); Birds (particularly water birds, species and populations; the Save the Seashore Birds Project regularly monitors sea- and shore-birds in all the coastal sites where salt mining industries are situated).

In some cases the baseline data are not available and it will be necessary for these to be collected. The projects outlined below should address research needs and provide requisite data.



a



b

PLATE 4. Fisheries in the storage reservoirs and concentration ponds.
a) Man with cast net, b) fish processing by women
v-17

5.2 PROJECTS AND RESEARCH NEEDS

5.2.1 Project area: COASTAL WETLAND RESOURCES EVALUATION AND ENVIRONMENTAL MONITORING

(1) Project title: Mangrove forest ecology.

Rationale: Data are not available on the role of mangroves in maintaining the fisheries in Ghanaian waters. Data are required on the species of fish dependent on the mangroves, the role of mangroves in maintaining fisheries and the ecological balance of the coastal wetland ecosystem.

Implementing Agency: Botany Department, University of Ghana(UG) Oceanography and Fisheries Unit of the Zoology Department, UG.

Budget/Time Schedule: US # 200,000, 3 yrs.

(2) Project title: Coastal Wetland Ecology

Rationale: Data on the fauna (particularly invertebrate) and flora of the coastal lagoons are limited. There has also been no detailed studies of the interactions and interdependence of the various biological components of wetlands and the processes which ensure the health and functioning of the wetland ecosystem. Without such information it will be impossible to detect any changes resulting from the salt industry developments and initiate management measures.

Implementing Agency: Zoology Department and Botany Departments, UG, Institute of Aquatic Biology.

Budget/Time Schedule: US # 300,000, 3 yrs.

(3) Project Title: Limnology of coastal lagoons and estuaries.

Rationale: Baseline data on water characteristics of the coastal lagoons and estuaries are required to provide basis for assessment and detection of pollution resulting from developments along the coast.

Implementing Agency: Institute of Aquatic Biology: The IAB already has a programme for monitoring water quality along the Densu river. Additional assistance will be required to enable the institute expand the activity to the estuaries and lagoons where salt industries are situated.

Budget/Time schedule; US # 25,000 p.a, long-term.

5.2.2 Project area: MITIGATING MEASURES AND COMMUNITY DEVELOPMENT

(i) Project title: Mangrove rehabilitation and restoration.

Rationale: Mangrove forests in coastal Ghana have been severely degraded as a result of heavy exploitation for fuelwood and developments in the coastal area. Data are required on the extent of mangrove forests remaining in the country, the current usage of mangroves and levels of exploitation. Such data will provide basis for projections on requirements for mangroves and establishment of community based pilot projects for mangrove rehabilitation and restoration.

Implementing Agency: Botany Department, UG; Soils Research Institute; Ministry of Agriculture Agroforestry Division.

Budget/Time Schedule: US # 600,000, 5 yrs.

(ii) Project title: Lagoon fisheries, productivity and contribution to socio-economic life of coastal communities.

Rationale: There are currently no statistics of lagoon fisheries, although there is ample evidence of the immense contribution of this fishery as a source of livelihood for coastal communities. The study will collect data on species and stocks of fish in the lagoonal areas where salt industries are planned, determine the number of fishermen dependent on the resource, and estimate productivity levels. Such data will provide a basis for planning aquaculture alternatives to compensate for any losses in fisheries incurred as a result of the salt development.

Implementing Agency: Fisheries and Oceanography Unit of the Zoology Department, UG; Fisheries Department.

Budget/Time Schedule: US # 200,000, 3 yrs.

5.3 INSTITUTIONAL LINKAGES

The data required for monitoring the impacts of developments along the coast and management of the coastal wetlands are cross-sectoral and requires a multidisciplinary approach. The role of the Environmental Protection Council in coordinating all the studies and ensuring that data on indicator species are readily available for management purposes is extremely essential. Assistance should therefore be given to EPC to strengthen its capacity to perform its coordinative role effectively.

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APPENDIX 1: PRODUCTION LEVELS (METRIC TONNES) OF MAJOR SALT PRODUCING COMPANIES IN COASTAL GHANA

Company	1990		1991		1992
	Target	Actual	Target	Actual	Target
Panbros Salt ^(a)	50,000	50,000	70,000	39,000	100,000
Modern Salt Industries		7,500 ^b			
Apaman Council Salt Industries		150 ^b			
Edinaman Salt Industries		2,450 ^b			
Vacuum Salt ^c	-	-			
El-Din Salt ^c	-	-			
Mill					

- a. Year runs April - March, therefore figure under 1990 is actually for the period April 1990 - March 1991.
- b. Average annual production
- c. Data on production levels unavailable

APPENDIX 2. PROJECTIONS AND PERFORMANCE IN SALT EXPORTS (1987-1995, Source: GEPC, 1991)

Year	Target		Actual	
	Vol ('000)*	Value ('000) ^a	Vol ('000)*	Value ('000) ^a
1987	-	701	-	1,918
1988	11.13	764	39.59	2,494
1989	12.13	868	51.41	3,134
1990	13.78	-	75.48	7,002
1991	92.00	8,500	53.36	3,929
1992	101.00	9,350	-	-
1993	132.00	12,200	-	-
1994	144.00	13,300	-	-
1995	221.00	20,500	-	-

* Metric tonnes, @ US\$

APPENDIX 3. ORNITHOLOGICAL IMPORTANCE OF SALT MINING SITES IN COASTAL GHANA⁽⁷⁾

Site	Estimated water bird population	Total No. of species recorded	No. of species occurring in internationally important numbers*
Keta Lagoon	110,000	72	8
Songor	111,000	57	7
Ningo	3,500	23	1
Laiwi (Prampram)	12,500	54	3
Densu Delta (Panbros)	35,000	57	4
Nyanyanu	150	16	-
Apam	800	21	-
Iture (Cape Coast)	100	13	-
Elmina	8,500	39	3
Brenu Akyenu	100	15	-

APPENDIX 4. SPECIES AND PEAK COUNTS OF WADERS OCCURRING IN INTERNATIONALLY IMPORTANT NUMBERS ON THE SALT MINING SITES.^(6,7)

Species	1% of estimated East Atlantic population*	Peak counts recorded at					
		Keta	Songor	Ningo	Laiwi	Panbros	Elmina
Spotted redshank	300	7,940	10,060	650	980	-	330
Greenshank	500	6,790	4,770	-	550	-	610
Ringed plover	2,000	2,860	3,010	-	-	-	-
Curlew sandpiper	4,500	14,810	6,920	-	-	4,700	-
Sanderling	1,000	-	-	-	-	-	-
Little stint	2,000	4,200	2,530	-	-	2,610	-
Black-tailed godwit	1,500	1,270	-	-	-	-	-
Avocet	700	1,560	3,740	-	-	-	-
Black-winged stilt**	60	12,080	4,400	-	220	310	1,010

* 1% criteria based on Altenburgh et al. (1982); Smith & Piersma (1989).

** Partial migrant, numbers recorded comprise c.55% palaeartic; 45% residents.

APPENDIX 5. RELEVANT ABSTRACTS FROM INTERNATIONAL CONVENTIONS
RELATED TO CONSERVATION OF WETLANDS AND THEIR
FAUNA AND FLORA WHICH GHANA IS SIGNATORY TO.

**1. Title: African Convention on the Conservation of Nature and
Natural Resources ("African Convention")**

Date Signed By Ghana: 1968

Relevant Provision:

This convention obligates signatories to:

"manage aquatic environments, whether in fresh, brackish, or coastal water, with a view to minimising deleterious effects of any water and land use practice which might adversely affect aquatic habitats." (Art. VII, Sect. 1a).

"In the formulation of all development plans, full consideration shall be given to ecological, as well as economic and social factors." (Art. XIX. Sect. 3).

"The Contracting States recognize that it is important and urgent to accord a special protection to those animal and plant species that are threatened with extinction, or which may become so, and to the habitat necessary to their survival." (Art. VIII, Sect. 1).

**2. Title: Convention on the Conservation of Migratory Species
of Wild Animals ("Bonn Convention")**

Date Signed By Ghana: 1988

Relevant Provisions:

"The Parties acknowledge the need to take action to avoid any migratory species becoming endangered." (Art. II, Sect. 2).

"Parties that are Range States of a migratory species listed in Appendix I [endangered] shall endeavour:

a) to conserve and where feasible and appropriate, restore those habitats of the species which are of importance in removing the species from danger of extinction." (Art. III, Sect. 4)

**3. Title: Convention on Wetlands of International Importance
Especially as Waterfowl Habitat (Ramsar Convention)**

Date Signed By Ghana: 1988

Relevant Provisions:

"Each Contracting Party shall designate suitable wetlands within its territory for inclusion in a List of Wetlands of International Importance... The boundaries of each wetland shall be precisely described and also delimited on a map and they may incorporate riparian and coastal zones adjacent to the wetlands, and islands or bodies of marine water...lying within the wetlands, especially where these have importance as waterfowl habitat.

"Wetlands should be selected for the List on account of their international significance in terms of ecology, botany, zoology, limnology or hydrology in the first

instance wetlands of international importance to waterfowl at any season should be included." (Art. II, Sec. 1 and 2).

"The Contracting Parties shall formulate and implement their planning so as to promote the conservation of the wetlands in their territory.

"Each Contracting Party shall arrange to be informed at the earliest possible time if the ecological character of any wetland in its territory and included in the List has changed, is changing or is likely to change as the result of technological developments, pollution or other human interference." (Art. III, Sect. 1 and 2).

"Each Contracting Party shall promote the conservation of wetlands and waterfowl by establishing nature reserves on wetlands, whether they are included in the List or not, and provide adequately for their wardening." (Art. IV, Sect. 1)

"The Contracting Parties shall encourage research and the exchange of data and publications regarding wetlands and their flora and fauna. (Art. IV, Sect. 3).

Specific criteria for using waterfowl to identify wetlands of importance adopted at the Regina Conference are:

"A wetland should be considered internationally important if: (a) it regularly supports 20,000 waterfowl, or; (b) it regularly supports substantial numbers of individuals from particular groups of waterfowl indicative of wetland values, productivity or diversity, or; (c) where data on populations are available, it regularly supports 1% of the individuals in a population or subspecies of waterfowl."

The expanded definition of "wise use" adopted at the Regina Conference is:

"The wise use of wetlands is their sustainable utilization for the benefit of humankind in a way compatible with the maintenance of the natural properties of the ecosystem."

Relevant guidelines for "wise use" adopted at Regina include:

" (d) proper assessment of environmental impact before development projects are approved, continuing evaluation during the execution of projects, and full implementation of environmental conservation measures which take full account of the recommendations of this process of environmental assessment and evaluation.

APPENDIX 6. LIST OF SALT COMPANIES AND COOPERATIVES IDENTIFIED DURING THE STUDY.

Accra (Weija)

1. Panbros Salt Company Limited

Apam

2. Universal Salt Industries
3. Assin Salt Industries
4. Coastal Salt Limited
5. Apaman Council Salt Industries

Brenu Akyenu

6. Bridgedo Salt Works

Elmina

7. Edinaman Salt Industries
8. Tetelem Salt Works
9. B/S Salt Industry
10. Tsiaba Salt Works
11. Yebedan Egya Salt Industry
12. Eake Salt Industry
13. Danfo Salt Industry
14. Divine Wisdom
15. Nyankopa Salt Industry
16. Onua Pa Salt Industry
17. Gyapea Limited
18. Kofi Kyereboa Salt Industry
19. Benya Lagoon Products
20. J.K. Thomford Salt Industry
21. Ampah Salt Industry Limited
22. P.K. Mensah Salt Industry
23. Nitts Enterprise
24. Jonannes Salt Industry
25. Shepherd Amantem-Prah Salt Ind.
26. Nana Amaye Eduabo Salt Ind.
27. K & K Salt Industry
28. Holy Salt Industry
29. Kweku Tawiah Salt Industry
30. Sofo Anthony Salt Industry
31. Nana Anowie Salt Industry
32. Williams Salt Industry
33. Bantumaman Salt Industry
34. Kojo Sam Salt Industry
35. Oko Salt Industry
36. Nyame Asem Salt Works

Old Ningo

37. Modern Salt Industries

Prampram

38. El - Din Salt Mill

Songor

39. Vacuum Salt Industries
40. Ada Songor Salt Miners Soc. Limited
41. Ada Noryami Co-op Salt Miners and Marketing Soc.
42. Goi Salt Miners Co-op.
43. Sege Narkomkope United Salt Mining and Marketing Co-op.
44. Oboade Co-op. Salt Miners and Marketing Soc. Ltd.
45. Lolonyia Co-op Soc.
46. Okor Co-op. Salt Winners Soc.

ANNEX W

**AN OVERVIEW OF THE ENVIRONMENTAL IMPACT
OF THE FURNITURE INDUSTRY IN GHANA**

**An Overview of the Environmental Impact
of the Furniture Industry in Ghana**

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**Prepared for USAID/Ghana: Trade and Investment Program
June, 1992**

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AN OVERVIEW OF THE ENVIRONMENTAL IMPACT OF THE
FURNITURE INDUSTRY IN GHANA

1.0. INTRODUCTION

The annual growth rate of the Ghanaian economy has exceeded 5% over the period 1983-1991. Despite this increase, imports have been increasing at a faster rate than have exports. As a result, a growing trade deficit threatens the sustainability of the growth of the economy. Contributing to this situation is the fact that over 85% Ghanaian exports are derived from just four products. USAID has recognized this problem and has proposed a US\$80 million Trade and Investment Program (TIP) designed to diversify the export sector by promoting the development of the non-traditional export sector. The objective of TIP is to increase the role of these non-traditional exports from 12.5% of total exports in 1991 to 30% of total exports by 1997.

In order to achieve the objectives of the Trade and Investment Program, the most significant non-traditional export products were identified. One of the non-traditional sectors that was identified to receive assistance from TIP has been the furniture and furniture parts manufacturing sector. The Ghana Export Promotion Council estimates that the export of these products could be increased from US\$5.5 million in 1990 to US\$44 million by 1995. In order to achieve this impressive growth TIP will provide assistance in several areas: training in production and management techniques, increased access to production technology, the development of an investment promotion program as well as the development of new and existing markets.

USAID environmental regulation 22 CFR 216 requires that an environmental impact review (EIR) be prepared for all USAID funded projects that are anticipated to have a significant effect on the environment. The successful implementation of the TIP program in the furniture sector will almost certainly have an impact on the tropical forest resource in Ghana. To assess the magnitude of these impacts, an EIR has been prepared. This review will provide an overview of the forest products industry in Ghana (Section 2). The impact of the industry on the environment will be described in Section 3 along with the likely environmental impacts that will result from the development of the furniture and furniture parts industry. Finally, provisions for the monitoring, evaluation and mitigation of any environmental impacts associated with TIP will be discussed in Section 4.

2.0. THE GHANAIAN TIMBER INDUSTRY

2.1. The Ghanaian Forest Resource

The west African country of Ghana, formerly known as the Gold Coast, is located along the northern edge of the Gulf of Guinea. Bordered by Burkina Faso to the north, Cote d'Ivoire on the west and Togo on the east, Ghana's land area totals approximately 238,000 km².

The climate in Ghana varies from semi-arid in the north to tropical in the south-west. The northern third of Ghana is comprised of Guinea savannah-woodlands, where annual rainfall is generally less than 900mm. The savannah-woodlands of the north gradually give way to a woodland-forest mosaic in the central and eastern regions of the country. The southwestern third of the country is located within the tropical forest zone where annual rainfall exceeds 2,000 mm (Martin, 1991).

Moving from the northern edge of the rainforest zone towards the coastal region in the south, the tropical rainforest is composed of several different rainforest types. Dry semi-deciduous rainforests form a band around the perimeter of the region in the north and east where the Guinea savannah-woodland forest mosaic meets the rainforest habitat. The dry semi-deciduous rainforest successively gives way to moist semi-deciduous forest, moist evergreen forest and wet evergreen rainforest zones (Hall and Swaine, 1976; Martin, 1991).

It is estimated that at the beginning of the nineteenth century the forest habitat in Ghana covered approximately 88,000 km², almost 40% of the total land area of the country. By 1950 the area of the forest zone is estimated to have decreased to approximately 42,000 km². By 1980, as a result of continued deforestation, the rainforests of Ghana are estimated to total just 19,000 km² and there are virtually no undisturbed virgin rainforest remaining in Ghana. Of even greater significance is the fact that the tropical rainforest resource of Ghana is constituted of 252 separate forest reserves and an undetermined number of open forest areas. This situation presents a unique challenge in the management of the forest resource (Forestry Department, 1989).

The forest reserves of Ghana are classified as production forests or protection forests, Table 1. Production forests are managed for the sustainable production of timber. Protection forests are usually located in ecologically sensitive areas (ie: streamsides and steep slopes) and are protected from timber exploitation. Other protected forest areas include thirteen wildlife reserves and a rainforest refuge reserve that were established to preserve and protect the fauna of the country. No timber harvesting activity is allowed within these reserves.

Finally, forest land not encompassed within the forest reserve system is classified as open forestland. Open forestland is not subject to forest management and has been designated for eventual conversion to agricultural production (Asabere, 1986; Forestry Department, 1989).

Table 1. The forest resource in Ghana, 1990.

	Area (km ²)	Area (km ²)
Total land base	238,000	
High forest zone	88,000	
Forest reserves (252)	15,913	
Production		11,590
Protection		4,232
Savannah reserves	8,796	
Production		515
Protection		8,281
Wildlife reserves (13)	12,100	
Open (unreserved) forest	3,740	

2.1.1. Results of the Forest Inventory

The forestry department has recently completed the first stage of an inventory of the forest resource in Ghana. The results of this preliminary assessment indicate that the maximum annual allowable cut of timber (AAC) that will ensure sustainability of the forest resource is 1.4 million hectares per year (Forestry Department, 1989). The AAC is generally equivalent to the volume of growth that occurs within the forest during a one year period. One key provision of sustainable forest management requires that the total volume of logs produced within the forest be less than the AAC. If the total production of logs from the forest exceeds the AAC, then the forest will experience a net loss in volume.

2.2. The Ghanaian Tropical Hardwood Industry

The Ghanaian timber industry represents one of the most important sectors within the domestic economy. In 1989, the timber industry produced more than 10% of the gross domestic product. More importantly, timber exports ranked third in foreign exchange earnings behind cocoa and mineral exports. Foreign exchange earnings from timber exports in 1990 totalled almost US\$135 million, accounting for approximately 13% of Ghana's total foreign exchange earnings (FPIB, 1991).

The timber industry consisted of 169 logging operations, 118 sawmilling operations and 9 veneer slicing operations in 1990 (FPIB, 1991). It is estimated that there are over 250 furniture manufacturers operating in Ghana. However, the vast majority of these are very small firms that produce exclusively for the domestic market. Presently, there are only about six firms producing for the export market with approximately 95% of export production being generated by a single firm.

The majority of the sawmills and veneer mills are located in and around the city of Kumasi. A second, smaller, group of timber processors are situated around the port city of Takoradi, located in the southwest of Ghana. Kumasi, the capital of the Ashante region and the second largest city in Ghana, was originally surrounded by tropical rainforests. As a result, the ready availability of logs and infrastructural support services played a key role in the development of the sawmill industry. However, within a decade the availability of logs declined as a result of excessive logging of the more accessible forest reserves.

The Ghanaian timber industry is primarily composed of privately owned firms and displays a highly competitive structure. The concentration ratios of the eight largest firms in the logging industry and the sawmill industry are .276 and .397, respectively. The domestic furniture industry is extremely fragmented and ranges from producers using modern computer numerically controlled production equipment to very small producers utilizing only crude hand tools.

Firm size within the sawmill industry (based on value of exports) is very heterogenous, ranging from US\$7.5 million to US\$3,000. The majority of the firms are owned and operated by foreign businessmen. In 1990 there were 24 firms with lumber exports exceeding US\$2 million while 20 firms had lumber exports of less than US\$25,000. The export furniture industry is dominated by a single producer, Scanstyle Mim, that individually represents over 95% of total furniture exports from Ghana.

Entry and exit barriers within the timber industry are quite low for the smaller, less capital intensive operations. As a result, the number of small timber firms operating tends to follow economic trends. For example, following almost a decade of economic decline the number of log exporters totalled just 95 in 1985 (less than one quarter the number that were operating in 1975), while the number of sawmills totalled just 49 (approximately half the number operating in 1975). As the Ghanaian economy gradually improved in response to the World Bank/IMF sponsored Structural Adjustment Program, the number of logging operations rose to 351 by 1988 before dropping off to 169 in 1990. The number of sawmills increased to 118 by 1990.

The management structure within the Ghanaian timber industry tends to be autocratic and informal, with management decisions being made by the owner of the firm. Greater emphasis is placed on operational plans rather than strategic plans. As a result, the time horizon for planning is usually short-term and tends to be performed on an informal basis.

Within the industry there are eight state-owned timber companies which account for 19.8% of sawnwood production and 13.4% of veneer production (TEDB, 1991). The largest furniture exporter, Scanstyle Mim, is also 40% state-owned. State-owned timber companies play a negligible role in the export of raw logs from Ghana. Currently, the government is developing a strategy to return the publicly owned sawmills to profitability as a first step in the privatization process. Recently there have been some efforts to consolidate the state owned enterprises within the industry for achieving this goal. For example, in 1990 the government combined the operations of the Takoradi Veneer and Lumber Company with Western Hardwoods Limited in an effort to produce a single, more competitive firm. Other consolidations are currently being considered.

2.3. Constraints on the Timber Industry

2.3.1. Natural Resource Availability

Timber species in Ghana are classified into three Forest Inventory Project (FIP) groups; FIP Class 1, FIP Class 2 and FIP Class 3. FIP Class 1 species are defined as those timber species that have been exported from Ghana at least once since 1973 and include 66 species of timber. FIP-2 timber species are lesser-known timber species that grow to harvestable size (70 cm. diameter) and occur in the forest with a density of at least one tree per km². All other timber species, which do not attain a diameter of 70 cm, or which were found to occur in densities less than 1 tree per km², are classified as FIP Class 3.

The Ghanaian government has halted the issuance of timber concessions until new concession regulations can be promulgated and implemented. Timber concessions for which the agreement has expired may be renewed on a year to year basis, although this is not always assured. Since 1973, timber concessions may only be awarded to Ghanaian citizens. Since many of the timber mills are owned by non-Ghanaians this regulation has introduced an element of uncertainty for mill owners. In addition, a number of the primary timber species have been seriously depleted as the result of over-harvesting. The results of the Forestry Department's timber inventory indicate that, at current rates of exploitation, several species of timber could be completely depleted within the next 25 years, Table 2.

Table 2. Estimated resource life for some commercial timber species.

Species	Girth Limit (GLimit)	Resource > GLimit (m ³)	Annual growth (m/yr)	Rate of extraction (m/yr)	Resource life (years)
11 feet					
Odum		1,408,000	28,650	172,983	10
Edinam		468,000	7,155	33,167	18
Mahogany		692,000	31,488	66,877	20
Utile		465,000	8,081	31,891	20
Sapele		702,000	13,496	41,135	25
7 feet					
Hyedua		154,000	1,966	10,620	18
Guarea		524,000	4,592	10,972	82
Danta		1,254,000	10,098	24,787	85
Wawa		26,356,000	135,779	366,064	114
Mansonia		695,000	2,753	5,830	226
Dahoma		5,254,000	75,569	14,915	*
KyenKyen		3,726,000	33,331	14,801	*
Avodire		2,365,000	13,548	269	*

* Rate of growth exceeds the rate of felling (Alder, 1989).

2.3.2. Supplies of Labor and Capital

The majority of the sawmills in Ghana are equipped with outdated and inefficient processing equipment and the conversion ratio for logs to lumber is extremely low; typically in the 30%-40% range. This is particularly true for the smaller timber processors who lack adequate access to capital to finance equipment purchases. As a result, the timber industry is heavily skewed towards the export of low value-added products such as logs and air-dried lumber. The lack of modern processing equipment also limits the ability of the timber industry, particularly furniture manufacturers, to develop new products or to manufacture higher value-added products that possess the quality to be competitive in the international marketplace.

Many firms take advantage of extremely low labor rates in Ghana to employ a large labor force to perform many operations, particularly material handling. The net result of this is an under-capitalized, labor-intensive industry. This labor-capital combination can be partly attributed to the existence of a poor investment climate, a huge supply of unskilled labor and wage rates that can be as low as US\$1 per day for unskilled workers (although

skilled workers earn more). Consequently, the timber industry is a primary employer of labor in Ghana. It has been estimated that the timber industry provides direct employment to over 250,000 people, while providing indirect support to approximately 2 million people (TEDB, 1988).

2.3.3. Access to Market Information

Timber producers generally employ agents to export their products to Europe. This method of distribution separates the producer from the end-user of his product and restricts his access to market information. As a result, Ghanaian producers are unable to develop a thorough understanding of current market conditions or identify new markets for their products. This lack of market information also restricts the manufacturers ability to assess the market potential for new products.

2.3.4. Price Constraints

The prices of Ghanaian logs and lumber are regulated by the Timber Export and Development Board (TEDB). These prices are generally established based upon the current prices for similar products and species in neighboring west African countries. All timber export contracts must be submitted to TEDB for approval of contract prices prior to export. Export contracts that do not meet the minimum price levels must be renegotiated prior to receiving export approval. Furniture export contracts must also be submitted to TEDB for approval of the contract terms.

2.3.5. Access to Capital

Difficulty in gaining access to capital is common to all firms operating within the timber industry. This is equally true for obtaining capital for short-term versus long-term requirements as well as for capital improvement versus operating requirements. Interest rates are generally quite high (in excess of 25%) and financing terms frequently require the borrower to provide collateral equal to the value of the loan. However, the past year has seen interest rates fall substantially to approximately 20%.

3.0. ENVIRONMENTAL CONSIDERATIONS AND DATA GAPS

3.1. Introduction

The production of furniture and furniture parts relies upon the timber resource base for its supply of raw materials. As a result, an increase in the production of furniture and furniture parts, such as that envisioned by TIP, could lead to increased rates of harvest in the forest as well as other less obvious environmental impacts. A clear understanding of all the environmental impacts associated with increased levels of furniture production are required to assess the impact of the project on the natural environment as well as the sustainability of the project.

3.2. Impacts of Project Activities on the Environment

An increased level of production activity in the furniture sector can impact the environment in a variety of ways. The primary environmental impacts are: increased timber harvest levels, waste disposal by manufacturing firms, socio-economic impacts and cross-sectoral impacts. Each of these impacts will be discussed in the following paragraphs.

3.2.1. Increased Timber Harvest Levels

An increase in activity in the furniture sector can increase harvest levels in the forest, possibly exceeding the AAC, by increasing demand for primary and secondary wood products. An increase in harvesting intensity can also lead to a loss of biodiversity within the forest ecosystem. This environmental impact could be moderated if the furniture industry were to obtain its raw material from the domestic sawmilling industry rather than processing their own lumber from logs obtained from the forest. In addition, increased demand for wood products can also contribute to a loss of genetic diversity in the forest if furniture manufacturers favor the traditional redwood species over the lesser-known and more abundant timber species (Hamilton, 1991).

3.2.2. Furniture Manufacturing

During the furniture manufacturing process a variety of waste materials are generated. These materials can have a significant adverse effect on the natural environment. Waste materials such as sawdust, organic solvents, paints and stains can pollute the environment if improperly disposed of. Improper disposal can result in soil infertility, pollution of ground water supplies, pollution of streams (affecting fish supplies) and lead to health problems in local populations. Noise generation resulting from manufacturing operations can also adversely affect local populations.

3.3. Socio-economic Impacts

3.3.1. Industry Location

Siting of furniture firms is an extremely important consideration, particularly as the size of the firm being considered increases. Large firms inevitably attract large number of workers looking for employment as well as a variety of satellite businesses (such as food preparers) which can lead to population pressures in the area. Location of a manufacturing facility in a rural area close to forest reserves can lead to conflicts in land usage and increased rates of deforestation. In addition, location of a manufacturing facility in an overcrowded urban area can exacerbate population pressures, increase the demands being placed upon the infrastructure and adversely affect the urban environment.

3.3.2. Infrastructure Demands

An export oriented furniture manufacturing facility requires that a certain level of infrastructural development be available. Electricity, surfaced roads, basic telecommunications equipment and running water are all important requirements for a furniture manufacturing facility. Another important service required is the provision of adequate waste disposal facilities. The demands of a furniture manufacturing facility can contribute to these services becoming overburdened. These considerations emphasize the importance of properly locating a furniture manufacturing facility.

3.3.3. Population Pressure

This consideration is particularly important for larger manufacturing facilities. These facilities act as magnets that draw workers and prospective workers in from neighboring urban and rural areas. As a result, population pressures are increased as are demands on the local infrastructure. Increased population effects can have a particularly adverse impact on the availability of basic health care and the quality of education.

Another less obvious result of increased population is an increased pressure on nearby forest reserves. The workers drawn to the area in hopes of finding employment are frequently poor and as a result deforestation can result from an increased demand for fuel wood and land for family gardening plots.

3.3.4. Worker Safety

As with any manufacturing facility, worker safety should be an important consideration. Improper or poor training of workers operating power equipment can result in unnecessarily high job related rates of injury. Inadequate protection of workers using solvents and chemicals can lead to long-term health problems for both workers and their families.

3.4. Cross-sectoral Impacts

3.4.1. Conflicts With Agriculture

Furniture manufacturing operations can have two significant impacts on the local agricultural sector. First, an influx of workers and prospective workers can lead to land use conflicts. This results from increased requirements for housing as well as an increase in the demand for land for subsistence farming. Another impact on the agricultural sector occurs through the improper disposal of waste material. The production of furniture can generate a significant amount of sawdust and wood waste. These materials are frequently disposed of by dumping them in remote areas. This practice can result in loss of fertility of the land. A similar, but more destructive result, occurs from the improper disposal of chemical wastes. These practices can not only destroy the soil fertility, but can also adversely affect both people and animals inhabiting the affected area.

3.4.2. Conflicts With Fisheries

Furniture manufacturing facilities can directly impact the fisheries sector through the improper disposal of waste material generated during the manufacturing process. While the improper dumping of sawdust in rivers is a problem, an even more important problem is the disposal of chemical wastes into the river system. This practice can have significant immediate and cumulative effects on the health of a river system and its ability to support adequate stocks of fish for local inhabitants. Increasing the number of furniture manufacturers can greatly compound this problem if proper waste disposal procedures are not ensured.

4.0. ENVIRONMENTALLY SOUND DEVELOPMENT OF THE FURNITURE INDUSTRY

4.1. Acquisition of Raw Materials

In order to reduce the environmental impact of TIP on the tropical forest resource, it is important that several factors be considered. Most important is that lesser-known timber species should be promoted by the industry. Utilization of such species will work to maintain the genetic diversity of the forest and help ensure that the forests are sustainably managed by reducing pressure on the more traditional timber species. In addition, an emphasis on lesser-known timber species can effectively reduce raw material costs within the furniture industry by reducing competition for traditional timber species between furniture producers and the export markets. This will also allow sawmills to more effectively utilize their production capacity.

Additional timber concessions should not be issued for this industrial sector, although some expired concessions may be awarded to furniture producers. Rather, raw materials should be obtained from those sawmills currently operating in Ghana. It is also important that the furniture industry invest in capital improvements that will allow for a more efficient utilization of the raw material.

4.2. Legislation and Enforcement

While current legislation appears to be appropriate for achieving sustainable forest management, several policies need to be further addressed. The new concession policy that is being formulated by the Ministry of Lands and Mineral Resources should be formulated to ensure that concessions are awarded only to those who possess the ability and equipment to employing sound felling techniques and who express a willingness to manage the forest in a sustainable manner.

An equally important consideration is the effective enforcement of those forest policies which have already been implemented. It is important for the forestry department to increase its ability to enforce forest management policies in the field. The achievement of this objective is a difficult task that will involve an increase in the number of foresters and forest guards, pay increases and training exercises. It is equally important for the forestry department to enlist the cooperation of the local population in protecting the forest resource.

4.3. Institutional Issues

4.3.1. Institutional Linkages

There is currently some ambiguity in the relationship between agencies charged with the responsibility of coordinating activities in the forestry sector, for example the role of the Forestry Commission. Another area of ambiguity was observed in the administration of timber concessions; where this function appears to be randomly performed by both the Ministry of Lands and Natural Resources and the Forestry Department. This ambiguity should be resolved as soon as possible. In addition, there should be a strengthening of the linkages between government agencies, trade associations and NGO's.

4.3.2. Institutional Strengthening

A strengthening of the linkages between the various institutions that have a natural interest in the management of the forest resource. Perhaps this could be done through the establishment of a policy review board that would be composed of representatives from each of the interested groups. Equally important is the strengthening of the institutions themselves, particularly the forestry department who is charged with the sustainable management of the forest resource in Ghana.

4.4. Indicators, Monitoring and Mitigation Measures

4.4.1. Identification of Primary Tropical Forest

It is essential that all areas of primary tropical forest remaining in Ghana be identified and located on a vegetation map. Unfortunately, it will be extremely difficult to separate out the impacts of the TIP project on primary forest from the impacts caused by the timber industry in general. Logging activities in these areas should be suspended until a forest policy can be formulated that can adequately address the environmental concerns of USAID. At present there appears to be very little, if any, primary forest left in Ghana. However, this cannot be verified until the current forest inventory project is completed in 1993.

4.4.2. Sustainable Timber Harvest Levels

When calculating the AAC it is very important to identify the volume of logs that have been left behind in the forest as well as those trees that were severely damaged during timber harvest operations (ie: damage from felling and log extraction operations). While the reported removal of logs from the forest may be reported as being less than the AAC, inclusion of felling and extraction losses into the total removal figure may indicate that total losses in the forest exceed the AAC. As a result, it is important that a

procedure be developed that will allow for the calculation of the total volumetric loss occurring within the forest reserves. This procedure could be implemented by foresters who would monitor the harvest operations on a periodic basis. There is currently a research effort underway by the Institute of Renewable Natural Resources at UST in Kumasi that is attempting to quantify the impact of harvest operations on the remaining trees in the forest. The results of this research effort will provide an empirical basis for adjusting the AAC to take this type of harvest loss into account.

4.4.3. Tropical Forest Diversity

The expansion of the species base utilized by the timber trade will help to maintain the genetic diversity of the tropical forest resource. This expansion would require a substantial marketing and promotion effort to promote lesser-known tropical timber species in the end-use markets (ie: Europe and the U.S.). The marketing and promotion efforts would require the participation of the Timber Export and Development Board considering their familiarity with the European markets. The success of these efforts could be evaluated by periodic monitoring of the species composition of timber exports as reported in the forest products export report published monthly.

4.4.4. Location of Firms

To minimize the impacts of an expanding furniture manufacturing sector, it is important that future furniture firms be located in areas that will help to minimize their impact on human populations as well as the natural environment. This implies that the expansion of the furniture industry must be carefully planned rather than haphazard. Little information is available on planning and location of furniture manufacturing facilities as well as ways of minimizing their impacts on their environments. Urban planning studies can help to identify the adverse impacts of manufacturing facilities on human populations as well as the natural environment. The aim of these studies would be to identify potential sites (such as industrial processing zones) for situating furniture manufacturing facilities that would provide the infrastructural support required while minimizing adverse impacts.

4.4.5. Waste Generation and Disposal

One of the most significant effects of increased manufacturing activity in the furniture sector is the generation and disposal of industrial waste. It has been estimated by the GEPC that under TIP the value of furniture and furniture parts exports would increase approximately 8 times to US\$44 million. An increase of this magnitude in manufacturing activity could pose a severe threat to the environment. In order to ensure that the environmental threat is minimized it is important that an environmental policy be developed addressing the disposal of waste products generated by

the furniture industry. Monitoring procedures should also be developed to ensure that the regulations are being followed. The Environmental Protection Council should work together with the appropriate government ministries to develop the necessary policies and monitoring programs. To date, no studies have looked at the generation of waste by the furniture industry or methods of waste disposal.

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6.0. APPENDIX A.

6.1. Proposed Research Projects for Identifying, Monitoring and Mitigating Adverse Environmental Impacts

6.1.1. Impact of Harvesting Operations on Species Diversity

More information is needed regarding the effect of timber harvesting operations on both the genetic diversity of the forest reserves as well as the bio-diversity in general. The research should investigate the environmental effects of alternative harvesting methods in tropical forests. The results of this research may help to identify ways of minimizing the disturbance of the forest during harvest operations. It should also clarify the less obvious effects of timber harvesting on the forest.

Implementing Institutions: Forestry Department and the Forest Research Institute of Ghana (FORIG).

Duration of Project: 5 years.

Requisite Personnel: Forest Ecologist and Logging Engineer

Estimated Funding Level: US\$50,000/year x 5 years: US\$250,000.

6.1.2. Felling Damage During Harvest Operations

The volume of timber harvested within the forest has traditionally been based upon the volume of logs transported from the forest. This method underestimates the impact of harvest operations on the forest resource by ignoring felling damage to remaining trees and defective logs left in the forest. This research project has as its objective the quantification of felling damage during harvest operations and the estimation of the volume of logs abandoned in the forest. A similar project is being carried out under the sponsorship of the International Tropical Timber Organization (ITTO) in Ghana. This project would be used to supplement the research that is currently being performed in this area and would allow several more research plots to be established.

Implementing Institutions: Forestry Department and FORIG.

Duration of Project: 3 years.

Requisite Personnel: Forester and Logging Engineer

Estimated Funding Level: US\$25,000/year x 3 years: US\$75,000.

6.1.3. Competitive Analysis of the Ghanaian Furniture Industry

A detailed analysis of the competitive structure of the Ghanaian furniture industry is necessary in order to identify competitive advantages. The analysis would also address areas of need within the industry such as: technology requirements, availability of financing, management practices, cost structure, the competitive structure of the timber industry and current marketing practices. The results of this research would help to develop an understanding of the industry structure and contribute to increasing the competitiveness of the industry in the international marketplace.

Implementing Institutions: Timber Export Development Board and College of Forest Resources, University of Washington.
Duration of project: 1 year.
Requisite Personnel: Timber Industry Analyst (TEDB) and Forest Products Marketing Specialist (U-W)
Estimated Funding Level: US\$80,000/year x 1 year: US\$80,000.

6.1.4. Waste Generation and Disposal Within the Furniture Industry

The generation and disposal of waste by the furniture industry poses a significant potential risk to the human population as well as the natural environment. Unfortunately, little is known about the quantity and types of industrial waste generated by the furniture industry or current waste disposal practices. This information is important in order for effective environmental protection regulations to be developed. This research project should not only address these vital issues but should also recommend methods of waste disposal that have been successfully implemented in other countries and which may be appropriate for Ghana.

Implementing Institutions: Environmental Protection Council and FORIG
Duration of Project: 4 years.
Requisite Personnel: Waste Disposal Specialist, Biologist and Hydrologist
Estimated Funding Level: US\$55,000/year x 4 years: US\$220,000.

6.1.5. Marketing Analysis of European and American Furniture Markets

In order for the Ghanaian furniture industry to become competitive on the world market it is essential that they develop a clear understanding of how these markets operate. The proposed international market research study will concentrate on the U.S. and European markets for furniture. The study will investigate buyer-seller relationships, barriers to trade, barriers to the introduction of lesser-known species, channels of distribution, product categories, pricing policies as well as a brief competitive analysis of the furniture industry in each region. This type of research will provide Ghanaian furniture manufacturers with an understanding of their target markets, provide assistance in targeting specific market segments, indicate strategies for introducing lesser-known species into the marketplace and help them to compete more effectively in export markets.

Implementing Institutions: TEDB and College of Forest Resources, University of Washington.

Duration of Project: 2 years.

Requisite Personnel: Export Market Analyst (TEDB) and Forest Products Marketing Specialist (U-W).

Estimated Funding Level: \$100,000/year x 2 years: US\$200,000.

Funding Priorities for Proposed Projects

1. Project Number 6.1.5.
2. Project Number 6.1.3.
3. Project Number 6.1.4.
4. Project Number 6.1.1.
5. Project Number 6.1.2.

ANNEX X

**AN OVERVIEW OF THE ENVIRONMENTAL IMPACT OF THE
SHRIMP AND PRAWN INDUSTRY IN GHANA**

AN OVERVIEW OF THE ENVIRONMENTAL IMPACT OF THE SHRIMP AND PRAWN INDUSTRY IN GHANA

Chris Gordon

1. INTRODUCTION

The Ghana Export Promotion Council has prepared a Medium Term Plan for Non-Traditional Export Development for the period 1991-1995 which has been formulated with the objective of raising export revenues of Non-Traditional Exports (NTE) from US\$ 62 million to greater than US\$ 300 million by the terminal year of the plan ¹. The GEPC plan links in with USAID/Ghana which is developing a Trade and Investment Program (TIP) with the Government of Ghana so as to promote and increase investment, development and marketing in the NTE sector. The program is aimed at strengthening the policies and institutional framework needed to encourage private sector investment and export. It is also intended to improve the financing and incentives available to the private sector and to improve the capabilities and the capacities of individual firms and entrepreneurs to export ². The program includes U. S. dollar cash grants to the Government of Ghana for policy and regulatory reform, dollar financed technical assistance and training as well as cedi financed local activities. Shrimp, lobster and prawn have been identified as one of the NTE sectors that could benefit from the program, Table 1 gives the export projections for the sector to 1995.

Year	1991	1992	1993	1994	1995
Volume (metric tons)	230	338	615	862	1334
Revenue (US \$ '000s)	1500	2200	4000	5600	8670

Table 1. Projected export volumes and revenues from shrimps and lobsters ³.

In order to achieve the overall program aim of increasing exports of shrimp, lobster and prawn (product) several options are available; i) increase the amount of product that exporters catch, ii) increase the proportion of landed product exported, iii) increase the value of the exported product, iv) use aquaculture to produce more product.

As part of the final preparations for the TIP, USAID is required to prepare a short overview of the potential long-term environmental impacts related to the proposed project activities. This report presents an overview for the prawn and shrimp industry (Section 2.) and how the industry has had or will have impact on the environment (Section 3.). The actions required for the monitoring, evaluation and mitigation of any impacts that promotion of this sector would have on the environment are presented (Section 4.). A number of projects related to these actions and the information requirements needed for the sustainable development of the industry are outlined (Appendix C.).

2. THE SHRIMP AND PRAWN INDUSTRY IN GHANA

2.1. SHRIMP AND PRAWN HARVESTING

Shrimp, lobster and prawn are found in commercial quantities in Ghanaian waters (see Appendix B for list of species) and there has been a tenfold increase in the quantity of exports of these products, mainly shrimp and lobster, within the period 1986 (19 tons, US\$ 62,000) to 1991 (195 tons, US\$ 1,428,000). Shrimp and lobster make up 6.6% of the marine product exports. Production is mainly due to harvesting by industrial shrimpers and the artisanal canoe fisheries⁴. Prawns are caught by traps from estuaries and dams for local markets.

2.1.1. Industrial Harvesting of Shrimp

Commercial shrimping by specialised vessels started in Ghana in 1969 by two large (greater than 1000 hp) Italian ships, the *Sajpa Terza* and the *Oceania Rosa*. Operating off Cape Three Points and in the Keta-Ada area, they made shrimp catches of up to 1000 kg of tails a day. By September 1970 there were 18 shrimpers of varying horse power operating in Ghanaian waters⁵. In the period 1969 to 1975, an annual average catch of 720,000 kg shrimp was made. The highest recorded catch was in 1974 of 1,420,000 kg after which, in 1975, shrimp fishery operations on the Ghanaian shelf eventually ceased as catches fell below the threshold for the economic operation of the shrimpers.

In 1986 commercial shrimping resumed in Ghana when Kiku Company Ltd. imported two vessels. In 1988, Kiku Co. Ltd. imported another two vessels and in 1989 Kyerematen Foods Ltd. imported one vessel, since then another 5 vessels have started fishing in Ghanaian waters⁶. The Fisheries Department have set a limit of 10 vessels, as a result, Kiku Co. Ltd. has four more shrimpers operating off Benin which were refused licences to operate in Ghanaian waters. Table 2 presents data on the export performance of the top five exporters in 1991. The number of exporters in this sector was 44 in 1990, and this had increased to 83 by the end of 1991, most of these exporters operate at very low volumes usually in the order of kilograms rather than tons, and function by purchasing shrimps from the artisanal fishermen and then packaging them for export. An organisation to co-ordinate the marketing and export of shrimp and prawns has been set up recently (Ghana Lobsters and Shrimp Producers and Exporters Association) and has at present, about 60 members.

Exporter	Quantity (tons)	Value US \$
Kiku Co. Ltd.	77.828	672 245
Brigit Fisheries Ltd.	20.000	200 000
Mokoledzen Fisheries Co.	11.508	115 080
Unidentified Exporter	5.850	58 500
Seapro Ltd.	5.115	15 043

Table 2. Performance of the top five shrimp exporters⁷

2.1.2. Artisanal Harvesting of Shrimp

Artisanal shrimp fisheries operate in two forms in Ghana: lagoon fisheries and canoe fisheries. Ghana has over 50 coastal lagoons and many of these are highly productive⁸. Between the end of the 1960s and the early 1970s there was a lucrative shrimp fishery in the Anyanui estuary and in the Keta lagoon. This led to the establishment of a French owned shrimp canning factory Dzelukope⁹. The factory operated on inputs of shrimp and prawn supplied by the local fishermen. Changes in the hydrology of the lagoon and over-fishing eventually destroyed the industry. The canoe fishery is pluri-specific, using pelagic encircling gear (poli nets) and beach seines which capture shrimps really as a by-catch to the *Sardinella* and other fisheries. These are then sold to the exporters. Lobsters are caught mainly by bottom set nets, though there has been some training and trials in the use of lobster traps. Data on exports of lobster and artisanal landings of shrimp are given in Tables 3 and 4 respectively.

Exporter	Quantity (tons)	Value US \$
Amohware Co. Ltd.	3.705	43 611
Hentman-Gulf Ltd.	7.054	42 737
Kiku Co. Ltd.	6.768	40 608
Dotex Ent.	3.749	24 921
E.K.S. Foods Ltd.	1.956	17 713

Table 3. Performance of the top five lobster exporters in 1991¹⁰

Year	1984	1985	1986	1987	1988	1989
Catch (tons)	216	508	552	1602	1177	1152

Table 4. Landings of shrimp by the artisanal and inshore fleets 1984 to 1989¹¹

2.2. SHRIMP AND PRAWN AQUACULTURE

2.2.1. *Macrobrachium* projects

Much of the preliminary work on pond culture has been carried out on freshwater prawns. In 1984, a grow-out experiment using the exotic *Macrobrachium rosenbergii* was carried out on juveniles flown in from Sweden¹². The local species *M. vollehovenii* (Plate 1.) and *M. macrobracion* have undergone trials in ponds in the Ashanti region and also in the vicinity of the Weiija dam¹³. A number of project proposals have been prepared relating to prawn culture¹⁴, but none as yet has received the necessary funding for work to commence.

2.2.2. *Penaeus* projects

There have been a few proposals for exotic shrimp culture in the coastal plain near the major rivers of Ghana ¹⁵. Most attention has been focused on the Black Tiger Shrimp *Peneaus monodon*. One venture, by the Ghana Prawn Company carried out growth trials at Ada on this species using imported post-larvae. Due to high local costs of pond construction, some proposals have suggested the use of existing storage reservoirs at salt works (Plate 2.) for the culture of *P. japonicus* which tolerates higher salinities than *P. monodon*. Interest in large-scale ventures by local/foreign investors is keen and in addition to the Ghana Prawn Co., which intends to develop 500 ha of pond area, the Managing Director of Kiku Co. Ltd. also wants to expand his operations into shrimp culture.

2.3. CONSTRAINTS ON THE INDUSTRY

The constraints on the industry must be considered as they have a bearing on the types of mitigating measures that could be used to reduce the impact this sector has on the environment.

2.3.1. Supply of the Resource, Preservation and Marketing

It is the smaller exporters who face most difficulties, none of these exporters have established their own means of supply and thus rely on fishermen whom they approach from beach to beach. This is especially true for the lobster exporters, who consequently are never sure of the volume available for shipment and cannot therefore advise buyers with any precision in terms of quantity ¹⁶. The fishing methods in use are for the most part outmoded and indiscriminate, hence catching individuals of all sizes ¹⁷. The craft used are also unsuitable for the deployment of modern gear. Most of the fishermen use empirical knowledge to locate fishing grounds and this can be very unreliable. Shrimp is a highly perishable product, weight loss and spoilage from inadequately preserved catch is very rapid. Most vessels have to take flake ice along with them when they go out to sea. This limits not only the length of time they can spend fishing, but also their choice of fishing ground as they are limited to the proximity of ice making facilities along the coast (Tema, Cape Coast and Sekondi). In the case of lobsters, there are very few lobster holding tanks along the shore, so they tend to be kept in floating cages out at sea. There is also a serious lack of cold stores at the minor fishing centres. The type of packaging used does not conform to any set standard and hence lowers the face value of the product. Due to the lack of processing capacity, most of the export is in the form of comparatively low value raw product.

2.3.2. Controls and Credit

Though there are regulations governing the gear used to catch of lobsters and shrimp, there is no effective way of enforcing these laws, and they are frequently ignored so that undersized product, especially in the case of lobster is often landed and sold. Large trawlers often operate illegally in the near shore area and interfere with the operations of the artisanal canoe fishery. A significant amount of product is lost by smuggling ¹⁸, either

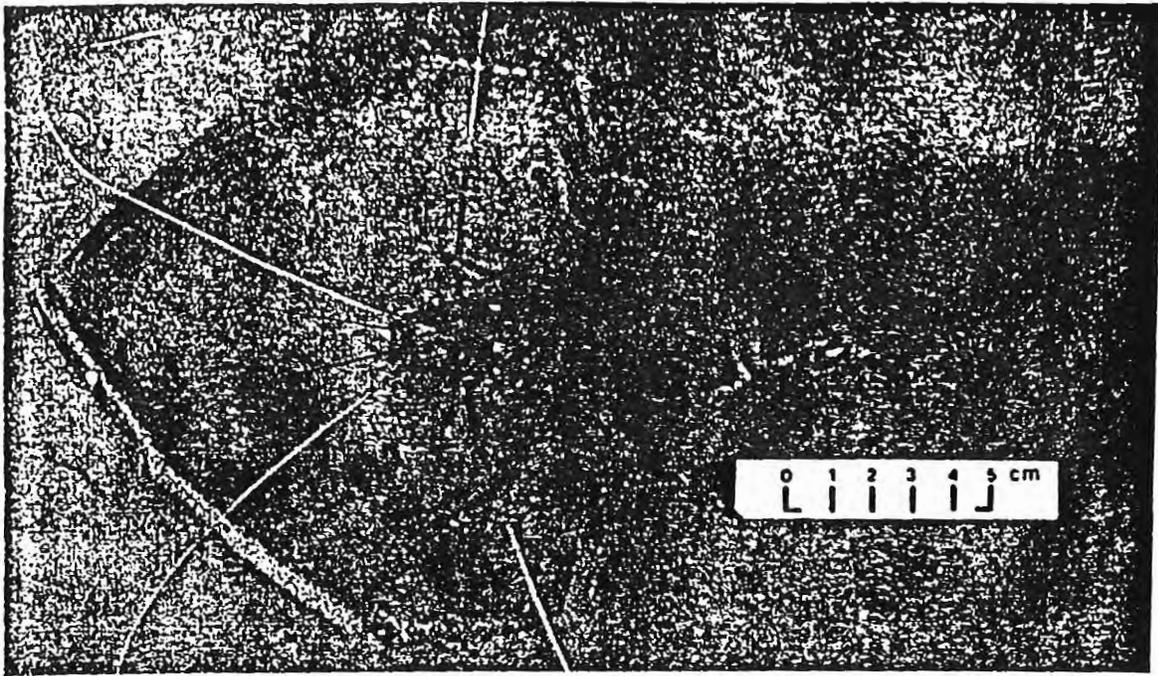


Plate 1. *Macrobranchium vollehovenii*, local species of freshwater prawn

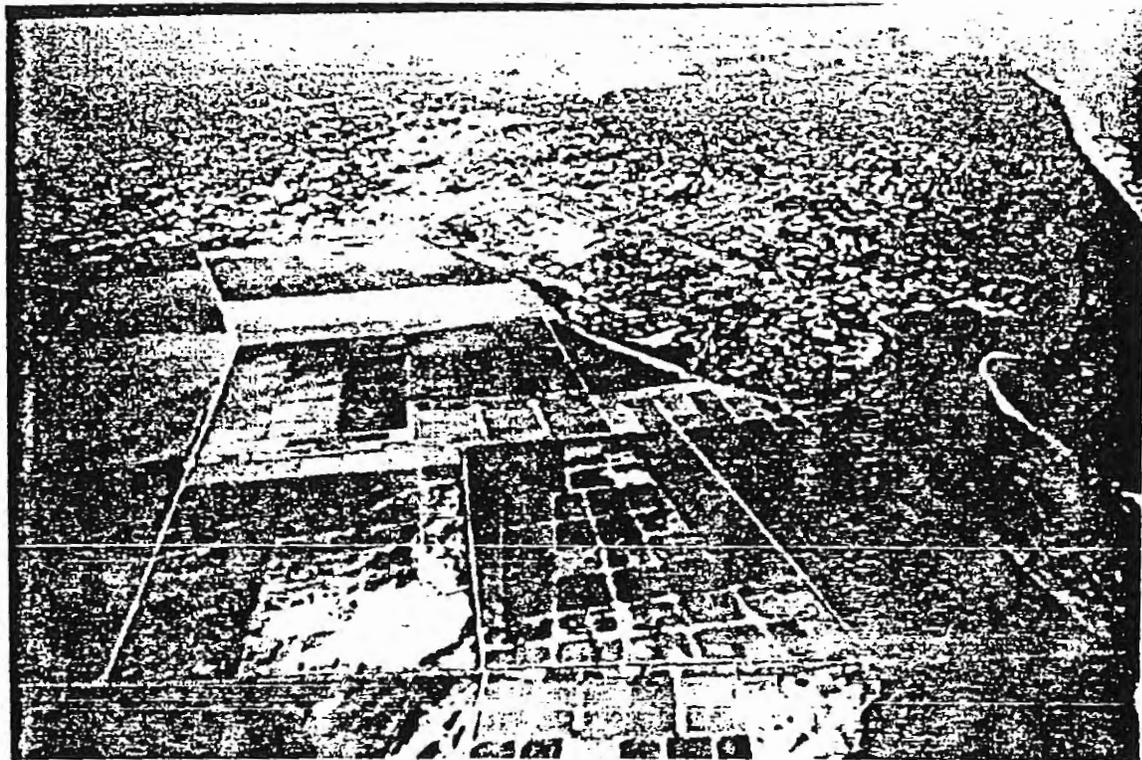


Plate 2. Panbros Salt works, a potential site for shrimp culture in storage reservoirs

by landing at foreign ports or by trans-shipment of catch to foreign vessels out at sea. Lobster are also carried overland as undeclared or under declared exports. The fishing industry as a whole has suffered from inadequate credit facilities and investment, but the losses accrued by financial institutions in loans for fish farming during the mid 1980s has made credit for aquaculture ventures even more very difficult to come by. Despite all these constraints it must be remembered that the volume of exports and the number of exporters has been increasing steadily each year.

3. ENVIRONMENTAL CONSIDERATIONS AND DATA GAPS

3.1 IMPACT OF PROJECT ACTIVITIES ON THE ENVIRONMENT

3.1.1. Harvesting

Resource base

The primary impact project activities could have is the depletion of the resource base due to over-exploitation. This has happened twice before, once when the marine shrimp fishery collapsed in 1975 and again with the loss of the artisanal Keta lagoon fishery. This danger is a very real one and is compounded by the fishing gears used which are not very size selective. The artisanal canoe fishermen and small two/four man beach seines catch young shrimp when they are migrating either along the coast or moving from the nurseries toward the open sea. One effect of these small scale fisheries is that they reduce the stock in the sea, and with respect to the breeding cycle of the shrimp, they play a more significant role than the offshore fishery¹⁹. It has been estimated that in the neighbouring Cote d'Ivoire, 55% of the shrimp are caught as sub-adults before they can migrate out to sea²⁰. The actual amount of shrimp caught by artisanal fishermen needs to be more accurately measured.

The commercial shrimpers have a different effect on the shrimp stocks, they tend to catch more shrimps of the 1+ cohort, and due to the large demand for the product shrimpers tend to concentrate in a few fishing grounds thus increasing the danger of over fishing. The present estimated total area of the main shrimp grounds²¹ in Ghanaian waters between the depths of 24-45 metres is approximately 520 km², comprising 310 km² in the Axim to Cape Three Points area and 210 km² off the coast in the Keta-Ada area (Fig. 1.) .

By-catch

The problems of by-catch and by-catch discard is not a problem for the unspecialised small scale artisanal canoe fishery (Plate 3). The only fish not taken are those which are poisonous or distasteful, although these are sometimes collected for medicine²². In the case of the commercial shrimpers the volume of by-catch can be considerably larger than the shrimp catch. As the shrimp is worth more than the by-catch and freezing and storage facilities are limited, the fish actually landed by shrimpers consist of specimens of a certain commercial value taken during the final days of a trip. Recent observations on board two

shrimping vessels operating in Ghanaian waters indicate that the shrimp to by-catch ratio varied from as low as 1:8-9 to as high as 1:0.4-0.5, it was also noted that between 6 and 44% of the by-catch was discarded at sea, mainly made up of undersized shrimp and fish ²³. A major data gap exists concerning quantities of commercial by-catch.

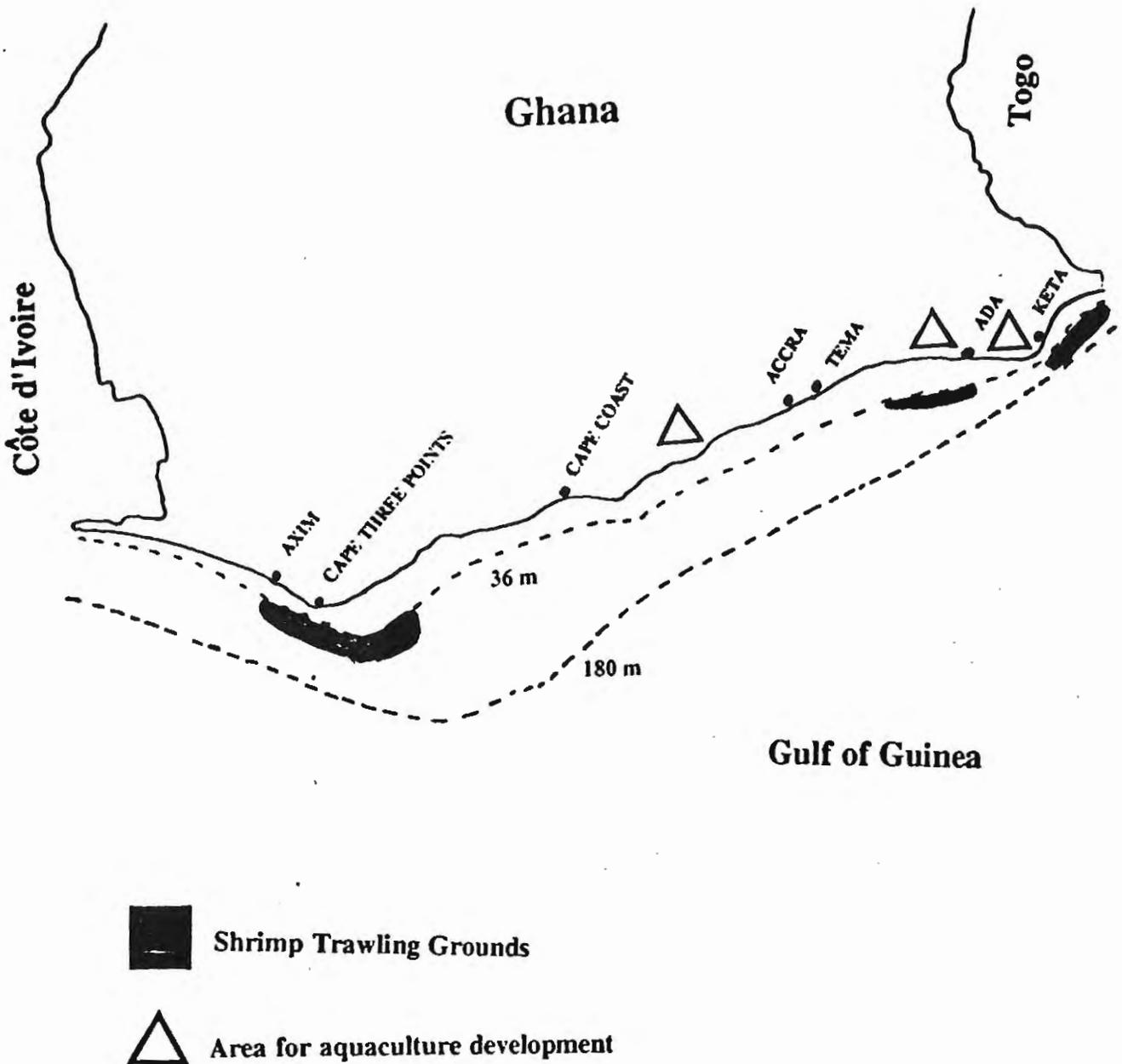


Figure 1. Main shrimping areas and identified sites for shrimp aquaculture in Ghana

Biodiversity

The methods of capture presently in use have implications on the biodiversity of demersal species on the near shore continental shelf. This is true not only of the fish species but for all the invertebrate species that colonise the sea bed. The operation of the fish gear disturbs the benthos, but as so little is known about this community on the Ghanaian continental shelf, there can be no firm conclusion on such effects. In the Gulf of Mexico, marine turtles are often caught in shrimping trawls and as a result, nets have been designed with turtle exclusion devices (Fig. 2.). These do not affect the catch of shrimp and indeed if properly deployed can increase gear efficiency²⁴. Marine turtle populations are threatened in Ghana, and are protected by law, however there is no information available on trapping of turtles by shrimpers and indeed all trawlers.

Processing

The current levels of exploitation and methods of processing do not, at present, have any meaningful impact on the environment. The commercial shrimping vessels sort and freeze their catch out at sea, the large shrimps are landed frozen and packed and exported in this state. The smaller shrimps brought back are defrosted, beheaded and exported as tails only. The heads are then sold to poultry farmers for feed. Apart from the melt water, which is of low volume, a minor cause for concern is the packing material (Polystyrene/Styrofoam) which is regarded as being detrimental to the environment. Processing of the artisanal catch is often very poor (Plate 4). Traditionally shrimp is usually dried or smoked by wood fires - this is a minor concern as the amounts of fuel wood used are insignificant when compared to the amounts used for the main fish catch.

3.1.2. Aquaculture

Though there are no fish farms currently operational in this sector, interest is great and it is only a matter of time before the first large scale shrimp farm begins to operate in the country. The potential environmental problems that may arise depend very much on the scale of operations, the species used and the level of management.

Habitat destruction and biodiversity loss

The major environmental problem in shrimp farming is the destruction of coastal wetland habitat. The areas that are targeted first are salt marshes and mangroves (Plate 5). A farm of 500 ha. water area, requires an additional quantity of land to provide for pond bunds, access roads and buildings. The coastal wetlands harbour large numbers of birds and other vertebrates. Mangroves and lagoons act as an important breeding area for many species of commercially valuable fish, including shrimp and prawn. Large data gaps exist in the knowledge of coastal ecosystem functioning in Ghana, great care must therefore be taken in site selection. It must be noted that the two areas most favoured as sites for shrimp culture (Keta lagoon and Songor lagoon) hold internationally significant populations of waders²⁵.

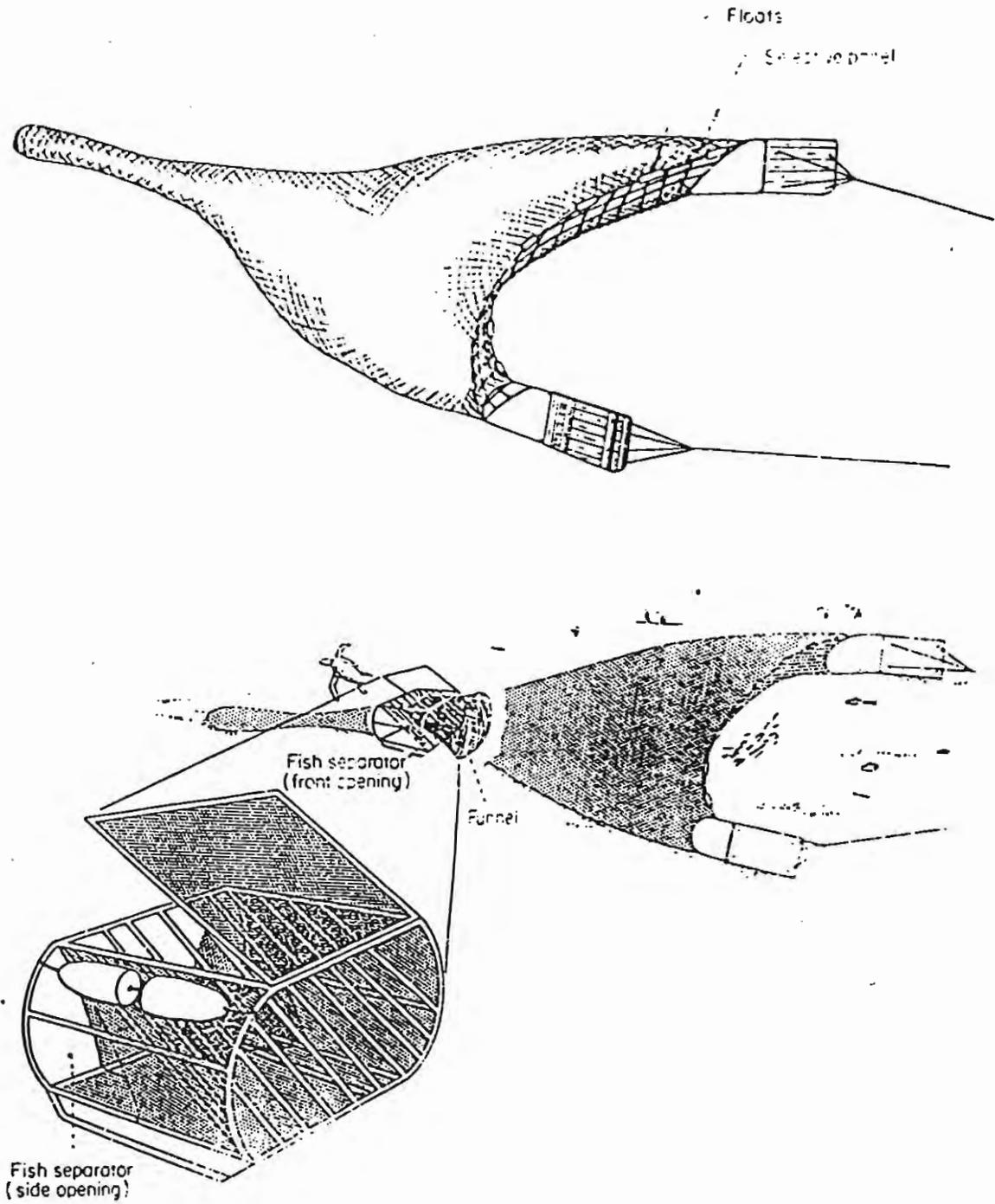


Figure 2. Selective trawls fitted with Marine Turtle excluder devices



Plate 3. Landing of beach seine of the coast near the Songor lagoon



Plate 4. Handling of product at a landing site by the artisanal sector

Water abstraction and effluents

Ponds require large amounts of water for the maintenance of water levels due to losses caused by seepage, evaporation and the need to exchange water to maintain water quality. This requirement could lead to conflicts with other water users in times of low river flow. The water from ponds, when drained for harvest, is high in nutrients and chemicals and if discharged untreated into other water bodies can cause eutrophication problems. This problem is also associated with high volume processing plants.

Exotic introductions and disease

As there is a lack of knowledge on the biology and physiology of local species of shrimp and prawn, any venture in the near future will depend on an imported exotic species. Though sites for hatcheries for these exotic species have been identified in the Central region, hatchery development is likely to be in the second phase of any venture. Shrimp and prawn farmed under intensive systems (up to 50 per m²) are very susceptible to disease. The importation of diseases with foreign post-larvae, and the possible escape into the wild, of both disease and the exotic species itself could have serious and negative effects on indigenous species and coastal communities.

3.2. SOCIO-ECONOMIC IMPLICATIONS

In other Third World countries, the crustacean shellfish industry has proved to be very profitable for certain groups of people. It is important to ask certain questions relating to equity. Who is going to benefit from the development of the industry? How will these benefits be distributed within the population? Within the artisanal fishery, the population sector at risk are the women who traditionally purchase catch direct from the fishermen. The export of shrimp and lobster is dominated by men who by purchasing shrimp at the beach deprive these women of high value product. There is a need to assess the contribution made by the sale of shrimp and prawn to the income of these women.

Large scale aquaculture ventures are usually owned and run by local elites who have access to sufficient knowledge and capital. These elites also have political influence which sometimes make it possible for them to displace communities, who live on the land and use its resources, but have no formal title or property rights. In many cases the land that is to be used for the project is valued to small communities who have no clear idea of how the project will affect them, and traditional methods of resource control which have no legal basis are brushed aside (Plate 5). The situation would be more positive if there was a guarantee that displaced people were absorbed by the new industry. The experience in other countries such as the Philippines shows that this is not the case. The problem that arose between the large scale salt companies and the people of the Songor lagoon is a recent and local case in point. The groups at risk are the subsistence fishermen in the coastal lagoons and data on the magnitude and value of this fishery need to be collected.



Plate 5. Mangrove thicket near Ada in an area earmarked for shrimp farms

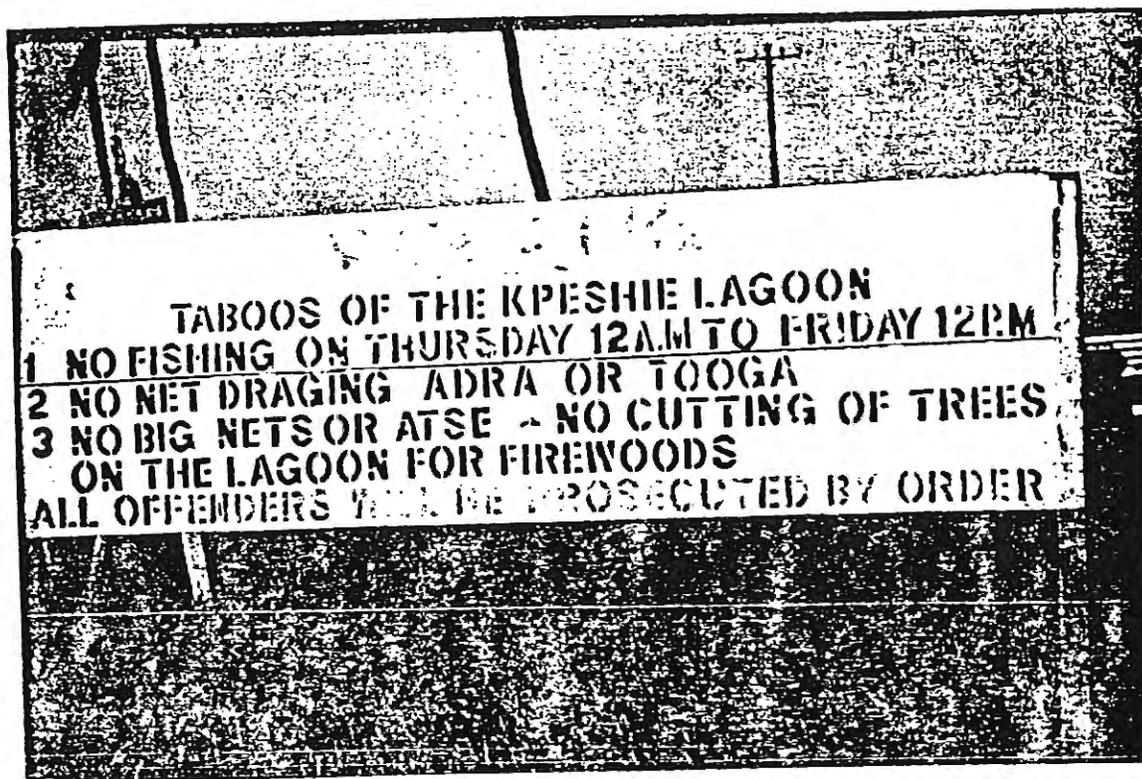


Plate 6. Local controls of resource use in a coastal lagoon in Ghana

3.3. IMPACT OF OTHER DEVELOPMENT ACTIVITIES ON THE INDUSTRY

3.3.1. Dam construction and operation

The collapse of the Keta lagoon shrimp industry has been attributed to the damming of the Volta river, which caused changes in the hydrology in the Lower Volta and the Ada estuary. This can not be proved due to lack of knowledge of conditions in this area before the dam was formed. It is true to say, however that the regularised flows have removed any seasonality in salinity and water level that could have acted as an environmental trigger for the shrimps. As shrimps require brackish water conditions to breed, retention of water by dams inland can have profound effects on recruitment to the marine standing stock as a result of changes in the salinity regime in the estuaries and lagoons.

3.3.2. Coastal protection works

There are a number of sites along the coast of Ghana where there is rapid erosion of land. The Keta area has suffered in this respect for years. In order to safeguard life and property a number of sea defence schemes have been put in action ²⁶. At present there has been limited success, so that increasingly ambitious projects are being suggested. Given that the shrimps use the interface between land, sea and freshwater to breed, it is possible that some of these schemes may destroy the fishery.

3.3.3. Agrochemicals, Eutrophication and Sediments

Two of the projects under TIP are geared at increasing exports in agricultural ²⁷ sectors. Activities in these sectors have implications on the shrimp and prawn sector. The increased and indiscriminate use of pesticides such as herbicides and insecticides can have lasting and significant effects on water quality in both rivers and the coastal lagoons. Poor farming practices and the rampant cutting of timber and fuel woods (eg mangroves in coastal wetlands Plate 7) has increased rates of soil erosion in many river catchments, not only destroying valuable top soil, but increasing the sediment load of the rivers that feed the various lagoons bringing the danger of their silting up. Fertiliser runoff can cause eutrophication of the lagoons and in extreme cases completely wipe out all but a very few specialised form of life ²⁸.

3.3.4. Industry

Industrial effluents and Pollution incidents

The effluents from gold mining and processing in the west of the country enter the river Ankobra and reach the sea in the area of the main shrimping grounds. These effluents contain arsenic and cyanide as well as quantities of suspended solids. The occurrence of tar balls (Plate 8) along the beach arising from oil spillage out at sea are a cause for concern as well as are inland spillage's such as the Akosombo Textile Ltd. spill which polluted the Volta river.

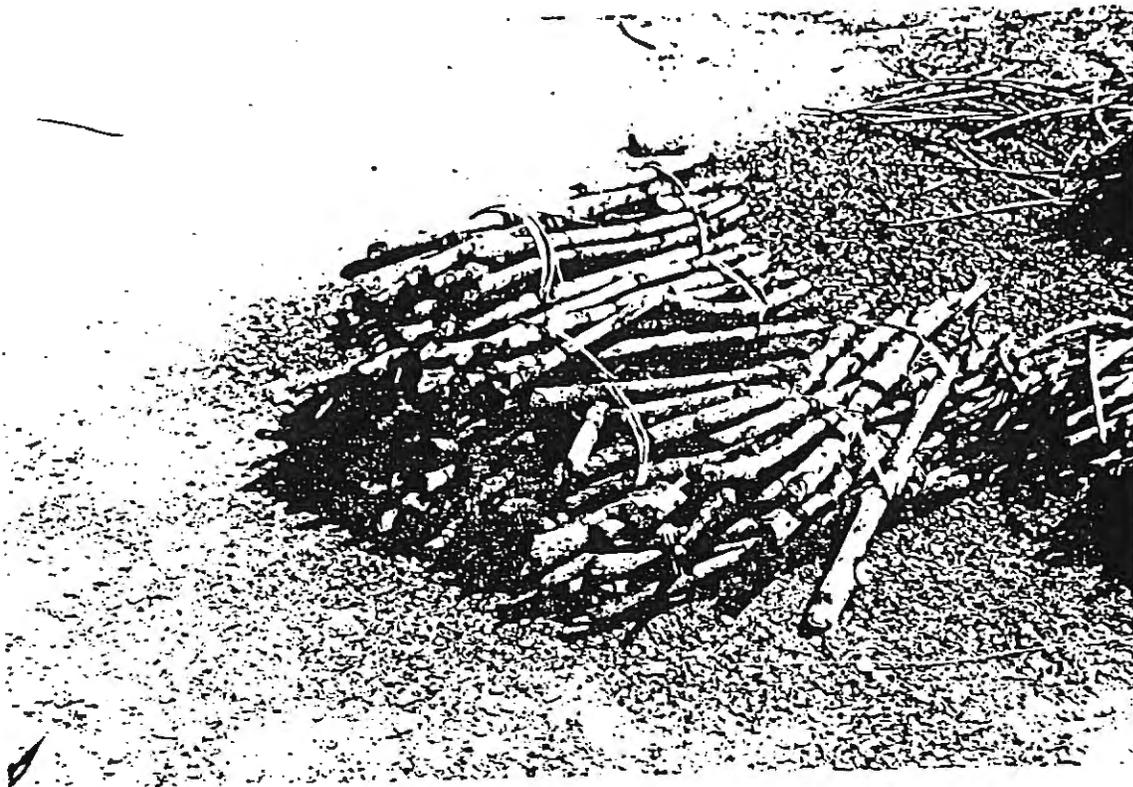


Plate 7. Pile of mangrove cut as fuel wood displayed by the Keta road



Plate 8. Tar balls on the beach near the mouth of the River Volta

Salt Mining

Under the TIP, increase in exports of salt²⁹ has been identified as a program activity. This activity, to be carried out at Songor lagoon is not incompatible with the activities in the prawn and shrimp sector. The dual use of primary concentration reservoirs for salt and shrimp production is feasible, even the more saline pans could be used for the production of brine shrimp which is required as feed for the young stages of shrimp. However the design and layout of the salt pan complex could also be done in such a fashion that it would reduce the value of the area to fisheries.

3.3.4. Human Settlement

Sanitation

The coastal plain of Ghana is the most densely populated area of the country, and the disposal of human wastes has become a critical issue especially around urban centres such as Accra and Tema. Some of the coastal lagoons have become recipients of sewage (eg. Korle, Sakumo) and are grossly polluted or hypertrophic. The effect this situation has on the shrimp population is bound to be negative. The Government of Ghana is aware of the problem and is exploring ways in which the situation can be improved. Unfortunately some of the proposed solutions involve the dumping/piping of sewage into the sea. In a worst case scenario, this could have direct effects on the stocks of shrimp and lobster out at sea and also their acceptability on the world market if they were to become contaminated by coliform bacteria from the sewage plume.

4. ENVIRONMENTALLY SOUND DEVELOPMENT OF THE INDUSTRY

4.1. POLICY LEVEL

4.1.1. Legislation and Enforcement

The requirements for development of shrimp and prawn as an export have been described elsewhere^{30, 31, 32}. The growth of this sector can only succeed if the activities are sustainable in the long term. The immediate concern of the government and of the industry should be the mitigation of environmental damage so as to protect stocks. The Environmental Protection Council³³ has prepared a National Environmental Policy (NEP) document which presents all the required actions. These include restructuring of the EPC, a revised conservation policy, legislation for coastal zone management and the establishment of a water resources commission. There is a need for the actions under the NEP to be implemented swiftly. The fish stocks are protected by the Fisheries Decree (1972) and Fisheries (Amended) Regulations of 1984. Ghana is also signatory to the Ramsar Convention which places an obligation to protect wetlands especially those of importance to birds. Though there are no legal instruments specifically controlling the discharge of sewage and effluents into the marine environment and the abstraction of water from the environment³⁴ - the overall legal policy agenda for the environment is being sufficiently addressed by government. The problem is

legal instruments specifically controlling the discharge of sewage and effluents into the marine environment and the abstraction of water from the environment³⁴ - the overall legal policy agenda for the environment is being sufficiently addressed by government. The problem is with the observance and enforcement of the laws/regulations. This can only be addressed by institutional strengthening and education of the concerned groups. New laws and regulations, for example - on minimum exportable sizes of lobster, will only serve to drive the illegal trade further underground.

4.2. STATUS OF THE RESOURCE/ENVIRONMENTAL CARRYING CAPACITY

The Fishery Department, has rightly been very cautious in allowing vessels to operate in the sector. This is because of lack of knowledge on the available stocks. Following their recommendations³⁵ the number of vessels should not exceed ten, until stock assessment data indicate a review of fleet size. It must also be pointed out that such a study may result in a recommendation that the current fleet size should be reduced. The gear used by the shrimpers should be standardised and mesh regulations strictly enforced. The recommendation that areas around estuaries and lagoon entrances should be adopted, as should the recommendation on a closed season (February to March and August to October).

There is a need to have greater protection and management of coastal habitats so as to conserve their productivity and value to coastal communities. The EPC has commissioned the preparation of a Coastal Zone Indicative Management Plan, which assesses the policies and presents in detail the actions that must be implemented so as to preserve the environmental carrying capacity of the area.

4.3. INSTITUTIONAL ISSUES/ENVIRONMENTAL POLICY REFORM

4.3.1. Institutional linkages

At present there are six main groups of organisations interested in the shrimp sector and there is an urgent for the establishment of some sort of formal dialogue between them so that exchange of views can take place and possible conflicts can be resolved as early as possible within any planning or implementation activity. The governmental bodies are the Ghana Export Promotion Council, The Fisheries Department of the Ministry of Agriculture and The Environmental Protection Council. The non-governmental organisations are the association of exporters, the canoe fishermen association, and local environmental pressure groups. There will have to be greater co-operation and communication between all these organisations. Either the EPC or the GEPC could set up a committee to act as a forum for the sector, this would be in addition to the Annual Environment Conference/Workshop suggested in the IEE to review TIP impacts and will thus provide a mechanism for feedback to government for Environmental Policy Reform.

4.3.2. Institutional strengthening

A primary requirement for the success of the TIP program is the training of manpower. The twenty projects outlined in Appendix C should be linked to the development of local skills in environmental monitoring and fishery biology. This training must be carried out at all levels and with the following target groups; Fishermen, Exporters, Fisheries Department, Environmental Protection Council and the University of Ghana. It is expected that USAID will identify American institutions to which local institutions can be affiliated for staff training using the projects given. This may be in the form of staff exchange visits, short courses run both here and in America as well as higher degrees for professional staff. The information generated by the projects and the manpower development will improve the predictive and analytic capabilities in the sector.

4.4 MONITORING PROGRAM AND INDICATORS

The IEE suggests the use of an Environmental Monitoring, Evaluation and Mitigation Plan (EMEMP) to control the direction of the TIP program. The projects presented in Appendix C should address this issue, within these projects there are a number of key environmental indicators that will be monitored. These are, (project numbers in bold):

Coastal Processes **2.1.**,

Sediment Budgets; river sediment loading, long shore drift
Beach profiles

Marine Fishery Resources **1.1., 1.2., 1.3., 1.5, 1.7, 1.8.**

Size spectra of shrimps, lobster and prawns
Biomass of landed product
Movement/migration of stocks
By-catch

Coastal Ecosystems **1.5, 1.7., 1.8., 2.1., 2.2., 2.3., 2.4.**

(Lagoons, Estuaries, Salt marshes, Wetlands and Mangroves)

Hydrology; water budgets, sediment transport

Limnology; pH, colour and transparency, salinity, dissolved gases, sediments, ionic proportions, nutrients, Biological Oxygen Demand

Ecology of major groups: algae, macrophytes, zooplankton, benthos, fish, amphibians and reptiles, birds and mammals

Pollution **2.1., 2.3., 2.5.**

Petrochemicals; tarballs, oil slicks

Organochlorides; pesticides, industrial wastes

Heavy metals and traces elements

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APPENDIX B.: COMMERCIAL SHRIMP, LOBSTER AND PRAWN SPECIES FOUND IN
GHANA (from Ofori-Adu, 1988 and Gordon, 1989)

PENAEIDAE (Marine shrimps)

1. *Penaeus notialis*
Penaeus duorarum
Penaeus brasiliensis
Pink Shrimp
2. *Penaeus kerathurus*
Penaeus trisulcatus
Penaeus caramote
Caramote prawn
3. *Parapenaeus longirostris*
Deep-water rose shrimp
4. *Parapenaopsis atlantica*
Guinea/Tiger shrimp

PALINURIDAE (Craw fishes/Lobsters)

Panulirus regius
Panulirus rissoni
Royal spiny lobster

SCYLLARIDAE (Squat lobsters)

Scyllarides herklotsii
Red Locust lobster

SOLENOCERIDAE (Solenocerid shrimps)

Solenocera africana
Solenocera membranacea
African mud shrimp

PALAEMONIDAE

Nematopalaemon hastatus
Estuarine prawn
Macrobrachium vollenhovenii
Macrobrachium macrobracion
Brackish water prawn

APPENDIX C. RESEARCH NEEDS AND PROJECT OUTLINES

The following briefly summarises the information requirements and projects for environmental monitoring and mitigation that would need external assistance along with independent action by the Government of Ghana for the sustainable development of the shrimp, lobster and prawn export sector. "University of Ghana" listed below represents the Volta Basin Research Project, and the Departments of Zoology/ Fisheries and Oceanography.

1. Project area Evaluation of the Resource Base

1.1. Project Title: Stock Assessment of Shrimp, Lobster and Prawn in Ghana

Implementing Agency: Fisheries Department (MoA); Universities of Ghana and Rhode Island

Immediate Objective: Develop realistic projections of the maximum sustainable yield of shrimp, and lobster, linkage with the FAO/CECAF decapod survey

Inputs/Time frame: US \$ 300,000 3-4 years

1.2. Project Title: Artisanal landings of shrimp and prawn in Ghana

Implementing Agency: Fisheries Department (MoA); Universities of Ghana and Rhode Island

Immediate Objective: Assessment of the species, quantity, sizes and quality of shrimp landed by canoe fishermen, as well as where they are landed.

Inputs/Time frame: US \$ 80,000 3 years

1.3. Project Title: By-catch of trawlers operating in Ghanaian waters

Implementing Agency: Fisheries Department (MoA); Universities of Ghana and Rhode Island

Immediate Objective: Assess the quantities of by-catch, especially turtles and marine mammals caught by trawlers off the coast of Ghana.

Inputs/Time frame: US \$ 20,000 3 years

1.4. Project Title: Gear development for shrimp and lobster

Implementing Agency: Fisheries Department (MoA), GEPC, EPC and University of Ghana

Immediate Objective: To improve the selectivity of fishing methods used so as to avoid non-target species.

Inputs/Time frame: US \$ 40,000 2 years

1.5. Project Title: The biology and ecology of penaeid shrimps in Ghana

Implementing Agency: University of Ghana

Immediate Objective: To determine the breeding requirements, population and migration patterns of shrimps.

Inputs/Time frame: US \$ 40,000 4 years

1.6. Project Title: Culture and economic potential of penaeid shrimps in Ghana

Implementing Agency: University of Ghana

Immediate Objective: To investigate the feasibility of developing shrimp culture in Ghana and the suitability of the local species.

Inputs/Time frame: US \$ 50,000 3 years

1.7. Project Title: Biology and ecology of freshwater prawns

Implementing Agency: University of Ghana

Immediate Objective: To determine the breeding requirements, population and migration patterns of prawns.

Inputs/Time frame: US \$ 40,000 4 years

1.8. Project Title: Biology and ecology of palinurid lobsters

Implementing Agency: University of Ghana, Fisheries Department (MoA)

Immediate Objective: To determine the breeding requirements, population and migration patterns of lobsters.

Inputs/Time frame: US \$ 80,000 4 years

1.9. Project Title: Design of low-cost iceboxes for shrimp transport using local materials

Implementing Agency: University of Ghana, Fisheries Department (MoA)

Immediate Objective: To design and construct a simple, cheap and efficient cold box for use by fishermen in their canoes, the small scale exporters and researchers.

Inputs/Time frame: US \$ 15,000 0.5 years

2. Project area Environmental Monitoring

2.1. Project Title: Limnology of Ghanaian Estuaries

Implementing Agency: University of Ghana, EPC

Immediate Objective: To assess the quality of estuarine waters to determine rates of eutrophication, pollution and sediment transport.

Inputs/Time frame: US \$ 200,000 3 years

2.2. Project Title: Biodiversity of the coastal lagoons of Ghana

Implementing Agency: University of Ghana, Save the Seashore Bird Project - Ghana, EPC

Immediate Objective: To prepare baseline faunal lists of species using coastal lagoons

Inputs/Time frame: US \$ 150,000 3 years

2.3. Project Title: Ecology of the coastal lagoons of Ghana

Implementing Agency: University of Ghana, University of Cape Coast

Immediate Objective: To examine the functional links between lagoons and their fauna.

Inputs/Time frame: US \$ 150,000 3 years

2.4. Project Title: Comparative studies on the marine benthos in trawled and non-trawled areas of the continental shelf

Implementing Agency: University of Ghana, Fisheries Department (MoA)

Immediate Objective: To assess the effects of trawling on benthos

Inputs/Time frame: US \$ 150,000 4 years

2.5. Project Title: Ecotoxicology of shrimps and prawns

Implementing Agency: University of Ghana, EPC

Immediate Objective: To assess the effects of pollutants found in Ghanaian waters on the biology, physiology and ecology of shrimp and prawn.

Inputs/Time frame: US \$ 100,00 3 years

3. Project area Mitigation measures and Human Issues

3.1. Project Title: Mangrove rehabilitation and restoration

Implementing Agency: Forestry Department, Botany Department (UG), EPC

Immediate Objective: To replant mangrove or its equivalent in deforested areas

Inputs/Time frame: US \$ 200,000 3 years

3.2. Project Title: Reintroduction of penaeid shrimp to the Keta lagoon

Implementing Agency: National Service Scheme

Immediate Objective: To attempt to establish breeding populations of shrimp in areas of the Keta lagoon where brackish water conditions have been recreated as a result of the dredging of the Volta mouth.

Inputs/Time frame: US \$ 75,000 4 years

3.3. Project Title: Role of Women in the processing and marketing of shellfish

Implementing Agency: National Council for Women and Development, Fisheries Department (MoA), Department of Food Science (UG), Institute of Statistical, Social and Economic Research (ISSER) (UG)

Immediate Objective: To quantify the role women play in the marketing of shrimp and to assess their methods of handling and processing.

Inputs/Time frame: US \$ 45,000 2 years

3.4. Project Title: Economic assessment of the value of lagoon fisheries

Implementing Agency: University of Ghana, ISSER (UG), Fisheries Department (MoA)

Immediate Objective: To measure incomes derived from lagoon fisheries and to estimate loss in means if local people were deprived of them.

Inputs/Time frame: US \$ 55,000 2 years

3.5. Project Title: Education program for fishermen/ exporters in the shrimp/lobster sector

Implementing Agency: Fisheries Department (MoA), Institute of Adult Education (UG), GEPC, EPC

Immediate Objective : To devise and administer an environmental education package so as to change attitudes and behaviour patterns on fishing in an environmentally damaging fashion. This would include a Newsletter for the Exporters

Inputs/Time frame : US \$ 250,000 4 years

3.6. Project Title: Assessment of traditional strategies for coastal resource protection

Implementing Agency: Institute of African Studies (UG), University of Ghana

Immediate Objective: To establish the effectiveness of local methods of resource protection, and how they can be strengthened by modern legislation.

Inputs/Time frame: US \$ 100,000 2 years

3.7. Project Title: Committee for the sustainable development of the shrimp industry

Implementing Agency: GEPC, EPC

Immediate Objective: To make provision for quarterly meetings by the identified groups in the sector in order to discuss issues and resolve possible conflicts

Inputs/Time frame: US \$ 20,000 5 years

3.8. Project Title: Annual Environmental Conference/Workshop

Implementing Agency: EPC

Immediate Objective: Provision of an open forum to conduct a yearly review of activities under the TIP program in order to assess changes that may need to be made to policy as results from the research projects.

Inputs/Time frame: US \$ 12,000 for each year of program operation

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ANNEX Y

AN ASSESSMENT OF THE GHANAIAN FOREST SECTOR

An Assessment of the Ghanaian Forest Sector

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Prepared for USAID/Ghana: Trade and Investment Program
June, 1992

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AN ASSESSMENT OF THE GHANAIAN FOREST SECTOR

1.0. INTRODUCTION

USAID has designed an US\$80 million Trade and Investment Program that is designed to assist the Ghanaian government to diversify its export base. The program aims to achieve this objective by providing assistance to the private sector that will enhance the ability of firms to compete in the international marketplace. One of the industries identified as having the potential to substantially increase exports are furniture manufacturers. It has been estimated by the Ghana Export Promotion Council that, as a result of TIP, furniture exports from Ghana could increase from their current level of US\$5.5 million per year to US\$44 million by 1995.

An increase in export activity of this size is bound to have an impact on the raw material base. Specific indicators for monitoring these impacts, as well as appropriate mitigation measures, have been presented in the environmental impact review included with the Program Assistance Authorization Document (PAAD). However, because of the concern regarding the impact of US foreign assistance program on the environment in developing countries, it is important to provide policy makers with a more general understanding of the forest resource in Ghana. To achieve this objective, this paper presents a background discussion concerning the state of the Ghanaian forest resource, current forest management practices, the demands of the timber industry with respect to the resource base and the export markets for Ghanaian tropical hardwood products.

2.0. THE GHANAIAN FOREST RESOURCE

The west African country of Ghana, formerly known as the Gold Coast, is located along the northern edge of the Gulf of Guinea. Bordered by Burkina Faso to the north, Cote d'Ivoire on the west and Togo on the east, Ghana's land area totals approximately 238,000 km² while the population is estimated to be approximately 14.5 million.

The climate in Ghana varies from semi-arid in the north to tropical in the south-west. The northern third of Ghana is comprised of Guinea savannah-woodlands, where annual rainfall seldom exceeds 900mm. The northern savannah-woodlands gradually give way to a woodland-forest mosaic in the central and eastern regions of the country. The southwestern third of the country is located within the tropical forest zone where annual rainfall exceeds 2,000mm (Martin, 1991).

Traversing through the rainforest zone from the north towards the coastal region in the southwest, the tropical rainforest zone is comprised of several different vegetation types. Dry semi-deciduous forest forms a band around the perimeter of the region in the north and east where the Guinea savannah woodland-forest mosaic meets the rainforest zone. The dry semi-deciduous forest habitat is associated with the *Antiaris-Chlorophora* species composition. Annual rainfall in this forest zone ranges from 1,000mm to 1,500mm.

The dry semi-deciduous forest successively gives way to moist semi-deciduous forest, moist evergreen forest and wet evergreen rainforest zones (Hall and Swaine, 1976; Martin, 1991). The moist semi-deciduous forest zone is associated with the *Celtis-Triplochiton* species composition and annual rainfall in this zone ranges from 1,200mm to 1,750mm. The moist evergreen forest zone is regarded as a transitional zone between rainforest habitat and the dryer semi-deciduous forest zones. The characteristic species in this forest zone are *Lophira-Triplochiton* and annual rainfall ranges from 1,500mm to 1,700mm. Located at the southwestern corner of the country, the wet evergreen rainforest zone is associated with the *Cynometra-Lophira-Tarrietia* species composition. Annual rainfall is highest within this forest zone, typically exceeding 1,750mm.

It is estimated that at the beginning of the nineteenth century the forest resource in Ghana covered 88,000 km², approximately 40% of the total land area of the country. Logging and agricultural activity during the colonial period resulted in a halving of the forest resource (to 42,000 km²) by 1950. As a result of continued deforestation, the rainforests of Ghana are currently estimated to total just 19,000 km². In addition, a recent inventory of the forest resource indicates that there is virtually no primary rainforest remaining in Ghana.

2.1. The Forest Reserve System

Traditionally, land in Ghana was communally owned by the village and administered by the village chief. However, in 1911 the Forest Ordinance Law was passed giving the Forest Department the authority to establish forest reserves. Despite facing strong opposition by tribal authorities, by 1939 the Forest Department had incorporated 1.6 million hectares into the forest reserve system (Asabere, 1986). The forest reserve system is constituted of 252 individual forest reserves of varying size as well as an undetermined number of unreserved, or open, forest areas. The fragmented nature of the forest reserves presents a unique challenge in the management of the forest resource.

The forest reserves of Ghana are classified as production forests or protection forests, Table 1. Production forests are managed on a sustainable basis for the production of both traditional and non-traditional forest products. Protection forests are usually located in ecologically sensitive areas (ie: streamsides, steep slopes and areas of particularly fragile soils) and the extraction of logs is prohibited. In addition, wildlife reserves have been established throughout the country to preserve and protect the fauna and these reserves are protected from exploitation. Finally, forest land that has not been incorporated into the forest reserve system is classified as open forestland. Open forestland is not subject to a forest management plan and has been designated for eventual conversion to agricultural end-uses.

Table 1. The forest resource in Ghana in 1990.

		Area (km ²)
Total land base	238,000	
High forest zone	88,000	
Forest reserves (252)	24,709	
Rainforest reserves	15,913	
Production		11,590
Protection		4,323
Savannah reserves	8,796	
Production		515
Protection		8,281
Wildlife reserves (13)	12,100	
Open (unreserved) forest	3,740	

2.2. Preliminary Results of the Forest Inventory

The Forestry Department, with the support of the British Overseas Development Authority, has been conducting an inventory of the forest resource. This inventory, which will eventually cover both the reserved forest as well as the unreserved open forest, is expected to be completed by 1993. By early 1989 almost 550,000 hectares of forest had been inventoried.

The preliminary results of the forest inventory indicate that the standing volume of merchantable timber in Ghana totals 188 million m³, located almost exclusively within the rainforest zone, Table 2. A summary of the inventory results based on species classifications indicates that the Forest Inventory Project (FIP) class 1 species represent over three-quarters of the volume of inventoried species, Table 3. FIP class 1 species are those timber species that have been exported from Ghana at least once since 1973, Appendix A. FIP class 2 species, while never having been exported from Ghana, were found to attain diameters exceeding 70cm and occurring within the forest at a density exceeding one tree per kilometer, indicating a potential for exploitation (Appendix A). All other species, which do not attain a diameter of 70cm or do not occur within the forest with a density exceeding one tree per kilometer, were identified as FIP class 3 species.

Table 2. Summary of the Ghanaian forest inventory by region.

Region	Production forest (km ²)	Estimated volume (million m ³)	Volume of class 1 species >70 cm (million m ³)
Eastern	872	13	6
Central	1,228	22	9
Western	5,134	88	42
Ashanti	2,340	36	19
Brong-Ahafo	2,016	29	14
Total	11,590	188	100

Source: Preliminary results of the forest inventory, 1989.

Table 3. Summary of the Ghanaian forest inventory by species classes.

		Volume, (million m ³)	Percent of total
diameter:			
30-70 cm	FIP Class 1	54.5	28.9
	FIP Class 2	23.4	12.4
	FIP Class 3	9.4	5.0
>70 cm	FIP Class 1	89.7	47.5
	FIP Class 2	11.1	5.9
	FIP Class	0.6	0.3

Source: Preliminary results of the forest inventory, 1989.

The most abundant species in the Ghanaian forest reserves are summarized in Table 4. These species, which represent 59% of the standing volume, are all FIP class 1 species. However, most of these species, with the exception of the *Entandrophragma* species, are lesser-known species. It should be noted that the inventory only included those trees that exhibited marketable form and quality. As a result, the inventory results tend to underestimate the volume of timber present in the forest.

Table 4. Most abundant timber species in Ghana.

Species	Local name	Volume (million m ³)
<i>Triplochiton scleroxylon</i>	Wawa	28.2
<i>Celtis</i> spp.	Celtis/Esá	22.6
<i>Ceiba pentandra</i>	Ceiba/Onyina	15.0
<i>Piptadeniastrum africanum</i>	Dahoma	11.3
<i>Terminalia superba</i>	Ofram	7.5
<i>Entandrophragma</i> spp.	Edinam/Sapele/ Utile/Condolleii	5.6
<i>Antiaris toxicaria</i>	Kyen-Kyen	5.6
<i>Nesogordonia papaverifera</i>	Danta	5.6
<i>Pycnanthus angolensis</i>	Otie	5.6
<i>Petersianthus macrocarpus</i>	Esia	3.8
Other species		77.1

Source: Preliminary results of the forest inventory, 1989.

The preliminary results of the inventory, in conjunction with growth data from permanent research plots and timber harvest data, provided a basis for calculating the estimated resource life of a number of timber species, Table 5. The analysis was limited to only those species for which growth data was available. The results of the analysis indicate that many of the traditional export species, particularly the *Entandrophragma* species, Odum and Mahogany, are being seriously overcut. Each of these species is being harvested at a rate that substantially exceeds its rate of growth. Several other lesser-known species such as Dahoma, Kyen-Kyen and Avodire could be harvested at higher levels of intensity without posing a threat to the resource base.

Table 5. Estimated resource life for some commercial timber species.

Species	Girth Limit	Resource > GLimit (m ³)	Annual growth (m ³ /yr)	Rate of extraction (m ³ /yr)	Resource life (years)
11 feet					
Odum		1,408,000	28,650	172,983	10
Edinam		468,000	7,155	33,167	18
Mahogany		692,000	31,488	66,877	20
Utile		465,000	8,081	31,891	20
Sapele		702,000	13,496	41,135	25
7 feet					
Hyedua		154,000	1,966	10,620	18
Guarea		524,000	4,592	10,972	82
Danta		1,254,000	10,098	24,787	85
Wawa		26,356,000	135,779	366,064	114
Mansonia		695,000	2,753	5,830	226
Dahoma		5,254,000	75,569	14,915	*
KyenKyen		3,726,000	33,331	14,801	*
Avodire		2,365,000	13,548	269	*

* Rate of growth exceeds rate of felling (Alder, 1989).

On the basis of growth data obtained from research plots and a growth simulation model (GHAFOSIM), the annual growth increment of the forests in Ghana is estimated to be 4 m³/ha/yr. The growth simulation model estimates that an allowable annual cut of 1.25 m³/ha/yr could be maintained on a sustainable basis (Alder, 1989). With a productive forest area estimated at 1,159,000 hectares, the annual growth increment for the productive forests would be 4,636,000 m³. As a result, the annual allowable harvest in Ghana would be approximately 1,400,000 m³ (Nolan, 1989).

The timber harvest in Ghana during the period 1970-1990 is displayed in Figure 1. It can be seen that from 1970-1977 the timber harvest exceeded the annual allowable cut. However, since 1978 the annual timber harvest has generally fallen below the allowable harvest limit. Two factors that relate to the volume of timber harvested in Ghana should be noted. First, the volume of timber harvested has been increasing since 1981 and is fast approaching the allowable cut limit. Equally important is the fact that the volume of forest waste, as well as felling damage to remaining trees, is not included in the annual harvest volumes. The inclusion of these volume losses into the annual harvest data is essential to obtain an accurate assessment of the total annual harvest obtained from the Ghanaian forest as well as the impact of harvest operations on the forest resource base.

3.0. FOREST MANAGEMENT SYSTEMS EMPLOYED IN GHANA

Several forest management systems have been implemented in Ghana over the past 45 years. The forest management systems utilized include: the tropical shelterwood system, enrichment planting, the modified selection system and the girth limit system. Each of these systems will be briefly described below.

The tropical shelterwood system (TSS) was introduced into Ghana in 1946 following its successful development and implementation within the tropical moist forests of Malaysia. In TSS the lower canopy of the forest is raised from about 4.6m to 15.2m by the cutting of lianas, removal of unwanted understory species and poisoning of larger trees of undesirable species in the middle and upper canopies. The objective of the TSS is to encourage the growth of seedlings and saplings of the highly desirable commercial timber species.

An evaluation of TSS after twenty years of implementation yielded disappointing results and the system was discontinued in the mid-1960's. The results indicated that the costs of TSS exceeded the additional revenues produced while regeneration of the prime timber species was found to be less vigorous than that of the competing species, forming only six to ten percent of total regeneration.

A system of enrichment plantings was performed during the same period of time as the TSS was being evaluated. The timber species selected for enrichment planting were primarily indigenous species and included *Khaya ivorensis*, *Entandrophragma utile*, *Entandrophragma angolense*, *Tarrietia utilis*, and *Lovoa trichilioides*. Under this system, lines of forest were cleared and two year-old saplings were planted at intervals of 5m. Periodic clearing of the lines reduced competition from weed species and helped to further open the canopy of the forest.

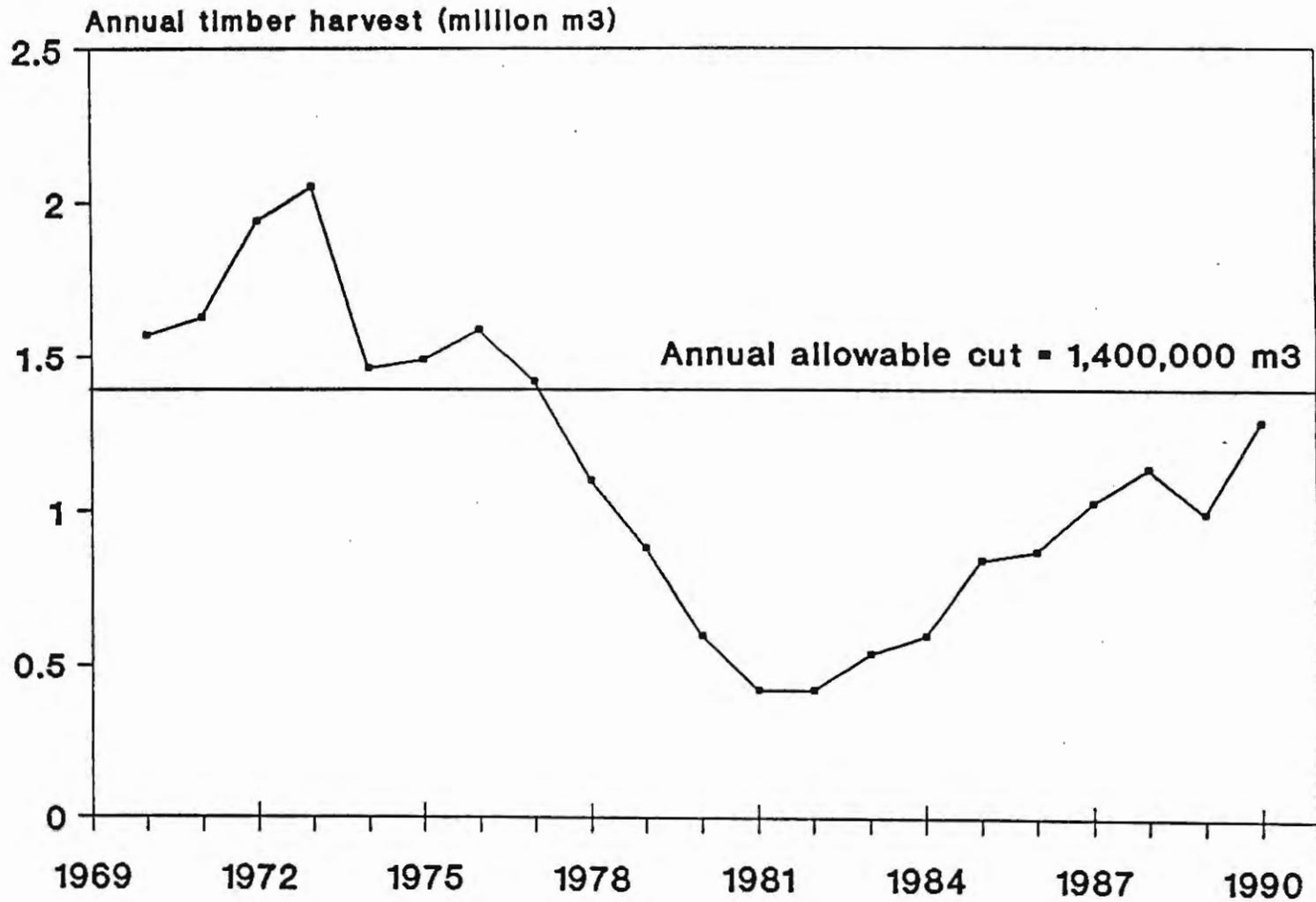


Figure 1. Volume of timber harvested in Ghana, 1970-1990.

Enrichment planting proved to be extremely expensive because of the necessity of keeping the lines cleared of competing vegetation and the system was abandoned in the early 1960's. In addition, nursery costs were found to be higher than expected, further reducing the cost effectiveness of this system.

From 1956 to 1970 the modified selection system (MSS) was employed to manage the Ghanaian forests. Under this system stock maps were developed to identify the location of all trees of the primary timber species with a girth exceeding 2.1m. On the basis of these maps, a thinning exercise was carried out aimed at reducing the competition faced by trees of the primary timber species in the .3m to 1.5m girth class. Lianas and vines were cut while trees of non-commercial species were frill girdled and poisoned with sodium arsenite. The objective of MSS was to help ensure that the commercial species reached maturity as quickly as possible while reducing competition from other less desirable timber species.

Under MSS the forests were managed on the basis of a 25 year rotation. Prescribed yields were established for each forest reserve to ensure the sustainability of the forest resource. The yield of each compartment being harvested was determined by identifying the largest trees and progressively working down in size until the prescribed yield was obtained. Inevitably, many large, mature trees were left in the forest following the removal of the trees felled during the prescribed harvest, resulting in much resistance from the timber industry.

Critics of the MSS management system argued that the bulk of the harvest was obtained from the larger, overmature girth classes (4m and over) and, as a result, many mature trees were not included in the harvest schedule. These critics, primarily members of the timber industry, charged that the mature trees left behind in the forest would become overmature and begin to decay before the next entry were allowed into the compartment. As a result of political pressure applied by the timber industry, the modified selection system was abandoned and a girth limit/salvage system was adopted.

Under the girth limit system the rotation period was reduced from 25 years to 15 years. In addition, minimum girth limits were established for each class of species. All trees within the forests reserves that exceeded these minimum girth limits could be felled. The only condition attached to the industry required that a specific volume of FIP class II and III species (equivalent to 30% of the volume of class I species harvested) had to be harvested before the concessionaire could move into the next compartment. This system was originally scheduled to be implemented for a period of 15 years starting in 1970. At the end of this 15 year period, all overmature trees were expected to have been harvested from the forest and the modified selection system would again be utilized in the management of the forests. However, at the present time the

girth limit system is still being used to manage the forests in Ghana.

4.0. TIMBER CONCESSION POLICY IN GHANA

The awarding of timber concessions in Ghana is administered by both the Forestry Department and the Ministry of Lands and Natural Resources. The process of applying for a concession is extremely time consuming and usually exceeds one year and involves over 12 different steps in the approval process.

In the early 1960's timber concessions were awarded on a 30 to 50 year basis with very few restrictions being applied. However, since 1975 timber concessions have generally been awarded on a 15 year basis and Ghanaian citizenship is a requirement to being awarded a timber concession. The size of timber concessions has also been declining since 1975.

Concession owners are required to pay a variety of royalty and licensing fees to operate their concession. Each concessionaire must pay an annual licensing fee based on the size of his concession. The concessionaire is also required to obtain a property mark which must be placed on each log harvested. In addition the concessionaire is required to pay a royalty fee for each tree harvested from the concession. This fee is applied on a per tree basis rather than on a volumetric basis and a different rate is applied for each species. The royalty fee varies from US\$6.50/tree for a high value species like Afrormosia to US\$1.16/tree for a low value species such as Wawa. Finally, a reforestation fee of US\$1.00/m³ is collected from all forest products exported.

A recent study on the timber concession system observed that no single administrative agency maintained overall supervision of the concession system. As a result, records on timber concessions are maintained by several departments, complicating the administration of timber concessions. In addition, the study noted the following problems:

- 34% of timber concessions were inactive
- 31% of concessionaires had not renewed their property marks
- Third party felling agreements were commonplace
- Over 5,000 km² of concessions were observed to have farming activities occurring over more than 50% of their area
- The average felling cycle had decreased from 35 to 15 years

- 68% of concessions were too small to be managed in a sustainable manner
- Only 14% of timber mills possessed adequate concession holdings
- Many concessions had been awarded to people who did not possess harvesting equipment and, presumably, little harvesting experience.

As a result of this study, and the forest inventory, the government has suspended the awarding of new timber concession until a new concession policy can be developed and implemented.

5.0. TROPICAL TIMBER EXPORTS AND MARKETS

5.1. The Ghanaian Timber Industry

The timber industry consists of 177 logging operations, 92 sawmilling operations and 12 veneer slicing operations in 1991 (FPIB, 1992). The majority of the sawmills and veneer mills are located in and around the city of Kumasi. A second, smaller, group of timber processors are situated around the port city of Takoradi, located in the southwest corner of Ghana.

Firm size within the timber industry (based on value of exports) is very heterogenous, ranging from US\$7.85 million to US\$4,500. In 1991 there were 22 firms with exports exceeding US\$2 million while 58 firms had exports of less than US\$25,000. The timber industry is a primary employer of labor in Ghana. It has been estimated that the timber industry, including furniture manufacturers, provides direct employment to over 250,000 people, while providing indirect support to approximately 2 million people (TEDB, 1988).

Entry and exit barriers within the industry are quite low, particularly for the smaller, less capital intensive operations. As a result, the number of small timber firms operating tends to follow economic trends. For example, following almost a decade of poor economic conditions, the number of log exporters totalled just 95 in 1985 (less than one quarter the number that were operating in 1975), while the number of sawmills totalled just 49 (approximately half the number operating in 1975). As the Ghanaian economy improved and demand for tropical hardwood products increased, the number of logging operations rose to 351 by 1988 before dropping off to 177 in 1991. The number of sawmills increased to 118 in 1990 before dropping to 92 in 1991 (FPIB, 1992).

5.2. Ghanaian Tropical Timber Exports

The Ghanaian timber industry represents an important industrial sector within the domestic economy. In 1991, the timber industry contributed 5% of the gross domestic product. More importantly, foreign exchange earnings from timber exports in 1991 totalled US\$113.4 million, accounting for approximately 12.7% of Ghana's total foreign exchange earnings (FPIB, 1992). The export of forest products ranked third in foreign exchange earnings behind cocoa (US\$320.1 million) and gold exports (US\$300.7 million).

The timber industry is heavily skewed towards the production and export of low value-added products. In 1991 the export of unprocessed logs represented 28% of total exports while lumber and sliced veneer represented 52.8% and 10%, respectively. Exports of higher value, further processed products represented less than 10% of timber exports, while exports of furniture and furniture parts provided just 3.7% of total exports. While these figures indicate a lack of investment in further processing facilities and equipment, they also indicate that the marketing capability of the industry appears to be very underdeveloped.

This conclusion is further supported by the fact that Ghanaian exports of tropical timber products are highly concentrated in a small number of countries, Table 6. Most Ghanaian exporters do not have a relationship with the end-user of their products. Rather, most timber from Ghana is imported into Europe by agents who then distribute these products to end-users. This method of distribution separates the producer from the end-user of his product and restricts his access to market information, reducing his ability to effectively compete in these markets. As a result, Ghanaian producers have been unable to develop a thorough understanding of market conditions and the competitive forces in Europe.

From Appendix A it can be seen that there are over 120 timber species that have the potential for utilization by the timber industry. However, the summary export statistics for the year 1991 indicate that the vast majority of tropical timber exports from Ghana consist of a very small number of species, Table 7. This situation emphasizes the fact that the industry has been unable, for whatever reasons, to effectively promote the large number of lesser-known/lesser-used species that are found in the Ghanaian forest. However, it is essential that these species begin to be utilized in order to reduce the rate of exploitation of the more traditional species and to ensure that the forest is managed in a more sustainable manner.

Table 6. Principal markets for Ghanaian timber exports, 1991.

Product Category	Principal Markets	Volume of Exports (m)	Percent of Total Exports
Logs:	Germany	119,876	55.64
	Italy	32,086	14.89
Lumber:	Germany	43,763	23.96
	UK	24,157	13.23
	Holland	20,588	11.27
	Ireland	18,006	9.86
	Burkina Faso	15,013	8.24
Sliced Veneer:	Germany	4,892	37.14
	Italy	4,499	34.16
	UK	2,666	20.24
Furniture/Parts:	UK	1,564	83.15

FPIB Timber Export Report, 1992.

Table 7. Principal species for Ghanaian timber exports, 1991.

Product Category	Principal Species	Volume of Exports (m)	Percent of Total Exports
Logs:	Wawa	119,063	55.27
	Koto/Kyere	15,708	7.29
	Otie	12,018	5.58
	Albizzia	11,396	5.29
Lumber:	Wawa	98,506	53.93
	Odum	26,285	14.39
	Mahogany/Khaya	15,077	8.25
Sliced Veneer:	Asanfona	5,980	45.85
	Makore	1,881	14.43
	Koto/Kyere	1,647	12.64
	Sapele	1,365	10.48
Furniture Parts:	Odum	897	45.21
	Mixed Red Woods	495	24.95
	Afrormosia	314	15.83

FPIB Timber Export Report, 1992.

5.3. Export Levies and Restrictions

The Ghanaian government has indicated that the export of unprocessed logs will eventually be banned completely. There is currently a ban on the export of 18 traditional timber species in log form (Appendix B). Four other species are subject to a forest improvement levy that ranges from 40%-50%. The aim of these policies is to encourage the further processing of the traditional timber species while providing an incentive to develop markets for the lesser-known timber species by exporting them in log form. Another policy aimed at promoting further processing is the export retention system for foreign exchange. An exporter may retain only 5% of the FOB value in an offshore account for log exports while this limit is increased to 20% of FOB value for sawnwood exports.

The government has also imposed a 50% forest improvement levy on the export of sawn lumber from several traditional species. These species include Odum, Afrormosia, Utile and Hyedua. All of these species exhibit very low stocking levels due to over-exploitation and the levy is intended to reduce pressure on these species. In addition, the government has announced that the export of green and air-dried lumber will be banned by January, 1994. All lumber exports will need to be kiln-dried after that time. This policy may be difficult to implement considering the fact that the current dry kiln capacity in the country can only handle a small percentage of current sawnwood export volumes.

5.4. Regulatory and Monitoring Agencies for the Timber Industry

The timber industry in Ghana is monitored and regulated by two public entities, the Timber Export and Development Board (TEDB) and the Forest Products Inspection Bureau (FPIB). The Timber Export and Development Board was established in 1985 under PNDC Law 123. TEDB is a public marketing board responsible for overseeing the promotion and export of forest products from Ghana. TEDB has been charged by the government with establishing minimum product prices based on current European prices for similar products produced in neighboring west African countries.

Timber export contracts must be submitted to TEDB for approval of contract prices. Export contracts that do not meet the minimum price levels are returned to the firm and must be renegotiated prior to receiving export approval. TEDB's operational funds are derived through a one percent tax levied on the FOB value of the export contract and payable in foreign currency.

The Forest Products Inspection Bureau (FPIB) was established in 1985 under PNDC Law 117. FPIB has been mandated with monitoring the harvest of logs from the forest reserves. In addition, FPIB is also charged with inspection of all timber shipments to ensure that the product being shipped corresponds to the product specified on the export invoice in both volume and value. FPIB receives its

operating budget from a two percent tax levied on the FOB value of the export contract and payable in the local currency, the cedi.

6.0. CONCLUSIONS AND RECOMMENDATIONS

The Ghanaian government has taken a range of steps in an effort to sustainably manage their tropical forest resource. These steps include the implementation of the forest inventory project, the development of a new timber concession policy, increasing the rotation cycle from 15 years to 40 years and the implementation of policies aimed at promoting the use of the lesser-known timber species. However, despite these steps there are several areas of concern that need to be addressed to ensure that the forests of Ghana can continue to be utilized on a sustainable basis in the long-term.

- Current harvest levels in the Ghanaian forest are very near the annual allowable cut estimated from the forest inventory. Increased demand for raw materials from the forest may result in harvest levels that are not sustainable in the long-term.
- Harvest volumes do not take into account defective logs which are left in the forest and felling damage to adjacent trees during harvest operations. Estimation of this damage is necessary to implement sustainable forest management policies.
- Far too much emphasis is being concentrated on the few traditional timber species. Given current rates of exploitation, the supply of many of these species could be exhausted within the next thirty years. The timber trade should be encouraged to develop markets for the lesser-known timber species.
- Over-emphasis on the traditional timber species has the net result of reducing the genetic diversity of the forest and leads to 'creaming' of the forest. This practice leads to the degradation of large areas of forest and results in excessive numbers of logging roads being constructed. These roads in turn contribute to soil degradation and provide shifting agriculturalists with access into the forest.
- The current practice of charging royalties for logs on a per tree basis is inefficient and difficult to implement. Royalties should rather be based on a per cubic meter basis.
- The new concession policy should be developed as quickly as possible and should take account of the recommendations that resulted from the concession report.

- A new forest management policy should be developed to replace the current girth limit system. A system based on the modified selection system appears to be appropriate for the Ghanaian forest reserves.

7.0. REFERENCES

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8.0. APPENDIX A.

FIP class 1 species:

Species that have been exported at least once from Ghana since 1973.

Scientific Name	Local Names
<i>Afzelia bella/africana</i>	Papao, Apa, Afzelia
<i>Albizia ferruginea</i>	Awiemfosamina
<i>Albizia zygia</i>	Okoro
<i>Alstonia boonei</i>	Sinuro
<i>Amphimas pterocarpoides</i>	Yaya
<i>Aningeria</i> spp.	Asanfena, Asanfona
<i>Anopyxis klaineana</i>	Kokote
<i>Antiaris toxicaria</i>	Kyen-kyen
<i>Antrocaryon nicraster</i>	Aprokuma
<i>Berlinia</i> spp.	Limbali, Tetekon
<i>Bombax brevicuspe</i>	Onyinakoben
<i>Bombax buonopozense</i>	Akata
<i>Canarium schweinfurthii</i>	Aiele
<i>Ceiba pentandra</i>	Fromager
<i>Celtis mildbraedii/zenkeri</i>	Esa
<i>Chrysophyllum giganteum/subnundum</i>	Akasaa
<i>Copaifera salikounda</i>	Bubinga
<i>Cordia millenii/platythyrsa</i>	Tweneboa
<i>Cylicodiscus gabunensis</i>	Okan
<i>Cynometra ananta</i>	Ananta
<i>Daniellia ogea/thurifera</i>	Hyedua/Faro
<i>Dialium aubrevillei</i>	Duabankye
<i>Diospyros sanza-minika</i>	African ebony
<i>Distemonanthus benthanianus</i>	Movingui
<i>Entandophragma angolense</i>	Edinam, Tiama
<i>Entandophragma cylindricum</i>	Sapele
<i>Entandophragma candollei</i>	Kossipo
<i>Entandophragma utile</i>	Utile, Sipo
<i>Erythrophleum</i> spp.	Tali
<i>Guarea cedrata</i>	Scented guarea
<i>Guarea thompsonii</i>	Black guarea
<i>Guibortia ehie</i>	Ovangol
<i>Heretiera utilis</i>	Niangon
<i>Khaya anthotheca/grandifolia</i>	African mahogany
<i>Khaya ivorensis</i>	African mahogany
<i>Klainedoxa gabonensis</i>	Kroma
<i>Lophira alata</i>	Ekki
<i>Lovoa trichilioides</i>	African Walnut
<i>Mammea africana</i>	Bompagya
<i>Mansonia altissima</i>	Mansonia

Milicia excelsa/regia	Odum, Iroko
Mitragyna ciliata/stipulosa	Abura
Nauclea diderrichii	Kusia, Bilinga
Nesogordonia papaverifera	Danta
Parkia bicolor	Asoma
Pericopsis elata	Afrormosia
Petersianthus macrocarpus	Esia
Piptadeniastrum africanum	Dahoma
Pterygota macrocarpus	Koto
Pycnanthus angolensis	Otie
Sterculia rhinopetala	Wwabima
Strombosia glaucescens	Afena
Terminalia ivorensis	Emire, Framire
Terminalia superba	Ofram
Tieghemella heckelli	Makore
Triplochiton scleroxylon	Wawa, Obeche
Turraeanthus africanus	Avodire

FIP class 2 species:

Species that attain a diameter of at least 70cm and occur in the forest with a density of at least one tree per square kilometer.

Scientific Name	Local Names
<i>Afrosersalisia afzelii</i>	Bakunini
<i>Albizia adianthifolia</i>	Pampena
<i>Albizia glaberrima</i>	Okara-akoa
<i>Aningeria</i> spp.	Asamfena
<i>Balanites wilsoniana</i>	Krobodua
<i>Blighia</i> spp.	Akye
<i>Bussea occidentalis</i>	Kotoprepre
<i>Calpocalyx brevibracteatus</i>	Atrotre
<i>Celtis adolfi-friderici</i>	Esakosua
<i>Celtis wightii</i>	Prempresa
<i>Chidlowia sanguinea</i>	Ababima
<i>Chrysophyllum perpulchrum</i>	Ataene
<i>Chrysophyllum pruniforme</i>	Duatadwe
<i>Cleistopholis patens</i>	Ngonenkyene
<i>Cola gigantea</i>	Watapuo
<i>Corynanthe pachyceras</i>	Pampenama
<i>Coula edulis</i>	Bodwue
<i>Dacryodes klaineana</i>	Adwea
<i>Duboscia viridiflora</i>	Akokoragyehini
<i>Erthroxylum manii</i>	Pepeanini
<i>Ficus</i> spp. (non-stranglers)	Domini
<i>Gilbertiodendron</i> spp.	Tetekon
<i>Hannoa klaineana</i>	Fotie
<i>Hexalobus crispiflorus</i>	Duabaha
<i>Holoptelea grandis</i>	Nakwa
<i>Homalium letestui</i>	Esononankoroma
<i>Homalium stipulaceum/dewev.</i>	Owebiribi
<i>Irvingia gabonensis</i>	Abesebuo
<i>Lanea welwitschii</i>	Kumanini
<i>Lonchocarpus sericeus</i>	Sante
<i>Maranthes</i> spp.	Afam
<i>Margaritaria discoidea</i>	Pepea
<i>Morus mesozygia</i>	Wonton
<i>Monodora myristica</i>	Wedeaba
<i>Ongokea gore</i>	Bodwe
<i>Pachypodanthium staudtii</i>	Kumdwie
<i>Panda oleosa</i>	Kokroboba
<i>Parinari excelsa</i>	Afam
<i>Parkia filicoidea</i>	Osoma-Nua
<i>Pentaclethra macrophylla</i>	Ataa
<i>Phyllocasmus africanus</i>	Akokorabeditoa
<i>Protomegabaria stapfiana</i>	Agyahere

Pseudospondias microcarpa
Pteleopsis hylodendron
Ricinodendron heudelotii
Scotellia klaineana
Sterculia oblonga
Sterculia tragacantha
Stereospermum acuminatissimum
Tabernaemontana spp.
Talbotiella gentii
Treculia africana
Trichilia prieuriana
Trichilia tessmannii
Trilepisium madagascariense
Uapaca guineensis
Xylia evansii
Zanthoxylum spp.

Katawani
Kwae-Kane
Wama
Tiabutuo
Ohaa
Sofu
Esona-Tokwakofuo
Obanawa
Takorowanua
Brebretim
Kakadikuro
Tanuronini
Okure
Kontan
Abobabema
Oyaa/Okuo

9.0. APPENDIX B.

Ghanaian timber species which are prohibited from being exported in log form.

Common Name	Scientific Name
Sipo, Utile	Entandrophragma utile
Sapele	Entandrophragma cylindricum
Tiama, Edinam	Entandrophragma angolense
Kosipo, Candollei	Entandrophragma candollei
Odum, Iroko	Chlorophora excelsa
Afrormosia	Afrormosia elata
Mahogany, Acajou	Khaya ivorensis
Makore, Baku	Tieghemella heckelli
Mansonia	Mansonia altissima
Hyedua	Guibourtia ehie
Niangon	Tarrietia utilis
African walnut, Dibetou	Lovoa trichilioides
Avodire	Turreanthus africana
Teak	Tectona grandis
Emire, Framire	Terminalia ivorensis
Asanfona	Aningeria robusta
Ofram, Limba	Terminalia superba
Danta	Nesogordonia papaverifera
