MID-TERM EVALUATION OF THE AGRIBUSINESS IN SUSTAINABLE NATURAL AFRICAN PLANT PRODUCTS (ASNAPP)

Submitted to: USAID/AFR/SD/ANRE

By:

Emmanuel T. Acquah
Eloise Carter
Jesse McCorry

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EXECUTIVE SUMMARY

The Agribusiness for Sustainable Natural African Plant Products (ASNAPP) project began in 1999 and was managed through a cooperative agreement between the U.S. Department of Agriculture via a PASA with USAID, the Herb Research Foundation (HRF) in cooperation with Dr. James Simon, The New Crops Institute, Purdue University and the Agriculture Research Council (ARC) of The Republic of South Africa. Both HRC and ARC left the program in 2000 and 2001 respectively. Stellenbosch University replaced the Agricultural Research Council, but there was no functionally equivalent replacement for the Foundation's business development and marketing services. Dr. Simon subsequently accepted an appointment to the faculty of Rutgers University. As part of this move he also brought the New Crops program to Rutgers University and has been co-managing ASNAPP with Mr. Elton Jefthas of Stellenbosch University. ASNAPP is described as a university-led partnership that seeks to unify the public and private sectors in creating opportunities for rural income growth through enterprise development by employing the natural products in Sub-Saharan African countries.

At its start, ASNAPP's composition reflected this construct with HRF representing the private sector element, ARC was the public sector element and Purdue University, through the Institute, was the university component. As noted above, the direct private sector role in ASNAPP has diminished since the departure of the Herb Research Foundation. Similarly, direct public sector participation as was represented by the ARC is not a part of current ASNAPP in South Africa, Rutgers University, manages: 1) all quality assurance and control systems; 2) crop and product chemical analysis; 3) delivery of U.S. based training for ASNAPP partners; 4) identification of market opportunities; and, 5) development of the grant proposals.

Mr. Elton Jefthas leads the Stellenbosch University team. Stellenbosch University: 1) manages all staff field research and supports external researchers on cropping techniques and crops of interest to ASNAPP; 2) conducts hydroponics and other research; 3) provides in-country training programs for other members of the ASNAPP network and farmer groups; 4) identifies local markets for crops and products; 5) develops and contribute to grant proposals; and, 6) coordinates with Southern and West African regional coordinators on all technology transfer and farmer/producer association development.

The following are the Mission, Vision and Objective statements as stated by ASNAPP.

Mission

We will help create and develop successful African businesses in the natural products sector to provide income, employment and development, through environmentally and socially conscious sustainable production, of high quality, healthful natural products for local, regional and overseas markets.

Vision

1) Our Vision – Sustainable production of high quality African natural plant products.
2) Economic Vision – Develop and enhance African rural SMME's in natural plant products, maximizing profits and empowering African agribusinesses while ensuring high quality products and sustainable utilization of the environment.
3) Social Vision – Improving the quality of life in African rural communities/peoples by developing entrepreneurship in natural plant products in an earth-friendly manner.

Goals

1) To improve the supply of economically viable, sustainable produced, superior quality natural plant products to local, regional and overseas markets;

2) To develop a network of African growers, environmentalists, researchers, processors and distributors and exporters of natural plant products;

3) To facilitate inter-African and African-American information systems in the natural product sub-sectors;

4) To strengthen and enhance the natural products sub-sector, and its capacity to contribute to economic growth among rural entrepreneurs;

5) To encourage the sustainable collection and production of both indigenous and introduced natural plant products.

Purpose:

1) To assess the usefulness, effectiveness and efficiency of the cooperative agreement mechanism in the implementation of the ASNAPP Project.

2) To assess the models used by the institutional contractors in terms of linkages:
   - Between researchers, producers, producers' organizations, and marketers/processors;
   - Between the project and national, regional, and international linkages; and,
   - Between the project, public and private institutions.

3) To identify key factors which influence the above linkages.

4) To analyze strengths and weaknesses and suggest solutions to weaknesses.

5) To assess the progress made toward achieving the project objectives.

6) To assess the extent to which results achieved have had socio-economic impact.

7) To recommend modification to the project activities, if necessary.

8) To determine the level of involvement of USAID missions and recommend ways of incorporating them into the project.

9) To determine whether or not this model of cooperation is the most suitable or are there other options.

Synopsis of Findings:

There is substantial evidence in each country that ASNAPP has and continues to provide vital market information on Natural Plant products. Stakeholders in both the private and public sectors in all countries visited consider ASNAPP as a leader and major source of market information on natural plant products.

In the area of Marketing Research, ASNAPP does not have the capacity to effectively perform this function. Consequently not much rigorous marketing research has been conducted for the selected crops.

To achieve the research, technology development and transfer objectives, it is necessary that major Research and Development (R & D) activities have to be undertaken in the Input Sub-sector (to get uniform seed, fertilizers, pesticides, etc.) and the Agricultural Production Sub-sector (for appropriate and economic technologies and management practices) in addition to Post Harvest/Marketing R & D activities in Figure #2.

ASNAPP's collaborating researchers in South Africa, Ghana and Zambia all agree that the rigorous R & D to generate the appropriate (economically and technologically proven) technologies for the various crops will take a minimum of 3-5 years. At present, ASNAPP access to relevant technology is largely dependent upon Rutgers. Nevertheless, this has not been translated into an active program of technology transfer to the field operations.

Although at least 30 plants have been identified for development, the possibility of most of them (except rooibos tea, honey-bush tea and Lippia tea) being commercialized in the next two to three years is questionable.

In general, ASNAPP is poorly positioned to provide the kind of institutional development/capacity building assistance that is required by rural farmer organizations and communities. The NGO/PVO partners have a significant advantage in this regard and ASNAPP should not attempt to take on this function.

Rutgers University has the primary responsibility for the quality control function. QA & QC systems are critical to the success of ASNAPP because its products must satisfy QA requirements set in the United States and other industrialized countries, whose markets ASNAPP intends to penetrate. In general, the evaluation team found that outstanding QA & QC Systems have been developed for ASNAPP targeted crops. Rutgers University has been an effective leader in developing the necessary QA & QC System for ASNAPP that meets international standards.

Management may be defined as "the force that runs an enterprise and is responsible for its success or failure". The four fundamental functions of managers are: planning, organizing, directing and controlling. Based on our observations, discussions with ASNAPP staff, and written responses to evaluation instruments, the evaluation team has concluded that there is evidence of management problems in ASNAPP that warrant attention.

An impact statement is a brief summary in lay-terms of the economic, environmental and/or social impact of an activity's efforts. It states accomplishments and their payoff to society. ASNAPP has developed a fairly strong reputation in the countries where it is established. There was little evidence that it has had an impact on the market for African natural products at this early stage. However, it has created expectations among those in the business and this is its most significant challenge. The evaluation team is not certain that the program will be capable of meeting this challenge without a carefully devised strategic plan backed by more robust direct technical assistance to the producers of the target products.

Even though it is suggested that gender was not specifically planned or designed in either country, it is believed that equity, to some extent, does exist. The selection of the administrative staff for ASNAPP was based on the selection of persons who met the qualifications to hold the position with equal regards for both men and women.

Given that: (a) ASNAPP activities are relevant to country Mission SOs; (b) the Missions seem to be interested in ASNAPP type activities; and, (c) USAID/Washington encourages more field focused activities, it is suggested that USAID/AFR/SD:

i. Transfers ASNAPP activities and their management to field Missions; and,

ii. Negotiates a Cooperative Agreement with Rutgers University to continue to provide technical assistance and training in QA & QC to the relevant Missions with ASNAPP activities for an additional three years.

The following recommendations were made:

Recommendation #1
ASNAPP should immediately seek competent entity or entities to conduct the needed marketing research. The evaluation team believes that university partners in Ghana and South Africa have the technical and professional capacity to provide these services.

Recommendation #2

The R & D activities should be continued, however, a detailed work plan including required resources should be undertaken to ensure that adequate resources are available to support critical research needs.

Recommendation #3

Agricultural Economists (Production Economist/Farm Management Specialist and Marketing Economists) from the department of Agriculture Economics and Extension Education should be added to the research team.

Recommendation #4

The capacity of the tissue culture laboratory at KNUST should be enhanced to be able to produce enough planting material, as well as in-vitro storage of seed stock materials for the selected crops.

Recommendation #5

ASNAPP and KNUST should explore the possibility of developing strategy for incorporating medicinal crop and culinary herbs in the production courses of KNUST and other agricultural colleges and institutions in Ghana.

Recommendation #6

ASNAPP should explore collaboration with Bonsu Plant Genetic Resource Center for some agronomic research on some of the selected plants.

Recommendation #7
Production Economist/Farm Management Specialist from the Department of Agricultural Economics should be engaged to conduct proper economic analysis for culinary production.

Recommendation #8

An agricultural marketing economist from the Institute of Social and Economic Research at the University of Ghana should be engaged to provide advice on marketing issues of culinary herbs and specialty vegetables.

Recommendation #9
ASNAPP should explore the possibility of engaging crop scientists at University of Ghana and Ohawu Agricultural College to conduct scientific R & D for the selected culinary herbs and vegetables.

Recommendation #10
Technical production advice and training assistance should be sought from a commercial culinary herbs production farm reported to be in operation in Akosombo area, to help train the farmers, the Extension staff and the ADRA and ASNAPP technical officers.

Recommendation #11
Senegal has farmer groups who have successfully produced, processed and marketed some of the culinary herbs that ASNAPP is developing. Contacts and Lessons Learned from their experiences will be very useful. [See E. T. Acquah, et. al. "Evaluation of West Africa Small Grants Program", Volume II, or contact Dr. Sy of ITA in Cote d' Ivoire].

Recommendation #12
Through ASNAPP/Zambia, the International Development Enterprises in Zambia should be consulted for advice on possible adoption of their highly successful systems for vegetable production in rural areas (Mr. Noah of ASNAPP/Zambia has all the contacts).

Recommendation# 13
Socio-economic analysis should be enhanced in ASNAPP/SA research plan.

Recommendation #14

The department of Agricultural Economics seems to have enough staff (3) that is available for contract works. ASNAPP should use this capacity to conduct micro level economic and market analysis for each of the crops that they deal with (as has been done for rooibos tea and hydroponic tomatoes and cucumbers).

Recommendation #15
ASNAPP should revisit its R & D needs and pragmatically evaluate its research plans for enhancing technology development and transfer for the identified crops still in experimental stages.

Recommendation #16
ASNAPP should explore the possibility of utilizing domestic capacity at collaborating institutions or other NGOs or private firms to perform the services needed in each country.

Recommendation #17
It is recommended the funds should be devoted to enhancing institutional capacity (human and physical) at SU and KNUST over the next two years, so that these sites would be self-sufficient and able to perform the QA and QC function on cost recoverable basis after two years.

Recommendation#18
USAID/AFR/SD/ANRE project officer should limit his management role to those stipulated in the cooperative agreement and at a macro level.

Recommendation #19
Given the current structure of ASNAPP in Africa, the major management responsibility lies with ASNAPP/SA. It is recommended that a more senior and experienced manager from SU be appointed as Manager for ASNAPP/Africa, while retaining the two Regional Coordinator positions, but with specified management responsibilities.

Recommendation #20
Immediate steps should be taken to open effective communication between ASNAPP/SA and USAID/SA as they exist in ASNAPP/Ghana–USAID/Ghana, ASNAPP/Zambia–USAID/Zambia and ASNAPP/Rutgers – USAID/AFR/SD/ANRE.

Recommendation #21
A workshop in development of Project Performance Monitoring and Evaluation Plan should be organized for ASNAPP staff in the immediate future.

Recommendation #22
To enhance ASNAPP's ability to collect and monitor impact indictors, and write proper impact statements, a workshop on effective writing of impact statements should be organized for ASNAPP staff, as soon as possible.

Recommendation #23
ASNAPP management should engage the leadership of their partner universities (Deans of Colleges of Agriculture at KNUST, UG, SU and Rutgers Universities) to explore strategies for institutionalization of ASNAPP services at the universities.

Recommendation #24
USAID/AFR/SD and USAID/Ghana, in consultation with ADRA and Technoserve should explore the feasibility of integrating ASNAPP/Ghana activities into the DAP activities of ADRA and Technoserve for the next five years.

Recommendation #25
As USAID/Ghana develops its Strategic Objectives for the next five years, it should consider a review of the potential role and contributions of ASNAPP/Ghana's activities into its strategy.

Recommendation #26
It is strongly recommended that ASNAPP/SA should be realigned to become a country focused and Mission supported activity.

Recommendation #27
USAID/AFR/SD, USAID/SA, in consultation with Stellenbosch University should develop a strategy for the realignment of ASNAPP/SA.

Recommendation #28
In the spirit of focusing first on Zambia Specific ASNAPP activities, it is recommended that ASNAPP should collaborate with CARE/Zambia and OPPAZ to submit proposals to USAID/Zambia to secure additional funding and SO1.

The following conclusions were drawn from the findings of the Evaluation:

1. The conceptual framework for ASNAPP partnership development is thorough and comprehensive and that the University-leg private-public partnership to enhance agribusiness development in rural sub-Saharan Africa is an appropriate one.

2. ASNAPP has done an outstanding job of providing access to information, networking with farmers, traders and processors for market linkage development of natural plant products; and has therefore, attained most of its objectives under the **Market and Information Systems** function. ***Its performance is rated as good.***

3. There is no evidence of available appropriate production technologies for any of the ASNAPP selected crops. Although thirty (30) plants have been identified for development, the possibility of most of them (except the teas and some essential oils) being commercialized in the next two or three years is questionable. ASNAPP's performance in attaining its objectives under **Research, Technology Development and Transfer is *satisfactory*.**

4. ASNAPP currently does not have an adequate capacity and has not sourced external expertise to effectively enhance farmer and rural enterprise association development. ASNAPP's performance in accomplishing its objectives under the **Farmer and Rural Enterprise Association Development is rated *as very poor*.**

5. ASNAPP has developed an outstanding QA & QC Systems for its targeted crops, which when effectively implemented in the field will meet the international standards for its ASNAPP products. ASNAPP's performance in accomplishing its objectives under its **QA & QC function is rated as *excellent*.**

6. ASNAPP activities should be continued and funded for additional three years, but its activities and management should be transferred to field missions. The level of funding will vary from country to country and will depend on the objectives and Workplans approved for each country.

7. ASNAPP/Rutgers should be funded for an additional three years. Its level of funding will also depend on revised objectives and approved workplans, which should focus on training and operationalizing the QA & QC Systems developed at the field level.

MID-TERM EVALUATION OF THE AGRIBUSINESS IN SUSTAINABLE NATURAL AFRICAN PLANT PRODUCTS (ASNAPP)

I. INTRODUCTION

a) Background of ASNAPP

The Agribusiness for Sustainable Natural African Plant Products (ASNAPP) project began in 1999 and was managed through a cooperative agreement between the U.S. Department of Agriculture via a PASA with USAID, the Herb Research Foundation (HRF) in cooperation with Dr. James Simon, The New Crops Institute, Purdue University and the Agriculture Research Council (ARC) of The Republic of South Africa. Both HRC and ARC left the program in 2000 and 2001 respectively. Stellenbosch University replaced the Agricultural Research Council, but there was no functionally equivalent replacement for the Foundation's business development and marketing services. Dr. Simon subsequently accepted an appointment to the faculty of Rutgers University. As part of this move he also brought the New Crops program to Rutgers University and has been co-managing ASNAPP with Mr. Elton Jefthas of Stellenbosch University. ASNAPP is described as a university-led partnership that seeks to unify the public and private sectors in creating opportunities for rural income growth through enterprise development by employing the natural products in Sub-Saharan African countries.

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b) Mission, Vision and Objective Statements

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5) To encourage the sustainable collection and production of both indigenous and introduced natural plant products.

c) Purpose and Statement of Work for ASNAPP Mid-Term Evaluation

Purpose:

1) To assess the usefulness, effectiveness and efficiency of the cooperative agreement mechanism in the implementation of the ASNAPP Project.

2) To assess the models used by the institutional contractors in terms of linkages:
   - Between researchers, producers, producers' organizations, and marketers/processors;
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6) To assess the extent to which results achieved have had socio-economic impact.

7) To recommend modification to the project activities, if necessary.

8) To determine the level of involvement of USAID missions and recommend ways of incorporating them into the project.

9) To determine whether or not this model of cooperation is the most suitable or are there other options.

Statement of Work

The mid-term evaluation for the ASNAPP Project shall accomplish the following tasks:

1) Assess the ASNAPP project design, implementation and performance to date. This will entail evaluation of the adequacy of means, effectiveness of cost expended, sustainability of project management, effectiveness of activities and adequacy of communicating, monitoring, reporting and evaluation systems.

2) Identify the gaps and issues facing the project and adjustments that can be made to enhance achievement of the objectives.

3) Assess the internal coherence and logic of ASNAPP's conceptual framework/hypothesis; appropriateness of its objectives in relation to institutional, socio-political and economic contexts.

4) Assess the actual and/or potential grassroots impact on livelihoods in the focal areas.

5) Determine how well sustainability of the organizational/institutional networks/enterprises is being constructed into the project.

6) Assess the effectiveness of the co-management between Rutgers University and Stellenbosch University.

7) Evaluate the effectiveness of sub-grantee mechanism in the ASNAPP.

d) Methodology

In generating information for the evaluation, the team utilized the following methods:

i. Briefing by the USAID Project Manager in Washington, DC.

ii. Reviewed ASNAPP-related literature prior to field visits (i.e., Project Annual Reports for 1999, 2000, 2001; ASNAPP R4 and Annual Reports; Trip Reports from ASNAPP Stellenbosch University and Rutgers University; ASNAPP Annual Workplans for 1999, 2000 and 2001; and ASNAPP articles and posters.

iii. While in the field, reviewed additional trip reports and training reports that were not made available to the team prior to the field visits.

iv. Surfed the ASNAPP website.

v. Held extensive person-to-person interviews with producers, processors and marketers in Ghana, South Africa and Zambia.

vi. Held discussions with public sector stakeholders and partners (i.e., Ministry officials, university administrators and researchers, parastatal officials and NGOs).

vii. Held intensive discussions with ASNAPP Personnel in each country visited.

viii. Utilized formal and informal questionnaires to obtain specific information from ASNAPP staff and stakeholders.

ix. Briefed and/or debriefed USAID field missions.

x. Shared our initial perceptions, observations and preliminary recommendations with ASNAPP Staff in each country, and at a debriefing with USAID ASNAPP Project Manager in Washington, DC.

e) **Organization of the Report**

The rest of the report consists of **Nine Sections. Section II** deals with the Analysis of the ASNAPP model(s). **Section III** presents the Assessment of the Performance of ASNAPP, and covers accomplishments of objectives, suitability of project management and impacts. **Section IV** discusses Sustainability Issues. Overall Gaps in the project implementation are presented in **Section V. Section VI** deals with gender and HIV/AIDS issues. ASNAPP Resource requirements and sources of support are outlined in **Section VII.** The Perspectives on the Future and Expectations of ASNAPP Partners are presented in **Section VIII.** In **Section IX**, Conclusions of the Evaluation are presented. Finally, a consolidated list of Recommendations for USAID's consideration are outlined in **Section X.**

II. ANALYSIS OF THE ASNAPP MODELS

a) Agribusiness Framework

Agribusiness includes all business and management activities performed by firms that provide inputs to the farm sector, produce farm products, and/or process, transport, finance, handle, or market farm products.

An agricultural technology development and utilization system model **(Figure 1)**, serves as a tool for identifying the key players in the technology development process, and to elucidate their relationships with resource owners (end users), in the production of natural plant products.

Figure 1 presents a schematic model for identifying potential key stakeholders/partners in agricultural technology development, transfer and utilization.

Given that several players are expected to participate in the development of agricultural technologies, the lower section of the model **(Figure 1)**, **technology development and transfer partners**, identifies various entities (public and private) that could play key roles in the development of agricultural technologies in SSA. They include public institutions (Research, Universities, Extension Services, Financial, Policy, Legal Systems, Parastatals) and Private Institutions (Research, NGOs, Input Companies, Trade Associations, Producer Associations, etc.). The top part of the model represents **end-users** and the resources that they own or for which they have access. The middle portion of the model, **area of technology application**, shows the production sectors where developed technologies are expected to be applied or utilized.

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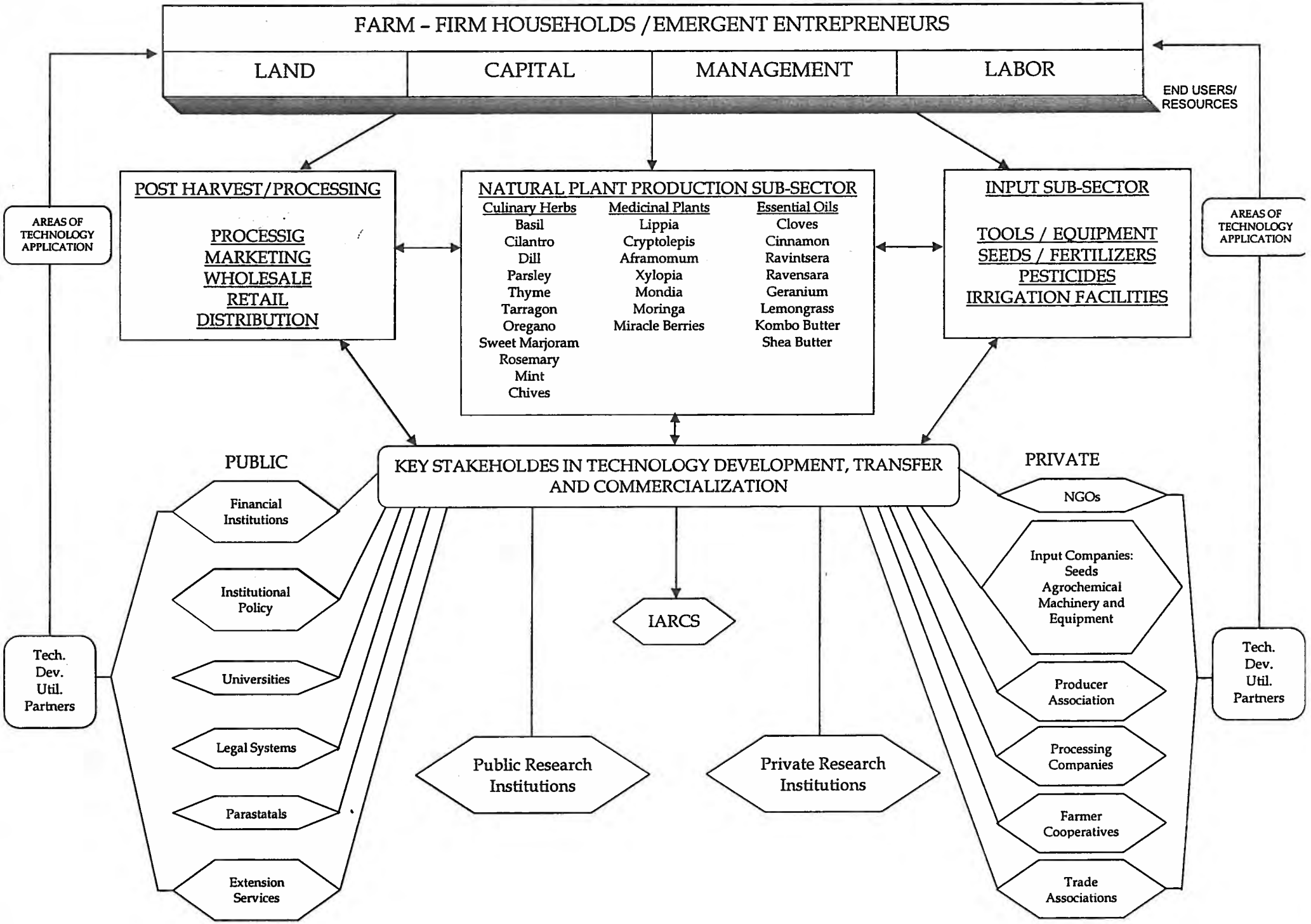
[1]Adapted from "Stimulating Agricultural Technology Development, Transfer and Commercialization in Africa: A Concept Paper", by E. Acquah and B. Gelaw, 1996.

Figure 1

Figure 1


FARM – FIRM HOUSEHOLDS /EMERGENT ENTREPRENEURS
LAND
CAPITAL
MANAGEMENT
LABOR
END USERS/ RESOURCES
AREAS OF TECHNOLOGY APPLICATION
POST HARVEST/PROCESSING
PROCESSIG
MARKETING
WHOLESALE
RETAIL
DISTRIBUTION
NATURAL PLANT PRODUCTION SUB-SECTOR
Culinary Herbs
Basil
Cilantro
Dill
Parsley
Thyme
Tarragon
Oregano
Sweet Marjoram
Rosemary
Mint
Chives
Medicinal Plants
Lippia
Cryptolepis
Aframomum
Xylopia
Mondia
Moringa
Miracle Berries
Essential Oils
Cloves
Cinnamon
Ravintsera
Ravensara
Geranium
Lemongrass
Kombo Butter
Shea Butter
INPUT SUB-SECTOR
TOOLS / EQUIPMENT
SEEDS / FERTILIZERS
PESTICIDES
IRRIGATION FACILITIES
AREAS OF TECHNOLOGY APPLICATION
KEY STAKEHOLDES IN TECHNOLOGY DEVELOPMENT, TRANSFER AND COMMERCIALIZATION
PUBLIC
Financial Institutions
Institutional Policy
Universities
Legal Systems
Parastatals
Extension Services
Tech. Dev. Util. Partners
IARCS
Public Research Institutions
Private Research Institutions
PRIVATE
NGOs
Input Companies: Seeds Agrochemical Machinery and Equipment
Producer Association
Processing Companies
Farmer Cooperatives
Trade Associations
Tech. Dev. Util. Partners

For an effective participatory process in technology development, transfer and commercialization, there should be close collaboration between the end-users and other key players. Such collaboration would facilitate realistic problem identification, research prioritization and technological developments, consistent with the goals, objectives and resource endowment of the ultimate users of technologies. When it comes to the application of a given technology in the production sector (input, agri-production and/or post-harvest processing), it is also expected that some of the technology developing partners would collaborate with or assist the end-users in applying technologies in a given production sub-sector. The number of technology developing partners and the degree of their involvements with end-users may vary, depending on the type of commodity, technology, country and region.

Elements from **Figure 1** are utilized to describe the roles and contributions of ASNAPP partners/stakeholders at Rutgers University, Ghana, South Africa and Zambia where ASNAPP is operational.

Figure 2 depicts a generic ASNAPP model which is generally characterized as University-Led, Public-Private Partnership to enhance agribusiness development in Sub-Saharan Africa. In the following pages, specific variations of **Figure 3** are described as observed by the evaluation team at Rutgers University, Ghana, South Africa, and Zambia.

b) Description of ASNAPP Model(s)

The conceptual framework for ASNAPP partnership development is thorough, comprehensive, and includes, in principle, all conceivable stakeholders and end-users of generally accepted integrated agribusiness systems. Major partners include the African Public Sector (Ministries, Universities/Research Institutions); the African Private Sector (Farmers/Farmer Associations, NGOs, private companies); the USA Private Sector; and, the U.S. Public Sector (USAID and a university). The number of partners and their degree of involvement in the implementation of ASNAPP varies from country to country.

i. The Rutgers Model

Rutgers University serves as the lead entity and the pivot of ASNAPP activities in America. As shown in **Figure 3** this University-led partnership has actively collaborated with five USA based private sector firms in development of grant proposals. Within the African Public Sector, they are pursuing opportunities to collaborate and work with USAID in Guinea and Nigeria, and are collaborating with Kwane Nkrumah University of Science and Technology (KNUST Ghana), the University of Ghana, and Stellenbosch University in research, technology development and transfer. Rutgers University's involvement with the African Public Sector includes: (i) U.S. based training for farmers and processors from Zambia and South Africa; (ii) technology development with farmers in Ghana; product chemical analysis for farmers in South Africa, Madagascar, Zambia and Ghana through ASNAPP field staff; and, (iii) provision of information and advice on markets and production practices of ASNAPP key crops.

Rutgers University works with USDA/FAS/ICD to manage the Cooperative Agreement through which ASNAPP is funded. The project leader also liaisons with the USAID project officer and shares some management roles with the USAID project officer.

Rutgers University has shown strong commitment and support to ASNAPP through: (i) use of its laboratory and equipment (not purchased by ASNAPP) to support ASNAPP work; (ii) release time of faculty members (Dr. Simons and others) for other ASNAPP activities at no cost; (iii) higher level University commitment to international development, especially the promotion and development of small, micro and medium-rural enterprise dealing with natural plant products in Africa; (iv) considers international development activities as part of the mission of recognition of international development as

Fig 2 General ASNAPP University-led Agribusiness Model

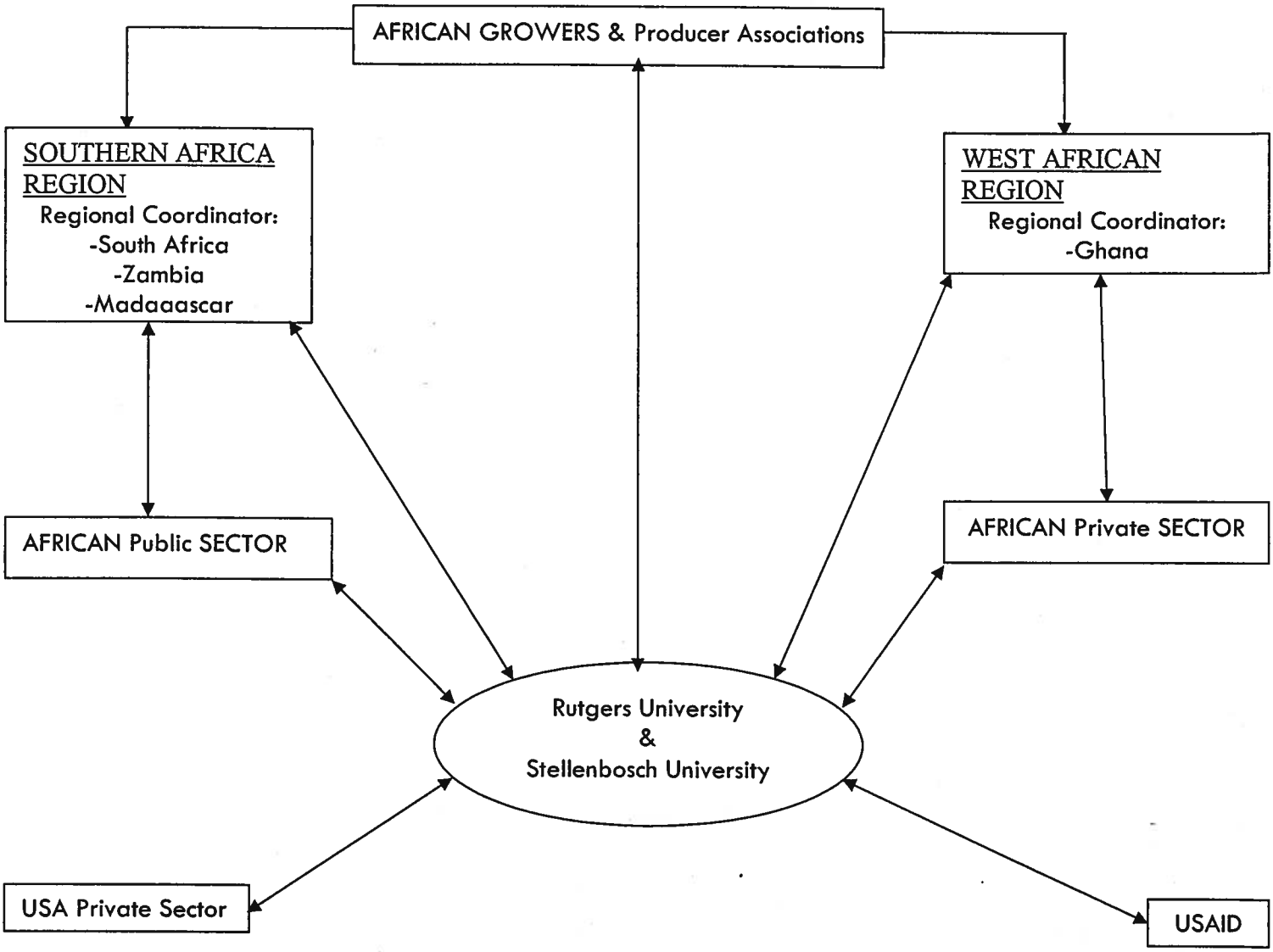
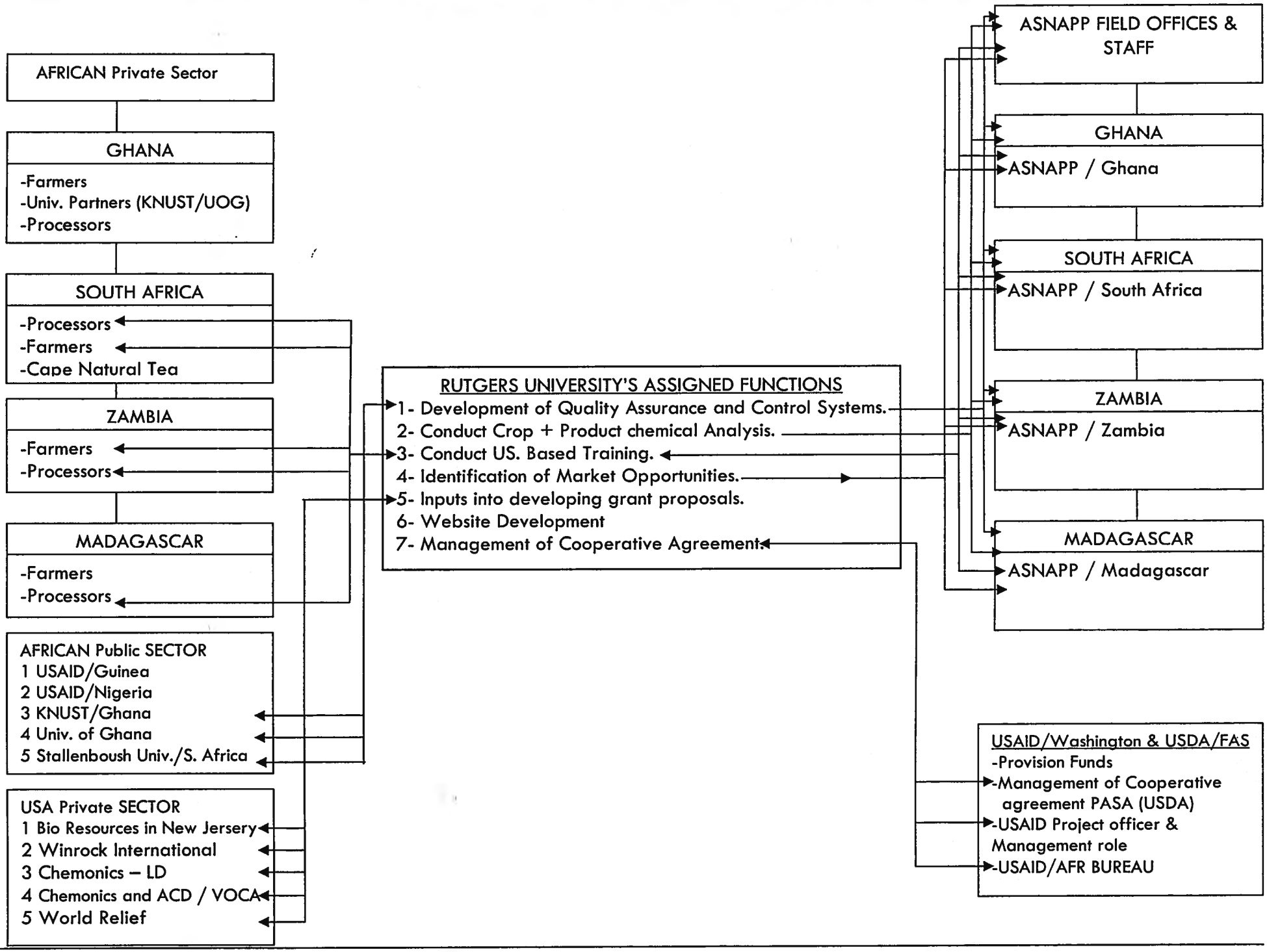


Fig 3: The RUTGERS – LED ASNAPP MODEL



part of the University's mission statement, and gives it credit in the promotion and tenure process of faculty members; and, (v) recognizes international development activities in the promotion and tenure of faculty members.

ii. The Stellenbosch Model (ASNAPPASNPAP South Africa)

Stellenbosch University (SU), in South Africa, serves as the lead-university and the focal point of ASNAPP in Africa. **Figure 4** depicts how it relates with stakeholders and end-users of ASNAPP services. It is administratively managed in the Department of Agricultural Economics, but its technical operations are housed in the Department of Agronomy of SU. It has country specific (South Africa) duties as well as Regional duties in other countries in Africa (Ghana, Zambia, and Madagascar).

As can be inferred from **Figure 4,** ASNAPP/SA's relationship with US based Private Sector is very limited. Conceptually, it is supposed to have active involvement with the Herb Research Foundations and ACDI/VOCA. However, Herb Research Foundation withdrew as an ASNAPP partner in 2000, but has not yet been replaced. The ASNAPP/USAID project management has not been able to negotiate an acceptable Grant or Cooperative Agreement with ADCI/VOCA to provide technical assistance to ASNAPP as planned.

ASNAPP/SA does not seem to have a meaningful relationship with the public sector of South Africa. After ASNAPP/SA was relocated from ARC, ASNAPP/SA has not been able to redevelop a working relationship with ARC, which has a long history of research and technology development of rooibos and honeybush tea.

The relationship with the Ministry of Agriculture-Western Cape Department of Agriculture is limited. It could be helpful to review the basis for cooperation in the context of planning for ASNAPP's evolving program of activities in the Western Cape. On the other hand, ASNAPP/SA has a very good working relationship with the University of Kwazulu Natal. Under an MOU, and with a small amount of financial assistance, the University is conducting research on buchu, devil's claw and a number of medicinal plants for ASNAPP/SA.

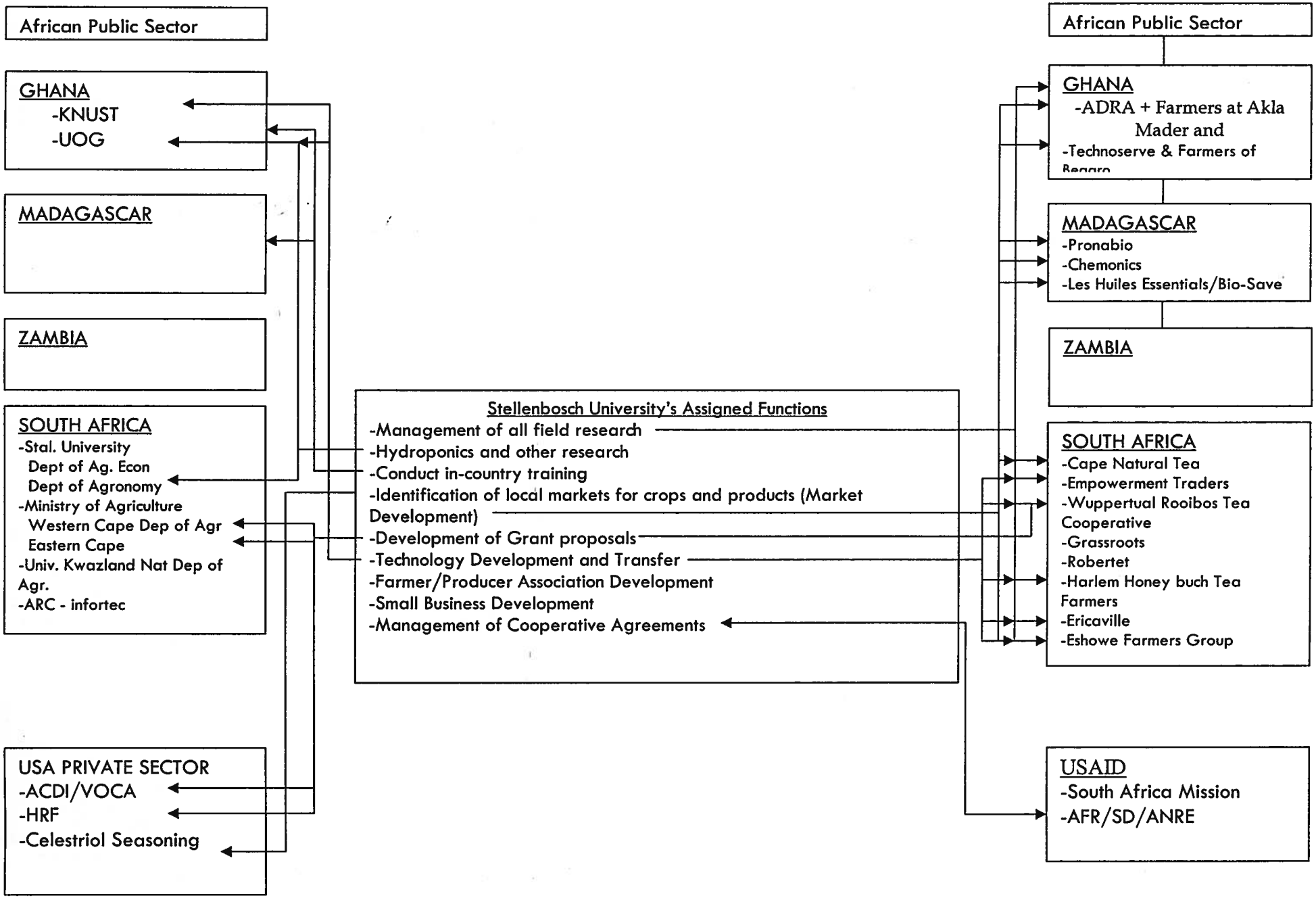
ASNAPP/SA has a very good partnership with firms in the private sector. It provides marketing and production advice to farmer groups in Eshowe, Ericaville, Haarlem and Wupperthal. Services provided include training, technology development and transfer, and marketing information. It has also played critical roles in linking farmers with processing firms like Cape Natural Tea, Empowerment and Trades, etc. It still continues to explore more market opportunities (i.e., Health wise, etc.) for the farmers. Outside South Africa, ASNAPP/SA provides technical assistance to private sector firms in Ghana and Madagascar.

ASNAPP/SA does not have any link or collaboration with USAID/SA. It does not even send copies of its annual reports to USAID/SA. This is an unhealthy relationship that needs to stop. On the other hand, ASNAPP/SA has a very close relationship with AFR/SD/ANRE through the Project Manager.

Although ASNAPP/SA is located at SU, it is not well interpreted into the SU system. However, the Administration of SU, especially the office of the Dean of the College of Agriculture, is highly interested and eager to integrate ASNAPP/SA as an integral part of the College, as part of its outreach/extension services.

To truly be a university-led public/private sector partnership for development in rural areas, the weak linkages with the public sector and no relationship with USAID/SA needs to be corrected immediately.

FIGURE 4: THE STELLENBOSCH UNIVERSITY-LED ASNAPP MODEL OF SOUTH AFRICA



iii. NGO-Led Model in Ghana

The driving forces behind the Ghana model (**Figure 5**) are the two NGOs (ADRA and Technoserve), who contribute substantial amount of money to support research and technology development and transfer. The two NGOs also serve as the conduit through which ASNAPP/Ghana has access to farmers.

ASNAPP/Ghana has a very strong partnership with two universities and the Ministry of Health. Although the Ministry of Agricultural Extension staff work with ASNAPP, the formal administrative links with the Ministry is weak and needs to be strengthened. Effective partnerships with the private sector are currently with four farmer groups who collaborate closely with ASNAPP in research, and technology development.

ASNAPP/Ghana is also collaborating with Phyto-Riker in the cultivation of cryptolepis. ASNAPP has initiated discussions with several private firms e.g., Bio-Resources and Johnson Wax who are interested in buying natural plant materials from ASNAPP collaborating farmers, if and when farmers start producing natural plant materials. The USAID/ASNAPP Project Manager maintains good communication with USAID/Ghana. USAID/Ghana assists in transferring project funds from USAID/Washington to ASNAPP/Ghana. The USAID/ASNAPP Project Manger wants good communication with USAID/Ghana, Washington, to ASNAPP/Ghana. The two universities partnering with ASNAPP/Ghana are all committed to initiate new programs and research in response to national needs. They consider activities with ASNAPP/Ghana as important to achievement of their Mission statements.

Because of limited direct access to external financial support under ASNAPP, the universities are currently not playing lead roles. However, given their significant roles in research, technology development and transfer and as their role in processing and quality assurance increases, coupled with their new mandate to serve rural communities, the Ghana model, could involve to be that of the University-led partnership.

iv. The Zambia Model

ASNAPP/Zambia activities are characterized as still in the planning stages. They have not yet determined the focus of the crops that they would like to work with and consequently, the targeted population that will be end-users of their services. However, as **Figure 6** indicates, ASNAAP/Zambia has made several contacts and started developing partnerships with some critical public and private sector partners. Within the public sector, they have made contacts with the University of Zambia, the National Institute for Scientific and Industrial Research (NSIR), Golden Valley Agricultural Research Trust, and the Ministry of Environment and Natural Resources to explore areas of potential collaboration.

In the private sector, they have formed a very close and useful partnership with the Organic Plant Producers Association of Zambia (OPPAZ) to explore organic production of natural plant products; collaborating with International Development Enterprises, CARE and OPPAZ to explore access to farmer groups associated with these organizations, with the intent of working with them on technology development and transfer once they determine which crops ASNAPP will focus its attention on. There is no evidence of collaboration with any U.S. based private sector. Even though ASNAPP/Zambia is in its infancy it has developed a very close working relationship USAID/Zambia. The coordinator is treated by the USAID Mission as any other USAID Chief-of-Party in the country. ASNAPP/Zambia has collaborated with CARE to submit a proposal to USAID/Zambia for funding consideration. If the relationship with OPPAZ continues, it is likely that ASNAPP/Zambia will evolve into a Farmer Association-led model.

Fig 5 The NGO-LED ASNAPP MODEL OF GHANA

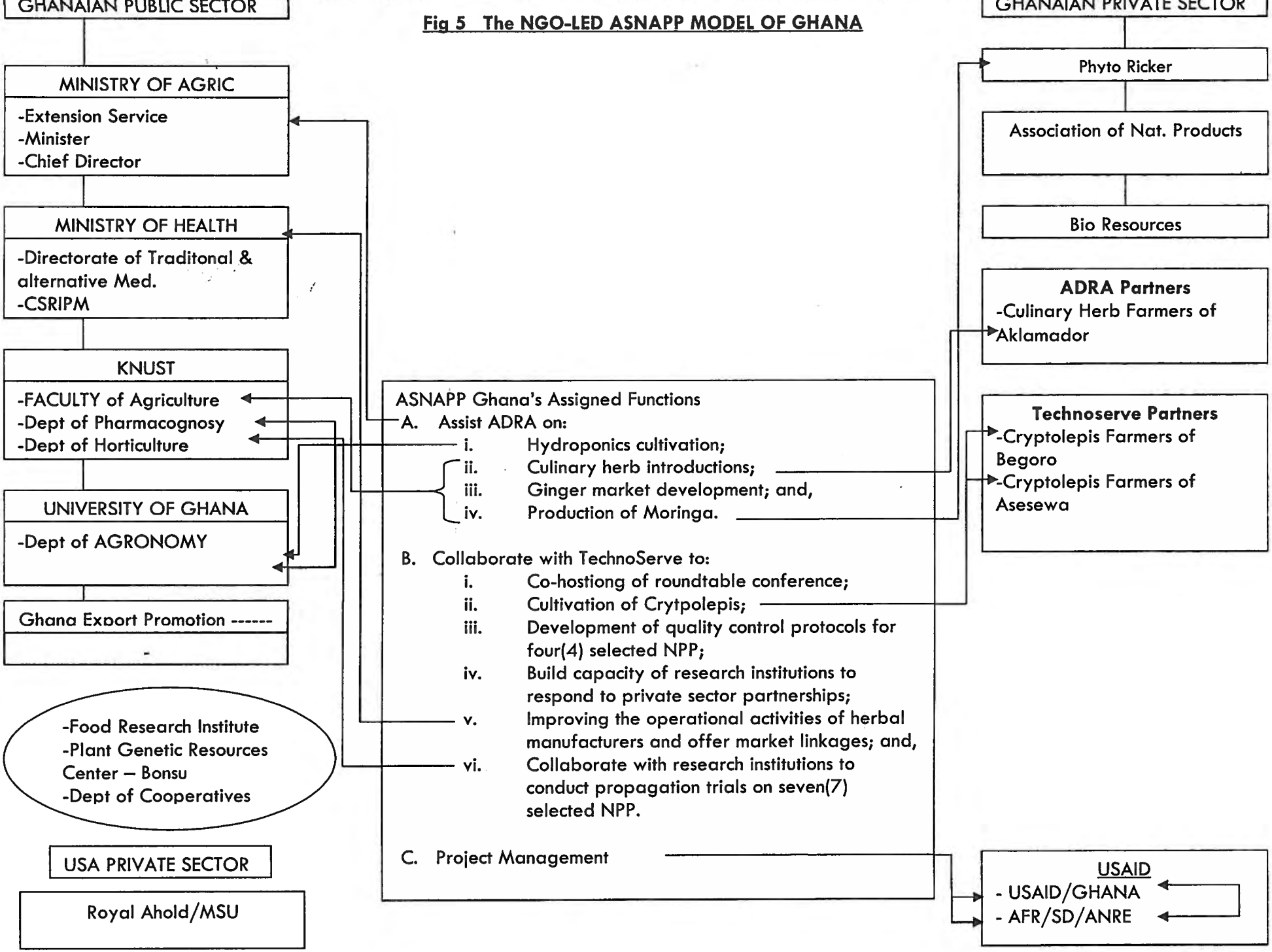
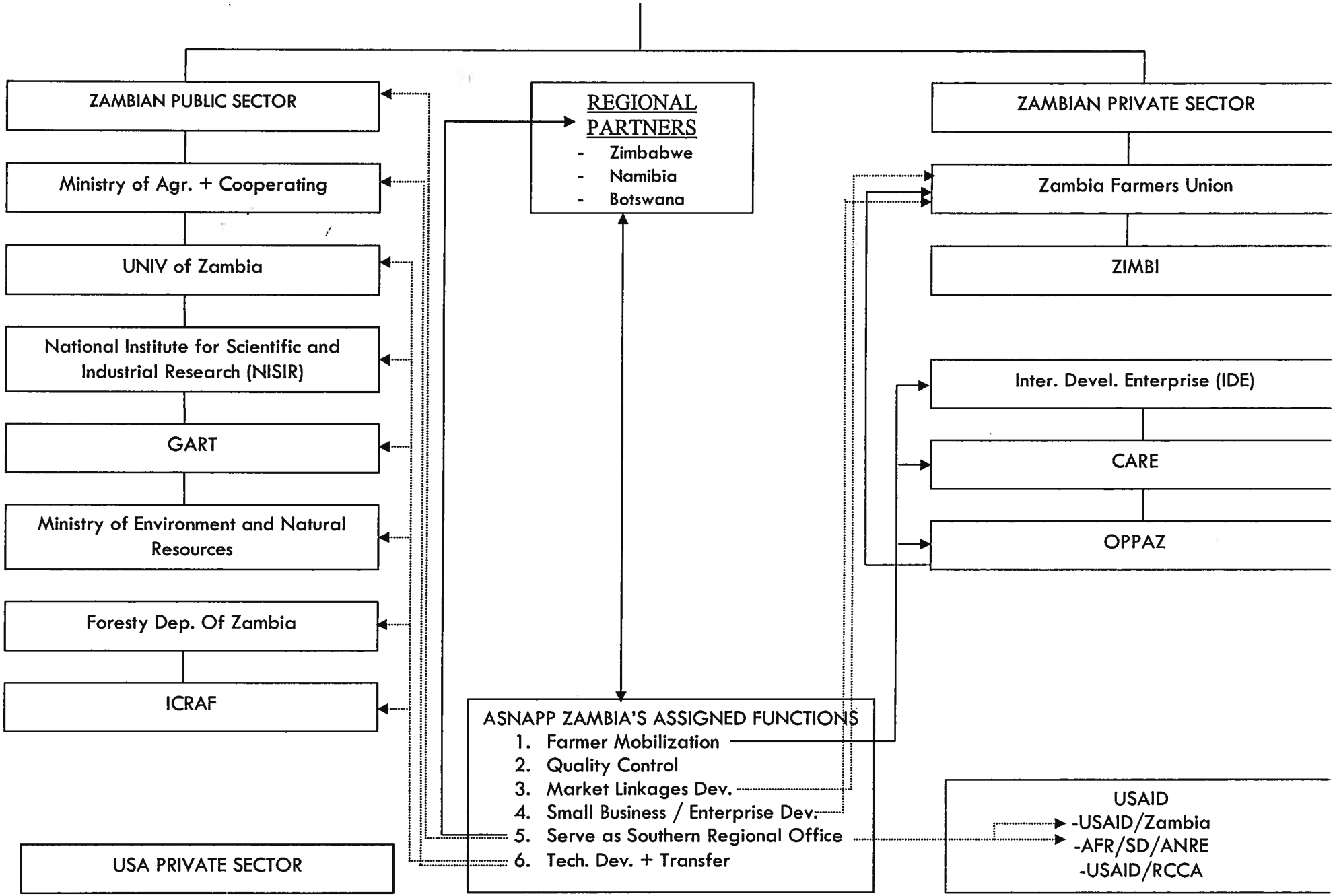


Fig 6 Potential Farmer Association Led – ASNAPP MODEL of ZAMBIA



v. Organizational Development Trends and Replicability

There is little evidence of any trend in ASNAPP organizational development at this point. The activity (ASNAPP) is quite young. Indeed, its African operations, with the exception of South Africa, have only recently taken on full-time staff.

It is useful to observe that in Ghana and Zambia ASNAPP has developed somewhat symbiotic relationships with the NGO/PVO communities for operational and logistics support. The result of such relationships is that the country programs acquire an institutional identity much more quickly than might be the case if they were operating as fully autonomous entities. In particular, these relationships have brought ASNAPP significant financial benefits, e.g., heavily discounted costs for office space, communications, transportation and salary subsidies. The implication is clear that the overall costs of ASNAPP are lower than would be the case if the project were required to finance these expenses.

The NGOs and PVOs also derive benefits from the relationships. ASNAPP helps them to expand their work with rural farming communities, the private and public sectors in the several countries where ASNAPP operates.

However, it is also clear that, in the case of Zambia, characterized as a regional coordinating office, ASNAPP-Zambia acts more as a national program office because ASNAPP has not yet developed a sufficient regional presence in other countries of southern Africa. To be sure, conversations with these other countries have taken place and there have been expressions of interest, especially, with regard to ASNAPP's goal of improving incomes in rural communities.

It is important to note that none of the current ASNAPP programs is an autonomous organizational entity. Except for the Madagascar activity which ach is part of a larger organization, the rest are either part of NGO/PVO or a university.

In general, the ASNAPP Model is dynamic and allows situation specific modification for enhancing development opportunities at the village and community levels. The ASNAPP model encompasses the use of local, socio-cultural, ecological and economics contexts and emphasizes sustainable enterprise diversifications. The model addresses both market demand and supply side issues and fosters partnering of small farmers with larger farmers to maximize the value-addition potentials of small rural enterprises. The ASNAPP model has potential for promoting local expertise, and enhancing in-country infrastructural development as a foundation for regional and international trade. It also seeks to bridge the gaps between the international buyers with in-country private sector and the agricultural community. It provides opportunities for symbiotic collaboration among the private sector, the public sector and research institutions through strategic partnerships.

ASNAPP is a project that does not seek to own rights to products, findings and/or new plant productions, but rather empowers those with whom it works to own as much of the commodity chain in the most efficient manner. The models control functions (GSP, GAP, quality control, and quality assurance) empowers and improves the sustainability of those African business GSP, GAP and their products, by meeting or exceeding industry expectations.

Despite the variations from the original model, all of the ASNAPP programs facilitate scientific and economic collaboration between the Africa-based operations and a broad range of actors in the growing international market for nutraceuticals and functional foods.

vi. Memoranda of Understanding

ASNAPP management is given authority to negotiate Memoranda of Understanding (MOU) and make sub grants to both US and host country collaborating institutions. The MOU is usually for a more general and longer term agreement to cooperate, setting forth some of the general conditions. The sub grant is a document obligating a specific amount of money (usually for one year) to an institution or individual for agreed upon purposes. ASNAPP has implemented 7 MOUs with host country institutions or individuals.

These legal documents formalize the relationship between the two institutions and serve to facilitate the necessary business transactions. The evaluation Team saw no evidence of any problem related to these documents, however it would seem prudent for ASNAPP in the future to sustainability conditions in its MOUs with the partnering universities.

III. ASSESSMENT OF PROJECT PERFORMANCE

The assessment of ASNAPP's performance was based on how successful the project has been in achieving its set objectives. The major ASNAPP functions with their specific objectives are:

1. Market and Information Systems Development

- Facilitate exchange of information between producers and markets regarding (1) quality control, (2) grades and standards, (3) pricing, (4) demand trends, and (5) potential market opportunities.
- Develop a network African growers, environmentalists, researchers, processors, distributors and exporters of natural plant products with focus in Southern and West Africa.

2. Research, Technology Development and Transfer

- Identify at least thirty (30) plants for development and possible commercialization.
- Identify international market needs for natural products.
- Assist African producers in developing value-added products for the market.
- Demonstrate the importance of two research activities to commercialization.
- Provide at least six (6) market reports on at least eight (8) promising plants from Year 1.
- Implement Standard Operating Procedure (SOP) for each ASNAPP crop.

3. Farmers and Rural Enterprise Association Development

- Identify and facilitate growers and grower groups.
- Identify and facilitate partners that will work with and strengthen grower associations.
- Assist to obtain human and financial resources to support the associations.
- Enhance agribusiness skills and financial literacy of associations.
- Provide training to at least 500 African stakeholders (added in 2001-2002).
- Commercialize at least four (4) promising plants (added in 2001-2002).

4. Develop Quality Assurance and Quality Control Systems for High Quality Standards

- Develop quality control guidelines for each plant product within the scope of ASNAPP.
- Develop Good Agricultural Practices (GAP)
- Develop GAP guidelines for each plant or commodity.
- Provide quality control system to technology transfer team.

a) Project Accomplishments

1. Market and Information Systems

There is substantial evidence in each country that AASNAPP has and continues to provide vital market information on Natural Plant products. Stakeholders in both the private and public sectors in all countries visited consider ASNAPP as a leader and major source of market information on natural plant products. ASNAPP has some degree of advantage with regard to business partners as a result of its knowledge of markets and its access to the technical resources of Rutgers in the areas of quality control, quality assurance and technical expertise. However, it should be clear that most of the businesses with whom ASNAPP currently works have been established for some time and have their own market information sources. At the same time they seem to expect that ASNAPP, with its USAID support, might be an asset in securing a stronger position in the US market for African natural products. ASNAPP is commended for doing an outstanding job in access to information, networking with farmers, traders and processors for market linkage development. Their accomplishments have exceeded expectations.

In the area of Marketing Research, ASNAPP does not have the capacity to effectively perform this function. Marketing Research was originally planned to be performed by the Herb Research Foundation. However, since HRF dropped out of the project, no alternative institution has been brought in to replace HRF. Consequently not much rigorous marketing research has been conducted for the selected crops.

Recommendation #1
ASNAPP should immediately seek competent entity or entities to conduct the needed marketing research. The evaluation team believes that university partners in Ghana and South Africa have the technical and professional capacity to provide these services.

2. Research, Technology Development and Transfer

To achieve the research, technology development and transfer objectives, it is necessary that major Research and Development (R & D) activities have to be undertaken in the Input Sub-sector (to get uniform seed, fertilizers, pesticides, etc.) and the Agricultural Production Sub-sector (for appropriate and economic technologies and management practices) in addition to Post Harvest/Marketing R & D activities in Figure #2. Because most of the tea and medicinal crops are harvested from the wild, in systems which are not sustainable and do not guarantee given standards, domestication or plantation cultivation systems of production have to be developed. Additionally, the cultivation of the selected culinary herbs is not well established under small scale limited resource farmer situations. Consequently, there are no tested and appropriate technologies available for use by the ASNAPP target farmers.

ASNAPP's collaborating researchers in South Africa, Ghana and Zambia all agree that the rigorous R & D to generate the appropriate (economically and technologically proven) technologies for the various crops will take a minimum of 3-5 years. At present, ASNAPP access to relevant technology is largely dependent upon Rutgers. Nevertheless, this has not been translated into an active program of technology transfer to the field operations. What ASNAPP characterizes as "technology transfer" is, in reality, mostly technology development. The evaluation team did not find any evidence of tested production technology for any of the crops of importance to the several ASNAPP programs.The project could look for opportunities to improve its functioning in this area by establishing direct working relationships among the principal universities and research organizations that are involved with ASNAPP or have pre-existing activities with African natural plants and products.

GHANA

Medicinal Plant

In Ghana the evaluation team found a well thought through and designed R & D efforts on-station and on-farm among the KNUST and Technoserve farmer group with some support from ASNAPP and Technoserve technical staff for medicinal plants (i.e. Cryptolepis, Lippia, Monnga, Miracle Berries, Mondia, Xylopia, Afraniomum, Synsepaluns). The R & D foci are: (a) developing multiplication system for clean, healthy domestic seeds and seed stocks, (b) developing system(s) for domesticated cultivation of selected crops for selected farming systems, and (c) packaging of appropriate (technical and economical) production technologies consistent with farmer resource endowments. However, the following constraints were observed:

a. Lack of rigorous production economics analysis for crops under study.

b. No serious plan has been developed to collect data needed to ascertain socio-economic viability of production technologies being developed

c. The production supply base for the selected crops needs more R & D and will take about four to five years.

d. The basic biotechnology capacity at KNSUT is inadequate and needs to be enhanced.

e. Medicinal crops and culinary herbs are not part of the crop production curriculum in the College of Agriculture.

Recommendation #2
The R & D activities should be continued, however, a detailed work plan including required resources should be undertaken to ensure that adequate resources are available to support critical research needs.

Recommendation #3
Agricultural Economists (Production Economist/Farm Management Specialist and Marketing Economists) from the department of Agriculture Economics and Extension Education should be added to the research team.

Recommendation #4
The capacity of the tissue culture laboratory at KNUST should be enhanced to be able to produce enough planting material, as well as in-vitro storage of seed stock materials for the selected crops.

Recommendation #5
ASNAPP and KNUST should explore the possibility of developing strategy for incorporating medicinal crop and culinary herbs in the production courses of KNUST and other agricultural colleges and institutions in Ghana.

Recommendation #6
ASNAPP should explore collaboration with Bonsu Plant Genetic Resource Center for some agronomic research on some of the selected plants.

Culinary Herbs Production

ASNAPP and ADRA collaborative efforts centers on provision of financial support to a research team of University at Ghana (Department of Agronomy), two farmer groups (at Mafi-Aklamador and Obakrowa), and two Ministry of Agriculture Extension officers to research, and develop technologies for selected culinary herbs in Ghana. The evaluation team observed a well designed prototype hydroponic production system for vegetables (Chinese cabbage and lettuce). The produce from the experiment is very impressive with regards to size and physical appearance. However, no economic analysis has been done to ascertain the economic viability of the production system, as well as the feasibility of water and energy requirements at the rural areas.

A private Ghanaian farmer who returned from Canada with experience and interest in hydroponic production of vegetables was partnering with the University team because he could not continue to finance the cost of chemicals needed for the production system. His experience confirmed the evaluation team's concerns about economic and technical feasibility of the system being developed.

The following are major concerns related to Culinary Herb production by ASNAPP in Ghana:

a. A "Market Study of Culinary Herbs and Specialty Vegetable Market in Ghana", which provided the basis for ASNAPP/ADRA participation in culinary herb and specialty vegetable production in Ghana, is just a descriptive analysis with no rigorous demand analysis to justify economic viability of such enterprises in Ghana.

b. Farmers in Aklamador and Obakrowa villages have been encouraged to initiate commercial production of several culinary herbs without adequate training in technical production skills.

c. The ASNAPP/ADRA advisors, as well as the Extension offices providing technical assistance to the farmers, do not have adequate skills in technical production and post harvest processing of the crops in questions.

d. The training provided by ASNAPP in South Africa for the Ghanaians was too theoretical with limited practical exposure (2-3 hour visit to commercial farms) to equip them to supervise commercial production of the crops.

e. The training provided by ASNAPP/SA in Ghana was not adequate and did not cover complete production cycles.

f. No production economic analysis, economic feasibility nor enterprise budget analysis have been conducted to warrant commercial production of the crops.

g. Evidence from field visits in Zambia organized by ASNAPP/Zambia suggest that more appropriate and less sophisticated and costly treadle pump irrigation can aid the growth of specialty vegetables of a quality comparable to those grown through the use of hydroponics systems. Nonetheless, the demonstration of hydroponics cultivation at the University of Ghana-Legon does appear to offer some promise.

h. There was no evidence of well thought out plans for post harvest/value additions for the crops being grown.

i. Although the collaborating farmers are aware that the venture is still experimental, they held high hopes of substantial economic benefit from the herb production.

The evaluation team concluded that although there might be demand for culinary herbs and specialty vegetable in Ghana, more R & D is needed to ascertain and adopt more efficient production and marketing practices for maximizing yield as well as profit.

Recommendation #7
Production Economist/Farm Management Specialist from the Department of Agricultural Economics should be engaged to conduct proper economic analysis for culinary production.

Recommendation #8
An agricultural marketing economist from the Institute of Social and Economic Research at the University of Ghana should be engaged to provide advice on marketing issues of culinary herbs and specialty vegetables.

Recommendation #9
ASNAPP should explore the possibility of engaging crop scientists at University of Ghana and Ohawu Agricultural College to conduct scientific R & D for the selected culinary herbs and vegetables.

Recommendation #10
Technical production advice and training assistance should be sought from a commercial culinary herbs production farm reported to be in operation in Akosombo area, to help train the farmers, the Extension staff and the ADRA and ASNAPP technical officers.

Recommendation #11
Senegal has farmer groups who have successfully produced, processed and marketed some of the culinary herbs that ASNAPP is developing. Contacts and Lessons Learned from their experiences will be very useful. [See E. T. Acquah, et. al. "Evaluation of West Africa Small Grants Program", Volume II, or contact Dr. Sy of ITA in Cote d' Ivoire].

Recommendation #12
Through ASNAPP/Zambia, the International Development Enterprises in Zambia should be consulted for advice on possible adoption of their highly successful systems for vegetable production in rural areas (Mr. Noah of ASNAPP/Zambia has all the contacts).

SOUTH AFRICA

ASNAPP/SA has successfully assisted small farmer groups to cultivate 10 hectares of Honeybush tea in Haarlem and approximately 50 hectares in Ericaville. The production of hibiscus by farmers in Eschowe in Kwazulu-Natal is experiencing technological problems including diseases, rotation regimes constrained by access to adequate land, and marketing problems.

There is evidence that some progress has been made in the R & D of rosemary, spilanthes, and devil's claw. The ASNAPP/SA is commended for advances made in organized cultivation of honey-bush tea outside the wild harvesting system.

The research of Mr. Warren Spring of KwaZulu-Natal has documented sustainable cultivation methods including growth rates, pest and diseases management for seven most important medicinal plants in KZN. A model has been created to disseminate cultivation and sustainable utilization information. The model incorporates research and environmental education which includes schools, traditional healers and a proposed resource centre. The research results with picture templates are used as a support base for both small- and large-scale farmers, as well as an information source to explain to school children and healers

how they can grow their own plants. The use of his recommendation is expected to significantly reduce unsustainable harvesting on biodiversity. He is commended for outstanding research done and ASNAPP/SA should be applauded for supporting such an important work.

Despite the progress made some R & D activities need some attention:

a. The technology for hibiscus production is still evolving and needs more work on diseases and land rotation regimes need refinement.

b. Supply base capacity analysis needs to be developed to determine optimal supply capacity for honey-bush and rooibos tea.

c. No systematic plan has been developed to collect empirical data for economic analysis for honey-bush tea and hibiscus cultivation.

d. There is no evidence that the current ASNAPP/SA team has the technical capacity to plan and conduct needed economic analysis (production cost and enterprise analysis).

Recommendation# 13
Socio-economic analysis should be enhanced in ASNAPP/SA research plan.

Recommendation #14
The department of Agricultural Economics seems to have enough staff (3) that is available for contract works. ASNAPP should use this capacity to conduct micro level economic and market analysis for each of the crops that they deal with (as has been done for rooibos tea and hydroponic tomatoes and cucumbers).

Overall Assessment

Although at least 30 plants have been identified for development, the possibility of most of them (except rooibos tea, honey-bush tea and Lippia tea) being commercialized in the next two to three years is questionable. A review of the recently updated status report (June 2002) on Research, Technology Development and Transfer's 16 activities indicate that there are still substantial R & D work outstanding. Most of the technologies for the cultivation of the medicinal plants and culinary herbs will need a minimum of three years before they could be ready for commercial production.

Recommendation #15
ASNAPP should revisit its R & D needs and pragmatically evaluate its research plans for enhancing technology development and transfer for the identified crops still in experimental stages.

3. *Farmers and Rural Enterprise Association Development*

ASNAPP currently does not have an adequate capacity to perform this service effectively. ACDI/VOCA was supposed to provide leadership for this function; however, ASNAPP has not yet been able to finalize an acceptable agreement with ACDI/VOCA. Unfortunately, ASNAPP has not been able to negotiate with another institution to provide leadership for this function. In general, ASNAPP is poorly positioned to provide the kind of institutional development/capacity building assistance that is required by rural farmer organizations and communities. The NGO/PVO partners have a significant advantage in this regard and ASNAPP should not attempt to take on this function. There are enough local technical and professional capacity at SU, KNUST, UG, and other NGOs that could be sourced to perform the required services in South Africa and Ghana, respectively.

Recommendation #16

ASNAPP should explore the possibility of utilizing domestic capacity at collaborating institutions or other NGOs or private firms to perform the services needed in each country.

4. *Development of Quality Assurance (QA) and Quality Control (QC) Systems For ASNAPP*

Rutgers University has the primary responsibility for this function. QA & QC systems are critical to the success of ASNAPP because its products must satisfy QA requirements set in the United States and other industrialized countries, whose markets ASNAPP intends to penetrate.

In general, the evaluation team found that outstanding QA & QC Systems have been developed for ASNAPP targeted crops. Rutgers University has been an effective leader in developing the necessary QA & QC System for ASNAPP that meets international standards. Their effectiveness is exhibited by the following accomplishments:

- Developed internet web-based product tracking system from the field to final processing and shipment.
- Created standard operation procedures (SOPs) for cooperating farmers, plant collection, introduction to cultivation, plant care, harvesting, drying, and packaging for shipment.
- Provided further assistance to ASNAPP team in the terminologies used in the SOP, QA/QC aspects and international shipment of products for evaluation.
- Created SOP for sending, receiving and summary of analyses of plant materials coming from Africa to Rutgers University. All SOPs and certificates of analysis are now available online.
- Developed 13 different QA Laboratory Procedures (for ash content, fatty acids, hydro-distillation, solvent extraction, oils density, reflactive index, and polarity optical density).
- Developed Quality Control Procedures for the following ASNAPP crops:

(i) Teas:
- Outlines for QC/QA of honeybush, rooibos, and lippia teas arriving from ASNAPP-RSA and ASNAPP- Ghana
- EOTEA-1 (Essential oils of lippia)
- QCTEA-1 (Total phenolic compounds determination utilizing colorimetric method),
- QCTEA-2 (Determination of tea antioxidant activity utilizing ABTS scavenging activity),
- QCTEA-3 (Determination of tea antioxidant activity utilizing DPPH scavenging activity), and
- QCTEA-4 (Tea sensory evaluation.)

(ii) Butters:
- Outlines for QC/QA of shea and kombo butters arriving from West Africa,
- QCButter-1 (General procedures for the determination of moisture content in butter samples),
- QCButter-2 (Determination of fatty acids in butter samples); and
- QCButter-3 (Determination of butter antioxidant activity utilizing ABTS scavenging activity).

(iii) Essential Oils:
- QCOIL-1 (Aframomum),
- QCGINGEROILS-1 (Ginger),
- QCOIL-3 (Lippia), and

- QCOIL-4 (Xylopia.)

(iv) Medicinals:
- QCHARPAGOSIDE-1 (Devil's Claw), and
- QCGRIFFONIA-1 (Griffonia).

(iv) Spices (piperine & light berries);
- QCBLACK-1 (Piperine in Black Pepper),
- QCBLACK-2 (Light berries in Black Pepper),
- QCGINGER-1 (Gingerols and shogaols in ginger), and
- QC Spices-2 (Aframomum).

The quality assurance and quality control group deserves high marks for putting in place functional QA & QC Systems.

There were expressed desires, in the field, which the team supports, that some domestic capacity in Africa needs to be enhanced to enable the Africans to perform and enforce QA & QC functions in at least two countries in Africa. Such domestic capacity will increase the efficiency of the QA & AC System developed.

In general, the stated QA & AC objectives have been successfully accomplished. Rutgers University should be commended for providing ASNAPP with high caliber professional experts in natural plants, who are committed to small business development.

Recommendation #17
It is recommended the funds should be devoted to enhancing institutional capacity (human and physical) at SU and KNUST over the next two years, so that these sites would be self-sufficient and able to perform the QA and QC function on cost recoverable basis after two years.

b) Suitability of Project Management

Management may be defined as "the force that runs an enterprise and is responsible for its success or failure". The four fundamental functions of managers are: planning, organizing, directing and controlling. Based on our observations, discussions with ASNAPP staff, and written responses to evaluation instruments, the evaluation team has concluded that there is evidence of management problems in ASNAPP. The following observations led to our conclusion:

- "It seems that ASNAPP is not proactive but is more reactive to opportunities that the USAID project officer sees."
- "There is a feeling of micro management from USAID/Washington."
- "There is no communication whatsoever with USAID/SA."
- "There is no Performance Monitoring and Evaluation Plan for ASNAPP."
- "There is a need for better planning and streamlining of overlapping activities of technical advisors under the ASNAPP-ADRA-TECHNOSERVE collaboration."
- "There is no clear organizational/management structure for ASNAPP."

- "There is no plan or strategy for documentation of impact indicators and analysis."
- "Roles of each partner and individuals need to be streamlined and distinctly outlined."
- Responsibilities are weakly defined."
- "Fund should be allocated for specific activities."
- "Insufficient funding to support all activities."
- "Objectives change often through the year."
- One of the six responses to the questions, "Are there any key issues about ASNAPP that you would like to see addressed" is "Top Management."

With very few exceptions, most of the observations are related to ASNAPP/SA. There is no evidence that ASNAPP/USA – Rutgers has any management concerns.

Recommendation#18
USAID/AFR/SD/ANRE project officer should limit his management role to those stipulated in the cooperative agreement and at a macro level.

Recommendation #19
Given the current structure of ASNAPP in Africa, the major management responsibility lies with ASNAPP/SA. It is recommended that a more senior and experienced manager from SU be appointed as Manager for ASNAPP/Africa, while retaining the two Regional Coordinator positions, but with specified management responsibilities.

Recommendation #20
Immediate steps should be taken to open effective communication between ASNAPP/SA and USAID/SA as they exist in ASNAPP/Ghana–USAID/Ghana, ASNAPP/Zambia–USAID/Zambia and ASNAPP/Rutgers – USAID/AFR/SD/ANRE.

Recommendation #21
A workshop in development of Project Performance Monitoring and Evaluation Plan should be organized for ASNAPP staff in the immediate future.

c) Project Impact

An impact statement is a brief summary in lay-terms of the economic, environmental and/or social impact of an activity's efforts. It states accomplishments and their payoff to society.

ASNAPP has developed a fairly strong reputation in the countries where it is established. There was little evidence that it has had an impact on the market for African natural products at this early stage. However, it has created expectations among those in the business and this is its most significant challenge. The evaluation team is not certain that the program will be capable of meeting this challenge without a carefully devised strategic plan backed by more robust direct technical assistance to the producers of the target products.

The following is the synopsis of responses to the evaluation team's requests to ASNAPP staff, collaborators and farmers to "Describe the impact that they think ASNAPP has made":

a. Created public awareness on medicinal plants conversation and utilization.

b. Enabled and sourced external markets for natural plant products.

c. Ensured quality control and assurance for products entering external markets.

d. It has stimulated product development oriented research.

e. Use of plant products to help cure diseases.

f. Raising farmers' income through collection and sale of medicinal plants.

g. Teaching of proper harvesting techniques.

h. Involvement of women.

i. Farmers have the ability to earn more money since ASNAPP has been involved.

j. Ubuntu tea farmers own 65% of their product.

Recommendation #22

To enhance ASNAPP's ability to collect and monitor impact indictors, and write proper impact statements, a workshop on effective writing of impact statements should be organized for ASNAPP staff, as soon as possible.

IV. SUSTAINABILITY ISSUES

A sustainable resource or service is one that has the opportunity to persist and can be reused or renewed without negatively affecting the environment.

ASNAPP's operations in Ghana and Zambia do appear to be sustainable due to their integration into the activities of existing organization (TECHNOSERVE, ADRA and OPPAZ). However, as these organizations carry out their activities with donor funding, this apparent sustainability becomes questionable. Programmatically, both appear to complement and extend the capabilities of their partnering organization in terms of services and target populations.

In Ghana, a potential long-term sustainable strategy could be to institutionalize the production support services of ASNAPP as an integral part of the outreach mission of the two university partners. Both KNUST and University of Ghana have experiences in integrating self-supporting outreach services into their organizations. KNUST experiences include Bureau of Integrated Rural Development (BIRD), which grew out of Virginia State University development project funded by USAID; and the Technology Consulting Center (TCC). University of Ghana has its successfully self-supporting Institute for Social and Economic Research (ISER). In Zambia an option could be OPPAZ-ASNAPP institutionalized as a technical self supporting unit of Zambia Farmers Union.

Similarly, the South African component at Stellenbosch also has the potential of being integrated into the formal program of the University's Faculty of Agriculture. The project is seen by university officials as a means of helping to foster its efforts at outreach to underserved populations in the country. This could include, for example, university assistance on some of the land questions that concern communities such as Haarlem and Ericaville. The University could also make technical resources available to strengthen ASNAPP's technical assistance services in areas such as cropping systems for some of the more demanding crops, e.g., hibiscus, economic analysis, etc.

Recommendation #23

ASNAPP management should engage the leadership of their partner universities (Deans of Colleges of Agriculture at KNUST, UG, SU and Rutgers Universities) to explore strategies for institutionalization of ASNAPP services at the universities.

V. OVERALL GAPS IN PROJECT IMPLEMENTATION

The following are gaps in project implementation that might not have been anticipated or fell through the cracks as one operationalized are out of multi-country and multi-commodity project which continues to evolve.

1. Sources for Readily Available Planting Materials (Seeds)

There will be a need for ready availability of uniform and clean planting materials (seeds) for most of the crops, which have to be cultivated instead of harvested from the wild. Some of these planting materials will be of vegetative nature and difficult to mass produce. KNUST has already envisaged this and experimenting with use of tissue culture techniques as a means of mass rapid multiplication of planting materials (seeds). The development of such a system takes time, so ASNAPP should start incorporating it in its R & D plans.

2. Weak Linkages with Public Sector

The past history of ineffective performance services from public sector institution (i.e. Extension Services) has made ASNAPP too apprehensive in devoting too much time in fostering partnership with some public sector institutions. However, given the wide spatial spread of ASNAPP clientele (small farmers) and limited staff and resources of the project, there will be a need for domestic local capacity to provide production support services at local levels. ASNAPP cannot and will not have the manpower to sustain meaningful presence at several locations. Hence, the need to strengthen public sector partnership to facilitate institutionalization of production support services at local levels. As was evidenced during our meetings with government officials in Ghana, South Africa and Zambia, the goals and vision of ASNAPP are completely to govern policies and could gain public support. ASNAPP should aggressively promote its agenda to critical ministries (Agriculture, Health, etc.) and leverage more public resources to support their field activities.

3. Enhance Sustainable Wild Harvesting of Natural Plants

In its efforts to develop more sustainable production systems for ASNAPP targeted crops through domestication/cultivation, not much attention has been devoted to improve current wild harvesting methods, which are not sustainable. The traditional methods of harvesting (collection of seeds, plants and plant parts) and processing methods continue to create quality control and quality assurance problems in the natural plant products market. ASNAPP should intensify its training and education activities with local suppliers to address the QA and QC problems and reduce negative externality impact on the natural resources.

4. Spotty Reporting

It took about two weeks for a USAID/AFR/SD/ANRE to put together the required reports for the evaluation team. USAID/Washington has to send several requests to ASNAPP/Africa before needed reports could be FedExed to Washington. Even the USDA/FAS/ICD, who arranges the ASNAPP Cooperative Agreement, did not have copies of annual reports on file. ASNAPP management should develop a more systematic system of submitting its annual reports and Workplans.

5. Lack of Internal Process Evaluation Mechanism

There is no evidence that ASNAPP is performing its control function of management has a process or plan for internal process evaluation. In developing its next year program, it is suggested that ASNAPP should purposely develop a plan for processing internal evaluations.

VI. GENDER AND HIV/AIDS ISSUES

a) Gender Considerations In ASNAPP

One of the strategic objectives of the Office of Women in Development within USAID is "Integrating Gender Considerations, Throughout USAID Programs". Gender refers to economic, social, and cultural attributes associated with being male or female. The gender perspective is a theoretical and methodological approach that permits one to recognize and analyze the identities, viewpoints, and relations especially between women and women, women and men, and men and men. Gender equity is the process of being fair to women and men. To insure fairness, measures must be available to compensate for historical and social disadvantages that prevent women and men from otherwise operating on a level playing field. Men and women are affected differently by the context or the work to be done. A commitment to gender, among other things promotes empowerment of women and equity, and involves women in leadership, planning, decision making, implementation and evaluation.

It seems that at the administrative level in the US, Ghana, and South Africa, no deliberate steps were taken to involve women or to create an equitable situation for the involvement of women and men.

1. In the U.S. there was one female on the administrative team with four males at Rutgers. The female was at the same level of the men on the team and it was clear that her administrative role was important to the team. According to an interview response while there, there was no deliberate plan to include women or to achieve equity in filling the various position for ASNAPP, however, as a response to positions availability, ASNAPP administration hired one female.

2. In Ghana there was one female on a team of three at ASNAPP, two at ADRA and one at TECHNOSERVE. The female on the ASNAPP team is a secretary with limited experience and authority.

3. In South Africa there were four females out of an administrative team of six. This is a case where the women on the administrative team were in the majority. There is no gender policy available at ASNAPP in South Africa, however, since the ASNAPP program falls under the department of Agriculture Economics, which is guided under the gender policy for the university; it implies that ASNAPP/South Africa has an indirect gender policy. ASNAPP/South Africa agreed to formulate a gender policy based on the Stellenbosch University policy on gender.

Even though it is suggested that gender was not specifically planned or designed in either country, it is believed that equity, to some extent, does exist. The selection of the administrative staff for ASNAPP was based on the selection of persons who met the qualifications to hold the position with equal regards for both men and women.

b) HIV/AIDS Awareness in ASNAPP

An estimated 24.8 million people have died from AIDS since the beginning of the pandemic. More than 60 million people have been infected with the HIV since the pandemic began. AIDS is the leading cause of death in Sub-Sahara Africa and the fourth leading cause of death globally.

USAID is a world leader in responding to the HIV/AIDS crisis in the developing world. USAID and its partners implement prevention, care and support, and research activities in more than 50 of the hardest hit countries and in a number of technical areas, such as behavior change, communications, voluntary counseling, and testing.

In an effort to fulfill a strategic objective within USAID for countries involved in ASNAPP, Rutgers took deliberate steps to include HIV/AIDS in its project activities. HIV/AIDS training is included in each crop production course taught. As a part of ASNAPP, crop production courses taught in Ghana and South Africa, Rutgers University provided information on HIV/AIDS to the farmer organizations and other training participants.

The inclusion of the HIV/AIDS into the crop production course fits perfectly well into the USAID AIDS prevention program. Information received in the crop production courses could go a long way toward HIV/AIDS prevention. The data collected on number of persons who have taken the crop production course is not disaggregated by gender. There are, however, general guidelines of including a minimum of 40% of the crop course participants as female.

VII. RESOURCE REQUIREMENTS AND SOURCES

The costs of ASNAPP to the US government seem reasonable. The financial documents provided to the team suggest a total cost of slightly more than 1,000,000 USD at the point of the mid-term evaluation (07/2002). However, there is cost sharing in this cooperative agreement which would raise the total costs by approximately 25 percent.

ASNAPP Leveraging

The team asked the operating components to provide an estimate of other expenditures incurred that was not specifically accounted for in the several project documents. The team was unable to secure complete information for such added expenditures. However, it was clear that ASNAPP received substantial "in-kind" and direct financial support from its several partners in South Africa, Ghana and Zambia that does not appear in ASNAPP financial records. It is assumed that such support would be part of the financial accounting records of these partner organizations. This leveraging by the program is commendable as it increases the range of activities carried out by the ASNAPP program in the respective countries. In addition, it suggests that the partners derive a sufficient value from this support, that they all seem willing to continue providing this type of support to ASNAPP. There is other support as well. For example, the South African government has assisted the program with support for attendance at international shows, and of course, there is similar assistance from the Cochran program that has been used for training and international travel.

In sum, the actual costs of ASNAPP are unclear. However, it seems reasonable to suggest that the additional financing that is derived from ASNAPP "leveraging" can be conservatively estimated at approximately 250,000 USD. Adding this figure to the cost sharing by Rutgers (which does not include salary and benefits of the Principal Investigator or other faculty time) would bring the total estimated cost of ASNAPP as it is presently configured to a level of approximately 1.5 million dollars per year.

As an investment that is preparing small rural communities to enter the international market for natural products, this may seem to be a reasonable figure. However, it should be kept in mind that ASNAPP support has not yet enabled these communities to supply commercially viable quantities of such products. Indeed, the team estimates that this is not likely to occur for another four or five years if all goes well.

VIII. PERSPECTIVE ON FUTURE

1. Stakeholder Expectations

The likelihood of (a) increased demand for and utilization of research outputs and technologies developed by ASNAPP, (b) farmers/producers poised to gain access to financial markets, and (c) potential for increased market share of farmers are all jointly dependent on ASNAPP'S ability to successfully accomplish its four objectives. Based on the assessment of ASNAPP's performance in Section III, the expectations ASNAPP in the above areas, clients are not likely to be achieved in less than four years. If suggested recommendations are followed and ASNAPP stays focused on its planned activities then it is hopeful that these expectations may come to pass by the end of year five.

If the technologies being developed are appropriate and economically viable then, given the high value of products being developed, farmers/producers should be able to earn economic profit (i.e. be able to cover the total costs of business, which should include the cost of production support services). Consequently, services provided by ASNAPP would be paid for by the clients.

2. Relevance of ASNAPP-Like Project to National Governments and the Donor Community

The empowerment of the small and medium enterprises to enhance their capacity to create employment, increase income and improve the economic base in the rural areas is the fundamental purpose of all broad base economic development strategies.

In Ghana, the promotion of now traditional exports which includes natural plant products is national priority, which is also supported by most donors including USAID. Ghana's Vision 2020 aims to make Ghana a middle income country by the year 2020 and small private sector development, which includes agribusiness, is paramount in the strategy. The importance of medicinal plants to the government is reflected in Ghana's Ministry of Health development plans.

In South Africa, ASNAPP type activities are critical to the government's strategy for improving socio-economic conditions in historically disadvantaged rural communities. Outreach services by universities (RU, KNUST, UG, SU) to empower rural small business are now considered as an important function of the universities' Mission Statements.

In summary, all national governments in Africa understand the value of ASNAPP type activities, because when effectively implemented they could serve as a means of enhancing economic and rural development.

3. African-American University Linkages for Research and Commercialization of Technologies

There is little evidence of significant project activity in this area. Indeed, forging such relationships might be assigned as a responsibility of Rutgers. A more direct tie-in with KNUST and Legon, with regard to capacity building and technology transfer, could provide an important initial step in creating these kinds of linkages.

4. Synergies with Mission Strategic Objective (SO)

Ghana

ASNAPP activities currently fit very well under Mission's SO1. Natural plant products are classified under non-traditional export. ASNAPP activities, therefore, complement the non-traditional export

activities under TIRP. Since ASNAPP is intended to empower private sector's capacity, especially in rural areas, to increase income, create employment and increase exports, it is supportive of Mission's current SO1 and future SOs that will deal with Agriculture and broad base economic development. The Office of Private Sector at the Mission expressed interest in ASNAPP activities, but is not sure of how the Mission could be involved.

Both ADRA and Technoserve would like to see ASNAPP activities continue in Ghana and expressed the interest in integrating such activities in their programs.

Recommendation #24
USAID/AFR/SD and USAID/Ghana, in consultation with ADRA and Technoserve should explore the feasibility of integrating ASNAPP/Ghana activities into the DAP activities of ADRA and Technoserve for the next five years.

Recommendation #25
As USAID/Ghana develops its Strategic Objectives for the next five years, it should consider a review of the potential role and contributions of ASNAPP/Ghana's activities into its strategy.

South Africa

USAID/SA's Stainable Employment Program aims to (a) promote economic growth and creation of jobs, (b) help people who were denied access to credit, training and business opportunities under apartheid, and (c) partner with public and private organizations that develop and expand micro enterprises, small businesses and international links to investment and joint ventures. ASNAPP activities can be supportive and will fit well under the Sustainable Employment Program at the Mission.

Unfortunately, ASNAPP/SA does not have a working relationship with USAID/SA. The Mission expressed the desire and willingness to work with ASNAPP, but the team did not see evidence that ASNAPP/SA wants to work with USAID/SA. ASNAPP could benefit from sharing information, technical assistance, marketing and resources of other USAID/SA projects like Agribusiness Linkage Project, Enterprise Management and Innovation Microenterprise Support Project, World Education/Ntiuga Microenterprise Support Project, and Southern Africa Enterprise Development Fund.

Recommendation #26
It is strongly recommended that ASNAPP/SA should be realigned to become a country focused and Mission supported activity.

Recommendation #27
USAID/AFR/SD, USAID/SA, in consultation with Stellenbosch University should develop a strategy for the realignment of ASNAPP/SA.

Zambia

USAID/Zambia's SO1 is to increase rural incomes of selected groups. The Intermediate Result (IR) 1.1 is *Increase agriculture and natural resources production*, and the IR 1.3, is *Improved Trade and Investment Environment*. The proposed activities of ASNAPP/Zambia are complementary to SO1, and successful implementation of ASNAPP/Zambia activities would contribute to the achievement of IR 1.1 and IR1.3. To enhance its regional activities, ASNAPP in collaboration with some partners

in Botswana, Namibia and Zimbabwe, should explore the possibility of leveraging USAID/RCSA funding to support its regional activities.

Recommendation #28

In the spirit of focusing first on Zambia Specific ASNAPP activities, it is recommended that ASNAPP should collaborate with CARE/Zambia and OPPAZ to submit proposals to USAID/Zambia to secure additional funding and SO1.

General Recommendation

Given that: (a) ASNAPP activities are relevant to country Mission SOs; (b) the Missions seem to be interested in ASNAPP type activities; and, (c) USAID/Washington encourages more field focused activities, it is suggested that USAID/AFR/SD:

i. Transfers ASNAPP activities and their management to field Missions; and,

ii. Negotiates a Cooperative Agreement with RU to continue to provide technical assistance and training in QA & QC to the relevant Missions with ASNAPP activities for an additional three years.

IX. CONCLUSIONS

The following conclusions are drawn from the findings of the Evaluation:

1. The conceptual framework for ASNAPP partnership development is thorough and comprehensive and that the University-leg private-public partnership to enhance agribusiness development in rural sub-Saharan Africa is an appropriate one.

2. ASNAPP has done an outstanding job of providing access to information, networking with farmers, traders and processors for market linkage development of natural plant products; and has therefore, attained most of its objectives under the **Market and Information Systems** function. ***Its performance is rated as good.***

3. There is no evidence of available appropriate production technologies for any of the ASNAPP selected crops. Although thirty (30) plants have been identified for development, the possibility of most of them (except the teas and some essential oils) being commercialized in the next two or three years is questionable. ASNAPP's performance in attaining its objectives under **Research, Technology Development and Transfer is *satisfactory*.**

4. ASNAPP currently does not have an adequate capacity and has not sourced external expertise to effectively enhance farmer and rural enterprise association development. ASNAPP's performance in accomplishing its objectives under the **Farmer and Rural Enterprise Association Development is rated *as very poor*.**

5. ASNAPP has developed an outstanding QA & QC Systems for its targeted crops, which when effectively implemented in the field will meet the international standards for its ASNAPP products. ASNAPP's performance in accomplishing its objectives under its **QA & QC function is rated as *excellent*.**

6. ASNAPP activities should be continued and funded for additional three years, but its activities and management should be transferred to field missions. The level of funding will vary from country to country and will depend on the objectives and Workplans approved for each country.

7. ASNAPP/Rutgers should be funded for an additional three years. Its level of funding will also depend on revised objectives and approved workplans, which should focus on training and operationalizing the QA & QC Systems developed at the field level.

X. LIST OF CONSOLIDATED RECOMMENDATIONS

Recommendation #1
ASNAPP should immediately seek competent entity or entities to conduct the needed marketing research. The evaluation team believes that university partners in Ghana and South Africa have the technical and professional capacity to provide these services.

Recommendation #2
The R & D activities should be continued, however, a detailed work plan including required resources should be undertaken to ensure that adequate resources are available to support critical research needs.

Recommendation #3

Agricultural Economists (Production Economist/Farm Management Specialist and Marketing Economists) from the department of Agriculture Economics and Extension Education should be added to the research team.

Recommendation #4
The capacity of the tissue culture laboratory at KNUST should be enhanced to be able to produce enough planting material, as well as in-vitro storage of seed stock materials for the selected crops.

Recommendation #5
ASNAPP and KNUST should explore the possibility of developing strategy for incorporating medicinal crop and culinary herbs in the production courses of KNUST and other agricultural colleges and institutions in Ghana.

Recommendation #6
ASNAPP should explore collaboration with Bonsu Plant Genetic Resource Center for some agronomic research on some of the selected plants.

Recommendation #7
Production Economist/Farm Management Specialist from the Department of Agricultural Economics should be engaged to conduct proper economic analysis for culinary production.

Recommendation #8
An agricultural marketing economist from the Institute of Social and Economic Research at the University of Ghana should be engaged to provide advice on marketing issues of culinary herbs and specialty vegetables.

Recommendation #9
ASNAPP should explore the possibility of engaging crop scientists at University of Ghana and Ohawu Agricultural College to conduct scientific R & D for the selected culinary herbs and vegetables.

Recommendation #10
Technical production advice and training assistance should be sought from a commercial culinary herbs production farm reported to be in operation in Akosombo area, to help train the farmers, the Extension staff and the ADRA and ASNAPP technical officers.

Recommendation #11
Senegal has farmer groups who have successfully produced, processed and marketed some of the culinary herbs that ASNAPP is developing. Contacts and Lessons Learned from their experiences will be very useful. [See E. T. Acquah, et. al. "Evaluation of West Africa Small Grants Program", Volume II, or contact Dr. Sy of ITA in Cote d' Ivoire].

Recommendation #12
Through ASNAPP/Zambia, the International Development Enterprises in Zambia should be consulted for advice on possible adoption of their highly successful systems for vegetable production in rural areas (Mr. Noah of ASNAPP/Zambia has all the contacts).

Recommendation# 13
Socio-economic analysis should be enhanced in ASNAPP/SA research plan.

Recommendation #14
The department of Agricultural Economics seems to have enough staff (3) that is available for contract works. ASNAPP should use this capacity to conduct micro level economic and market analysis for each of the crops that they deal with (as has been done for rooibos tea and hydroponic tomatoes and cucumbers).

Recommendation #15
ASNAPP should revisit its R & D needs and pragmatically evaluate its research plans for enhancing technology development and transfer for the identified crops still in experimental stages.

Recommendation #16
ASNAPP should explore the possibility of utilizing domestic capacity at collaborating institutions or other NGOs or private firms to perform the services needed in each country.

Recommendation #17
It is recommended the funds should be devoted to enhancing institutional capacity (human and physical) at SU and KNUST over the next two years, so that these sites would be self-sufficient and able to perform the QA and QC function on cost recoverable basis after two years.

Recommendation#18
USAID/AFR/SD/ANRE project officer should limit his management role to those stipulated in the cooperative agreement and at a macro level.

Recommendation #19
Given the current structure of ASNAPP in Africa, the major management responsibility lies with ASNAPP/SA. It is recommended that a more senior and experienced manager from SU be appointed as Manager for ASNAPP/Africa, while retaining the two Regional Coordinator positions, but with specified management responsibilities.

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Recommendation #28
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ANNEX I

LIST OF PEOPLE CONTACTED

LIST OF PERSONS VISITED FOR ASNAPP EVALUATION

GHANA				
Name	**Institution/Organization**	**Title**	**Public Sector**	**Private Sector**
Accra				
Vincent A. Djarbeng	Adventist Development and Relief Agency	Agro-forestry Officer		✓
John Addaquay	TechnoServe	Director, International Business		✓
Julianna Dennis	Ministry of Food and Agriculture	Extension Services Directorate	✓	
Ladi Nylander	S. C. Johnson	Managing Director		✓
Edward Boateng	Ghana Export Promotion Council	Executive Secretary	✓	
K. Adu-Mensah	Ghana Export Promotion Council	General Manager	✓	
Dan Acquaye	ASNAPP/Ghana	Regional Coordinator		✓
Joy Kwakuyi	ASNAPP/Ghana	Project Assistant		✓
Diane Winn	Phyto-Riker Pharmaceuticals, Ltd.	Vice President, Herbal Medicine Division		✓
J. Donkor	Ministry of Food and Agriculture	Director of Extension	✓	
Aggrey Fynn	Ministry of Food and Agriculture	Director of Statistics and Information	✓	
Fenton Sands	USAID	Chief, TAPS	✓	
George Barden	ADRA	Executive Director		✓
Yaw Akoto	Bio Resources/OPPOTECH	Executive Director		✓
Kofi Edusei	Ministry of Health	Senior Health Planner	✓	
Essie Blay	University of Ghana, Legon	Agric. Consultant and Biotechnologist	✓	
Kumasi				
Merlin L.K. Mensah	KNUST	Department of Pharmacognosy	✓	
T. C. Fleisher	KNUST	Department of Pharmacognosy	✓	
Eric Asare	KNUST	Department of Crop Science/Horticulturist	✓	
P. Y. Boateng	KNUST	Department of Horticulture/Horticulturist	✓	
Charles Quansah	KNUST	Department of Crop Science/Agriculturist	✓	
Daniel B. Okai	KNUST	Dean, Faculty of Agriculture	✓	
Richard Akromah	KNUST	Department of Crop Science/Tissue Culturist	✓	
John Asante S.	KNUST	Department of Crop Science/C.R.I.	✓	
E. Y. Safo	KNUST	Pro Vice Chancellor	✓	

Name	Institution/Organization	Title	Public Sector	Private Sector
Aklamador				
Frank Agbeko	Aklamador Alavanyo Cooperative	Secretary		✓
Charity Amaja	Aklamador Alavanyo Cooperative	Treasure		✓
Kofi Dzigena	Aklamador Alavanyo Cooperative	Chairman		✓
David Tutor	Aklamador Alavanyo Cooperative	Project officer		✓
17 Other Farmers	Aklamador Alavanyo Cooperative	Members of ADRA linked Farmer group		✓
Asesewa				
10 Farmers	Asesewa Clieric Farmer Group	Members of TechnoServe linked Farmer group		✓
SOUTH AFRICA				
Cape Town/Stellenbosch				
Faried Manuel	WESGRO	Manager, Project Investments		✓
Retha Verler	ASNAPP	Information Specialist		✓
Marianna Smith	ASNAPP	Research		✓
Jacky Goliath	ASNAPP	Propagation		✓
Glynis Cyster	ASNAPP	Secretary		✓
Petrus Langenhover	ASNAPP	Crop Specialist		✓
Elton Jefthas	ASNAPP	Project Manager		✓
Dorvin Stockdale	USAID	Senior Agribusiness Advisor	✓	
Dawie DeVilliers	Cape Natural Tea Products	Managing Director		✓
Ntshangase Jabulani	Thabani			✓
Prof. Pieter S. Steyn	Stellenbosch University	Director of Research	✓	
G. A. Agenbag	Stellenbosch University	Professor	✓	
Elizabeth Jourbert	ARC Infruitec-Nietvoorbij	Food Scientist	✓	
Mohamad	Stellenbosch University	Professor of Agricultural Economics	✓	
Leopoldt van Huysteen	Stellenbosch University	Dean, Faculty of Agric. & Forestry Sciences	✓	
Wessel Kotze	Healthwise, Ltd.	Executive Director		✓
George Lucardie	Healthwise, Ltd.	Marketing Director		✓
Pretoria				
Felicity Davis	USDA	APHIS - Administrative Assistant	✓	
Cheryl French	USDA	APHIS – Attache	✓	
Ericaville				
John Cloete	Ericaville Farming Trust	Chairman		✓
Callen Koopman	Ericaville Farming Trust	Secretary		✓
Jenny Adams	Ericaville Farming Trust	Treasurer		✓

Name	Institution/Organization	Title	Public Sector	Private Sector
Zambia				
Peter Manda	International Development Enterprise	Special Project Manager		✓
John Siame	CARE-Zambia	Head of Agriculture, Envir. & Nat. Resources		✓
Regis Gwaba	CARE-Zambia	Sector Coordinator		✓
Brenda	CARE-Zambia	Country Director		✓
Dr. Lubaba	National Inst. For Scientific & Indus. Res.	Deputy Director	✓	
Andrea & Mr. Stucki	Africa Organics Industries	Manager and Director		✓
Mr. & Mrs. Moonga	Chikupi Farmers Group, Lusaka West	Contact Farmer		✓
Mrs. Catherine Mwanamwamba	Bimzi and Enviro Oils Limited, Lusaka	Director		✓
Mrs. Mumeka Wright	Bimzi and Enviro Oils Limited, Lusaka	General Manager		✓
Helen Gunther	USAID/Lusaka	SO1 Team Leader	✓	
Dr. Stephen Mulwokera	Golden Valley Agriculture Trust	Director		✓
Bagie Sherchand	Zambia Agribusiness Technical Assistance Center	Chief of Party		✓
Susie Burgess	Organic Producers & Processors Assoc. of Zambia	Coordinator and Technical Organic Advisor		✓
Noah Zimba	ASNAPP	Southern Africa Regional Coordinator		✓
UNITED STATES				
James Simon	Rutgers University	Principal Investigator	✓	
Erica Renaud	Rutgers University	Agriculture Research Manager	✓	
Adesoji Adelaja	Rutgers University	Executive Dean and Natural Resources	✓	
James White, Jr.	Rutgers University	Chair, Department of Plant Biology & Tech.	✓	
Mingfu Wang	Rutgers University	ASNAPP Team Member	✓	
Yaakov Tadmoy	Rutgers University	ASNAPP Team Member	✓	
David Potter	Rutgers University	ASNAPP Team Member	✓	
Rodolfo Juliani	Rutgers University	ASNAPP Team Member	✓	
Keith Cooper	Rutgers University	Dean of Research and Graduate Program	✓	
Margaret Brennan	Rutgers University	Associate Dean of Program Development	✓	
Karen Jung	Chemonics (Washington, DC)			✓
Derrick Brinkerhoff	ABT Associates (Washington, DC)			
Jerry Brown	USAID/AFR/SD	ASNAPP Project Officer	✓	✓
Catherine Watkins	USDA/FAS/ICD/DRD	DRD Manager	✓	
Loretta Shaw	USDA/FAS/ICD/DRD	Program Specialist	✓	
Djime Adoum	USDA/AFR/SD	Project Assessment Specialist	✓	

ANNEX II

SAMPLE OF INSTRUMENTS USED TO COLLECT INFORMATION

ASNAPP MID-TERM EVALUATION

I. QUESTIONNAIRE ON ISSUES

On a scale of 1-10 (with 10 being the highest and 1 being the lowest level of satisfaction), please respond to the following statements.

1. a. The Cooperative Agreements for ASNAPP has been useful [ ].

   b. Please give some reasons for your score in 1a.

2. a. The Cooperative Agreements for ASNAPP has been effective [ ].

   b. Please give some reasons for your score in 2a.

3. a. The Cooperative Agreement for ASNAPP has been efficient in implementing ASNAPP [ ].

b. Please give some reasons for your score in 3a.

4. a. The model used by ASNAPP is useful [ ].

b. How? Please give some reasons for your score in 4a.

5. a. The Model used by ASNAPP in Ghana, South Africa/Zambia/Madagascar is suitable [ ].

b. Why?

6. a. In your opinion, are there other models besides the one used in _____ that should be tried in _____? ☐ Yes ☐ No

b. If Yes, please name or describe it.

_____
_____
_____
_____
_____
_____
_____
_____

7. My knowledge and understanding the content of the ASNAPP Cooperative Agreement:

☐Very Well ☐ Well ☐ Little ☐ Very Little

8. a. Are there any Lessons Learned from ASNAPP? ☐ Yes ☐ No

b. If Yes, please list three major ones:

_____
_____
_____
_____
_____
_____
_____
_____

9. List major challenges in implementing ASNAPP.

10. a. Are there any key issues about ASNAPP that you would like to see addressed.
☐ Yes ☐ No

b. If Yes, please list and explain them.

11. a. Has ASNAPP made any impact? ☐ Yes ☐ No

b. If Yes, please describe the impact that you think ASNAPP has made.

12. How could USAID Mission(s) be brought into ASNAPP.

ASNAPP MID-TERM EVALUATION

II. Informal Questionnaire for Institutional Partners

A. **Financial Decision Making Process**

B. **Programmatic Decision Making Process**

C. **Partnership Development Process**

D. **Communication Process**

E. **Performance Reporting Process**

F. **Contract Compliance (Enforcement Responsibilities)**

G. **Process Evaluation System (Internal)**

H. **Financial Reporting**

I. **Impact Documentation and Anaysis**

J. **Sustainability Issues**

K. **Gender Issues**

ASNAPP MID-TERM EVALUATION

III. Discussion Format for Stakeholders

A. How can the universities and their partners help Associations to move a product through a supply chain?

B. How is the partnership between Private Sector and the other sectors in the industry (Host-Country, Government, Farmers, Researchers and NGOs)?

C. How do you characterize the supply base of Natural African Plant Products?

III. Discussion Format for Stakeholders

D. What is needed to enhance the skills of the farmers you work with ?

E. What needs to be done to get more farmers involved in post harvest activities?

F. What can be done to bring in younger farmers and businesses?

III. Discussion Format for Stakeholders

(G is the Researchers and Administrators only)

G. Under the University-led Institutions:

i. Do universities have support and commitment for engagement (management of such projects) i.e., policy, mandates and benefits?

Is it reflected in the universities' goals, visions and objectives? ☐ YES ☐ NO

ii. Do universities have commitment to small business development?

H. What do you perceive as the total financial support of ASNAPP ?

III. Discussion Format For Stakeholders

I. What is the population of the target population (farmers)?

ASNAPP MID-TERM EVALUATION

IV. Instrument For Institutional Arrangement

A. What do you consider as the major/critical elements of the institutional arrangements/mechanism of ASNAPP. What are the strengths and weaknesses of each element?

Major Elements	Strengths	Weaknesses

IV. Instrument For Institutional Arrangement

B. Briefly describe what has worked well under the current ASNAPP Institutional Mechanism.

C. Briefly describe what has not worked well under the current ASNAPP Institutional Mechanism.

D. What changes or corrective measures do you think are needed to strengthen the ASNAPP Institutional Arrangements?

IV. Instrument For Institutional Arrangement

E. In your opinion is there any aspect of the current ASNAPP arrangement that needs to be discontinued? ☐ **YES** ☐ **NO**

If yes, please list them:

_____

_____

_____

_____

_____

_____

_____

_____

ASNAPP MID-TERM EVALUATION

V. Informal Instrument For Producers/Marketers and Processors

Gender: _____ **Age:** _____

A. What do you know about ASNAPP ?

_____
_____
_____
_____
_____
_____
_____
_____

B. What have you learned from ASNAPP?

_____
_____
_____
_____
_____
_____
_____
_____

C. What have you gained from ASNAPP?

_____
_____
_____
_____
_____
_____
_____
_____

V. Informal Instrument For Producers/Marketers and Processors

D. How useful is ASNAPP to you ?

E. What does ASNAPP mean to you ?

F. What is your relationship with ASNAPP?

G. How long have you been affiliated with ASNAPP?

V. Informal Instrument For Producers/Marketers and Processors

H. How long do you plan to be affiliated with ASNAPP?

I. Why are you interested in ASNAPP?

J. What are you doing different in your life because of ASNAPP?

V. Informal Instrument For Producers/Marketers and Processors

K. If ASNAPP stops next year, how will it affect your work?

L. What do you like about ASNAPP?

M. What would you like to get from ASNAPP?