Winrock International Worldwide Farmer-to-Farmer Program

Executive Summary

Semi-Annual Report -- Fiscal Year 2003

The goal of Winrock's Worldwide FTF Program is to strengthen NGOs and associations to help farmers and agribusinesses meet consumer demand for increased food quantity and quality, and to improve the environmental sustainability of farming and agribusiness. Over the life of project Winrock International and our volunteers:

- Worked with 170 agricultural NGOs and associations, and 108 private farms or agribusinesses.
  - 96% of hosts targeted provide new or improved products/services.
  - 95% of hosts targeted increased business efficiency.
  - 91% of hosts targeted increased production.
  - 98% of hosts targeted use improved business planning techniques.
  - 91% of hosts targeted created new training programs.
  - 87% of hosts targeted increased revenue.
  - 95% of hosts targeted adopted improved waste or natural resource management techniques.
- Leveraged over US $47,000 in contributions from volunteers and other U.S. sources.
- Helped create over 30 new organizations.
- Encouraged FTF hosts to contribute over US $256,000 toward the cost of the volunteer assignment.
- Assisted their hosts in accessing over US $3.2 million from various sources of credit, state assistance, PL 480 local currency, and other donor assistance from within their own country.
- Worked directly with over 35,000 people, and indirectly impacted up to 2 million.

Number of volunteers and assignments

Since 1996, Worldwide FTF has completed 564 volunteer assignments with 281 hosts. During the FY2003, 118 Worldwide Farmer-to-Farmer volunteers completed 153 assignments, benefiting 6,797 women and men. Thirty of the volunteers completed multiple assignments.

Examples of tangible impacts

During FY2003, field staff completed 83 impact surveys with 62 hosts. Four assignments are profiled in **Appendix B**.

First Indian Swine Production Facility to Adopt Artificial Insemination

D.C.G. Finvest in Kolkata, India, with the help of the recommendations and suggestions from the FTF volunteer, Dr. Morgan Morrow, introduced 100% AI (Artificial Insemination) to their pig farm. They are now the only private farm to have an AI program for pigs in India. With the introduction of AI, the breeding efficiency of the farm increased to 100% and the host has started breeding higher quality pigs for the Indian market.

Flower Sales increased by 205% in Six Months

The Amber Nursery in Kathmandu, Nepal, with assistance from volunteers Christine Clark and Chris Mello has lowered the cost of flower production and improved the quality of products, meeting market demands. The total production of flower bouquets was 60 per week before the training, and has now gone up to 75. Similarly, the use of cut flowers increased from 300 to 375 per week. In addition, the host has contracted to decorate two hotels, and increased production and sales from US$2,680 to US$8,200 over a six-month period.

Milk Production Increased in Nigeria

With the help of animal science volunteer Thomas Tylutki, Garko Farms in Kano, Nigeria, has increased milk production by 70 liters per day. This will increase the revenue of the 70-cow farm by approximately $910 per month. A better calf feeding strategy was introduced by the volunteer that increased revenue from calf sales by $3,825 a year. Another result of this assignment was the establishment of a regional dairy producers' association.

Broiler Marketing Facilities Established

Following volunteer Jim Andrews' recommendations, Quality Feeds Ltd. (QFL), in Bangladesh, has started supporting the establishment of broiler selling centers using existing facilities of its feed-selling agents. QFL is providing feed agents the required financial and technical assistance to create additional facilities for selling the broilers. This sort of marketing support is critical for commercial broiler growers, since middlemen decrease profit margins of poor poultry farmers.

40% Increase in Fish Production

Aquaculture expert Dr. Hugh Thomforde's training to regularly monitor water quality and availability of natural feed (plankton) by checking water color has helped Micro Fisheries to improve productivity and profits. Micro Fisheries, a component of Micro Agribusiness near Dhaka, Bangladesh, has optimized fertilizer use, is maintaining water quality, containing disease problems and ensuring good quality fish production due to the training offered by Dr. Thomforde. As a result, production of fish at Micro Fisheries has increased substantially and profit has increased roughly 43% from US $3500 to US $5000.

Contractor: Winrock International Institute for Agricultural Development
Cooperative Agreement No. FAO-00-96-90028-00 (Phase II)
Reporting period: April 1, 2003- September 30, 2003

I. Program Results and Analysis

A. Program Targets and Actual Results

Over the two-year period of the Worldwide Farmer-to-Farmer extension (2002-2003) Winrock International anticipated that a total of 104 volunteer assignments would be completed. During the extension 167 volunteer assignments were completed, excluding Nigeria

Worldwide Farmer-to-Farmer Extension 2002-2003*

Anticipated results	Actual Results *Based on surveys of approximately 62% of WW FTF Hosts*
60 enterprises increase revenue	63 enterprises increase revenue
70 hosts increase production	74 hosts increase production
25 hosts produce new products/services	89 hosts produce new products/services
20 hosts expand membership	40 hosts expand membership
70 hosts increase efficiency/resource conservation	77 hosts increase efficiency/resource conservation
5 hosts improve natural resources management	27 hosts improve natural resources management

B. Results this Fiscal Year

1. Program Inputs and Outputs

Volunteer Assignments

During FY2003, Worldwide FTF fielded 118 volunteers to complete 153 assignments in Bangladesh, India, Mali, Nepal, Ghana, Nigeria, Mauritania, Nicaragua, Sri Lanka and Senegal, directly benefiting 6,797 women and men. Thirty of the volunteers completed multiple assignments. Of 118 volunteers fielded this period, 88 were new to the program this fiscal year (**Table I.1**).

Since the beginning of the project, Worldwide FTF has completed 564 volunteer assignments with 281 hosts. Thirty-six percent of the hosts have received multiple FTF assignments (**Table I.2 and III**).

2. Examples of Results at Host Level

During FY2003, FTF field staff and our partners completed impact surveys on 83 assignments

with 62 Worldwide FTF hosts in Bangladesh, Ghana, India, Nepal, and Nigeria. The impacts reported here are the result of assignments that occurred between October 2000 and September 2003. Twenty-four of the surveyed hosts are private enterprises and farmers, 24 hosts are farmers associations and other agribusiness organizations, and 14 are nongovernmental organizations. Additional descriptions of FTF results are in **Appendix B**.

Fisheries Production Streamlined

Dr. Gordon Mengal's assignment in the Ashanti region of Ghana has brought tremendous improvement to Ghana's fishery industry. Significant changes include: better selection of brood stock for induced spawning, and improved water quality monitoring. Smaller-size brood stock (500g – 1kg) are now selected for induced spawning. Brood stocks of this size are easy to handle during egg stripping and produce a better egg per body weight. Deaths resulting from difficult handling of larger brood stock have been greatly reduced. Direct training of farmers in induced spawning of the African catfish has begun. As part of the training, farmers are taught to improve fish mortality by constructing enclosed ponds. One farmer has already built enclosed nursery ponds to reduce predation. The Fisheries Department has become more conscious of the water quality in fishponds. Water quality monitoring, which was sporadic, is now routine. Fingerling production by the department increased considerably.

Mushroom production Increased by 57%

As a result of mushroom expert Dr. Julia Mignucci's assistance, significant improvements have taken place in both quality and quantity of mushrooms, produced at mushroom production units of Center for Mass Education in Science (CMES), a Bangladeshi NGO, working with adolescent boys and girls. Volunteer training has helped CMES to drastically reduce spawn contamination rate, and achieve robust mycelium growth. The substrate to mushroom ratio has improved after the introduction of a richer substrate, which is in many cases less expensive, and losses in harvesting and storage have dropped to the benefit of mushroom growers. Because of the careful selection of tissue culture from more suitable strains, mushroom production under extreme conditions is also yielding encouraging results. Due to all of these positive improvements, yield of mushroom has increased by about 57%, from 32 to 50 kgs (dry weight basis).

Poultry Mortality Reduced

Based on poultry expert Dr. Bedros Nersessian's recommendations, Usha Poultry Ltd. (UPL), a Bangladesh poultry breeder farm and hatchery, has made significant changes in areas such as farm bio-security, disease diagnosis and detection practices, vaccination programs, use of antibiotics and other medicines, and managing multi-age flocks. As a result, UPL's bio-security and basic health care of breeder flocks have undergone significant improvements, the vaccination program has become less stressful for breeder flocks and antibiotics are now being used more judicially. With all these improvements, bird mortality at UPL has decreased and UPL can now produce better quality day-old chicks in increased numbers for the benefit of commercial farm owners.

Tissue Culture Production Increases by 140%

With volunteer Sandra J. Higgins assistance, Botanical Enterprises Pvt. Ltd. a tissue culture factory in Nepal, has made a significant improvement in overall tissue culture export business of aquatic plants by improving the quality of deteriorated species of *Armoritia acquatica* and *Cardamine lyrata.* Monthly production of *Micranthemum ambrosium, Armoritia acquatica* and *Cardamine lyrata* has increased from 1,000 plants before the assignment to 2,400 plants representing an increase of 140 %, with the same level of available resources by using improved methods as advised by the volunteer. At the same time, the host is able to improve and preserve the mother plants. As a result, the host does not need to import mother plants from abroad more frequently for further propagation. Total revenue from sales increased by $ 7,700 (28.7%) from $26,800 before the assignment to $34,500 six months after the assignment.

New Fish Feed Developed

While on his assignment with Rupshi Fish Feed Mill Ltd. (RFFML), near Dhaka, Bangladesh, Dr. Mian N. Riaz worked with the extruder operators of the mill and helped to put together a new configuration to successfully produce 3 mm floating feed for fish. RFFML had previously installed equipment to produce different size feeds including 3 mm, but since installation, the mill experienced problems in making feeds smaller than 6 mm. As an outcome of technical interventions, the RFFML succeeded in producing 3 mm feed. Dr. Riaz also suggested that by making small adjustments in some equipment and spare parts, the mill would be able to produce even smaller size feeds. This will enable the host to meet the growing demands of fish nurseries for smaller feed.

Private organization receives Winrock assistance

Wilbahi Investment Limited has funding for up to US $1.5 million for agricultural projects from the Nigerian Agricultural Credit and Rural Development Bank (NACRDB). However, the Bank requires proper cost/benefit analyses, feasibility studies or business plans before the funds can be released. Wilbahi has farm locations in Epe, Lagos State and Ewohimi, Edo State that are planted with oil palm and pineapples (major crops) with potential for expansion. Wilbahi farms are interested in adding value to their produce (oil palm and pineapple), as well as introducing new areas like fisheries and beekeeping that are low cost, high return and relatively easy to manage. Three Winrock International volunteers John Underwood (livestock), Charlie Johnson (aquaculture) and Alhaji Idris Bee (beekeeping) conducted a site assessment of Wilbahi farms and submitted several reports that will serve as a basis for the feasibility studies. Alhaji Idris Bee helped set up beehives at Wilbahi farm in Ewohimi, Edo State. The farm owner, Prince Solomon Aguele informed Winrock field staff that he stopped buying imported honey after he was trained on honey processing by the volunteer. He estimated a harvest of about 40 liters of honey from his five hives over the last five months. He has requested Alhaji Idris Bee to draw up a plan for commercialization, which he is willing to fund. Prince Solomon has made a commitment to provide further training and community participation in the expansion of the beekeeping efforts of the farm site. John Underwood recommended livestock integration on the farm with pig production, using exotic breeds as the starting point. He presented a cost/benefit plan for this venture and Wilbahi has prepared a site for immediate start-up. Also they have acquired an import permit from the Federal Ministries of Agriculture and Environment to bring in exotic

breeds of fast growing hybrids of pigs. Volunteer Charlie Johnson helped Wilbahi farms with an initial design for a fish farm. They have also contacted another Winrock International host organization (Durante Industries) for supply of fingerlings and fish feed, as well as for assistance with the feasibility studies.

3. Major Achievements

Program Effectiveness

While supplying high-level technical assistance to host organizations, FTF volunteers also provide ongoing mentoring and a personal commitment that far surpasses what a traditional "consultant" would supply.

Some examples of returned volunteer impacts follow:

- Volunteers have provided, at their own expense, equipment, seeds, plant materials, software and other items to help support the host they had worked with.
- Volunteers have returned home and designed plans for dairy systems, irrigation systems, research proposals, business plans, applications for grants and a multitude of support not called for in their assignment.
- Volunteers have returned home and arranged, and paid for, medical care for contacts they made on an FtF assignment (eye surgery, for example).
- Volunteers have maintained e-mail contact (sometimes through country staff) with the host on a continuous basis.
- Volunteers have paid for the trip of a host to the U.S. to acquaint them with technology that would be of use to them. They also arrange tours of U.S. facilities and meetings with industry specialist.
- Volunteers have provided significant funding to the operation of a host that they were working with.
- Hosts see volunteers as caring people who were happy to share their knowledge, friendship and culture.

This period, roughly 95% of volunteers surveyed report they continue assisting hosts after their assignments, mostly via email. Following are examples of follow-up assistance reported during this period:

- After multiple assignments in South Asia, banana expert, Dr. Pablo Jordan, has provided the volunteer program in Nepal a manual on micropropagation of bananas, introduced a new a fertilizer program for the banana growers, and has made a commitment to finance one thousand tissue banana plants to be produced by a laboratory located in Kathmandu. These plants will be given to the banana growers of the Dhangihaat area.
- Nathan Emery returned home from his assignments in Ghana and Nigeria and immediately began work on project ideas and proposals with his hosts. One has already been developed and accepted for review by the funding agency in Nigeria and another is a pollination research project for cash crop in Ghana.

- Volunteer Roy Chapin recently reestablished contact with his host, a dairy in Bangladesh, two years after his first assignment there. He emailed the host and asked for their cattle feed ingredient cost, and milk price. He is able to run this information through a computer program that will allow him to predict production profitability and give updated recommendations.
- Since Brian Bean's completion of two assignments in Nigeria he has continued to advise his hosts on fishpond construction and regularly sends them information via mail.
- Dr. James Morrill has responded to several questions from his host in Nepal via email about the use of a computer program he introduced, and some dairy related research.

Volunteers give freely of their skills and their personal concern after carrying out their assignments. The following is a comment from a volunteer on his follow-up assignments in Asia.

"In general, for both India and Nepal, the income level of my hosts had increased substantially. In Nepal particularly, the income level of my hosts had increased two to three times the previous level. Hosts in both countries looked upon the fruit growing industry as a more lucrative form of agriculture. In my first visit, most participants gave very little care to their orchards and the orchards returned very little to their owners. On my return visits, the growers had followed my advice, given more attention and care to their orchards, and the orchards responded with increased yields, quality and income. Growers in both countries had become more optimistic about the orchard business to the point of expanding their plantings in some cases. Probably the 'hands on' demonstrations were the most effective part of my assignments. It is much easier to see what I'm talking about than to tell about it. The growers liked the involvement and the active participation. They appreciated my willingness to sweat and participate in the tree training and pruning process… I think that the participants that I interacted with will become the foundation of a fruit industry that will flourish in their respective countries. This has been one of the most rewarding experiences of my own life. I've made lasting friendships with my hosts, communicate with them frequently, and will interact with them in the future even if the FtF program ends." - John Aselage, eleven FTF assignments since October 1997

Other Thoughts About Benefits of VTA vs. Paid Consultants:

- VTA often addresses different "markets" than paid consultants would.
- VTA offers private American citizens an opportunity to participate in international diplomacy as informal Ambassadors of American good will and then to share their experiences of international understanding with others in their communities when they return.
- VTA promotes understanding of other peoples to Americans and gives foreign hosts an opportunity to interact with private American citizens and benefit from their expertise on a personal as well as professional level.
- VTA assignments are often not over with after the physical assignment. Often contacts between volunteers and former hosts continue for years.
- VTA gives an opportunity for skilled and experienced American technical experts to share

their experience because they want to help others and " give back " to their country and others. Many volunteers, especially retirees, would not do the work that they do for pay, since personal gain is not what they seek.

Spread Effect

India

FTF India completed 123 assignments from September 1996 till September 2003 with 78 volunteers covering 16 states of India. To share information more broadly, several volunteers were fielded in alliance with national and state level organizations, institutions, associations and state agricultural universities other than NGOs and private organizations, for example:

- American Soybean Association (ASA)
- Diversified Agricultural Support Project (DASP)
- State Agricultural University in Tamil Nadu (TNAU)
- National Horticulture Research and Development Foundation (NHR and DF)
- Mahagrapes

In the selection of the hosts, FTF India sought out organizations capable of disseminating information to their members. FTF India selected state level institutes, non-profit and private organizations that implement the assignments along with private entrepreneurs. For example, Diversified Agriculture Support Project (DASP) works in five districts of the state Uttaranchal (Northern India), affecting the lives of more than 12,000 farming families. HESCO in Uttaranchal's Garhwal area works with approximately 500 families of hill farmers; Morarka Foundation in Rajasthan (Western India) works with 10,000 farmers involved in organic farming; Tamil Nadu Agriculture University (TNAU) in Southern India affects the life of most of the farmers in the state through their recommendations and training programs. Wider dissemination of knowledge occurs by implementing the assignments with these institutions and organizations. They also translate the suggestions and end of assignment reports into the local language, which leads to wider adaptability and acceptability of the FTF volunteer's recommendations and suggestions. These organizations also help in providing the logistical support and sharing local costs.

During a volunteer visit FTF India encourages host organization staff to be involved with the FTF volunteers on a one to one basis, this allows them to attain a better understanding of the volunteer's advice. They acquire knowledge and spread the suggestions and recommendations among the farmers and other agribusiness entrepreneurs. These people in turn act as a contact point for any exchange of ideas and knowledge with the volunteers even after the assignment is over.

FTF India also organized seminars, meetings and interaction with the local scientific community to enable them to share ideas and even sign MOUs to participate in long-term knowledge sharing relationships.

Examples: Some examples of spread effects are as follows:

- CHIRAG, an NGO in the state of Uttaranchal developed five tools from a book donated by volunteer John Hayden. Chirag exhibited these tools in Agri Expo - 2002 (a national level agricultural exhibition) in New Delhi visited by more than 200,000 people. As an NGO, CHIRAG reaches out to two developmental blocks covering 3,000 farming families.
- Volunteers Dr. P. J. McLeod and Ann Hazelrigg prepared fact sheets on vegetables for DASP. DASP is translating them to the local language and will distribute them among extension workers and farmers for easy understanding of new techniques. DASP works in five developmental blocks of Uttaranchal targeting 12,000 farming families.
- MOUs were signed with N.C. State Agriculture University by three Indian Agriculture institutes which paved way for:
  - Students from these Indian institutes to receive more education opportunities
  - More collaborative research between these institutes
- With the help of volunteer Mr. Len Stuttman three organizations in the Northern Indian states of Punjab and Delhi developed Soy Nuts from soybeans for the first time in India. Super Foods, one of the organizations started marketing these soy nuts under the brand name of Allegro along with other soy food products in Delhi market in about 25 outlets.

Nepal

As of September 2003, a total of 125 volunteer assignments were completed. These assignments directly benefited 4,544 males and 1,662 females. The program has so far covered 27 districts and 13 zones, out of 75 districts and 14 zones, in the country.

FTF volunteers trained the members of Sidhuwa Multipurpose Cooperative and tomato growers of Budhimorang, Dhankuta. FTF Volunteer's training has been very successful in terms of disseminating positive effect to the vegetable farmers in neighboring districts and villages such as vegetable farmers of different areas of Sankhuwasabha and farmers from Terathum district. The Sidhuwa cooperative has been providing services to eight Village Development Committees (VDCs) in the Dhankuta and Terhathum districts and one VDC of the Sankhuwasabha district with a total coverage of 1,500 households. The spread effect of vegetable farming can be easily visible in a qualitative term in the different areas of adjoining Sankhuwasabha district, such as Namling, Tamatphok, Telluk. The farmers from Terathum district have also benefited in terms of technology of off-season vegetable production and disease pest control measures through observation and interaction with the farmers of the Sidhuwa cooperative. As new insecticides and fungicides as per volunteer's recommendation are available in the co-operatives, farmers in the neighboring districts have improved knowledge and access to these inputs contributing to the spread effect of improved technology. Similarly, the number of the vegetable producer's associations (VPA) group increased from 14 to 22 in Budhimorang of Dhankuta district.

Sector Results

Nepal

Vegetable farming especially off-season vegetable production has played a significant role in the hilly regions of Nepal. The sector has proven markets, both domestic and international. The FTF program was able to work with cooperatives and vegetable farmers' groups to improve production practices for higher productivity and control of pests and diseases through application of Sustainable Integrated Pest Management (IPM) methods.

During the period, a total of eight assignments on improved technology for vegetable production, vegetable seed production and quality control, integrated pest and nutrient management were completed by eleven FTF volunteers in the eastern, central and mid western regions of Nepal. To provide better diffusion of FTF technical assistance in vegetable production, processing and handling, volunteers conducted hands-on demonstrations for non-governmental organizations, the Seed Entrepreneurs Association of Nepal (SEAN), Agro Enterprises Center (AEC), and many vegetable producer associations (VPA) and cooperatives. Volunteers directly worked with 1,422 vegetable growers, which include 328 female and 1,094 male farmers. The total number of beneficiaries in the vegetable sector is 4,058 including 2,636 indirect beneficiaries.

To have better spread effect and sustainability of volunteer technical assistance, efforts were made for participation of the relevant technical staff from government agricultural research stations, district agriculture development offices and relevant government agencies. This approach has played a significant role in the diffusion of the volunteer recommendations.

The demand of vegetables during the off-season is very high and brings premium prices. The off-season production is better because main season crops are more prone to diseases and pest attack. Due to the lack of proper technologies and techniques for pest management, production and productivity were very low and growers were reluctant to expand their vegetable growing areas. With the introduction of cultivation techniques, safe and efficient integrated pest management (IPM) techniques, plant nutrient management and post-harvest handling by FTF volunteers, vegetable production in the eastern hills has played a significant role in higher productivity and investment return during the off-season. It has made a significant impact on the local economy with vegetables being supplied to the domestic market as well as new exports to adjoining Indian border markets.

Host Sustainability

Nepal

The Sidhuwa Multipurpose Cooperative Ltd. was established in 1995 at Sidhuwa bazar of Dhankuta district in Eastern Nepal with a total of 300 members and a share capital of less than US $500 per year. The cooperative is actively involved in providing essential services to the cooperative members and non-members alike in commercial vegetable cultivation. Through volunteer intervention, cooperative members have gained knowledge about insects, disease

management, and the use of the correct amounts of insecticide as well as proper application schedules. They have learned to use protective clothes and masks while spraying. After receiving training, the cooperative has been more responsible for marketing, training and providing inputs such as seeds and fertilizers in a timelier fashion to its farmer-members. The whole community has been aware of the positive contribution of FTF assistance. Increases in production are due to better management of insects, diseases and soil fertility. Because of this, farmers who did not cultivate vegetables in the past have now started. This has resulted in roughly a 20% increase in the area sown to vegetables. The members who received training on improved management practices have passed on this information to the non-members.

There have been significant changes in the scale of production and productivity as perceived by the cooperative members. For example, there were transactions of approximately US $533,333 from local sales and exports of cabbage, cauliflower, radish, carrot, peas, potatoes, vegetable seeds and pesticides business. The control of pests and diseases has contributed US $69,564 in increased sales revenue to vegetable growers. In the past, losses from fungal disease were 50% of the total crop stand; this has been reduced to 10% following volunteer technical assistance. Farmers are not only selling vegetables, but also vegetable seed. Similarly, the VPA members followed the recommendations and harvested 13.5 metric tons per hectare representing an increase of 8% (12.5 metric tons per hectare previously) higher production by minimizing the incidence of bacterial wilt. In the following season, the area under tomato cultivation increased from 8 to 15 hectares, an increase of 87%. These options for income generation are largely supported by the knowledge gained in the training through healthy plant production techniques.

Farmers, after receiving training have been able to generate technological innovation due to a better understanding of biology and pest and disease management. Similarly, they have been successful using improved planning and strategies such as staggering in sowing and harvesting to match market demand throughout the year. This is possible due to temperate climatic conditions. The capacity of the cooperative has been strengthened in terms of increased awareness in management, environmental protection, and knowledge about appropriate contact persons and agencies

Diffusion of improved Science and Technology

India

The FTF volunteers bring in lot of knowledge and technology with them to share with host and partner organizations. Some recommendations are simple enough to increase the productivity and the quality of the product while other recommendations require more resources. The host organizations adopt these new technologies whenever possible and in some cases for the first time in India with great success. Below are some examples:

- With the help of FTF Volunteer Dr. William M. Morrow, FTF Host D.C.G. Finvest of Kolkata introduced Artificial Insemination of Swine for the first time in India to breed high quality pigs.
- Dr. Tilak Dhiman helped introduce the use of Roasted Soybean in animal feed for the

very first time in India while working with the Indian Animal Feed industry. Following his recommendations, three organizations have started incorporating roasted soybean in their animal feed. This will help bolster the productivity of dairy animals in terms of higher milk production.

- FTF Volunteer John Aselage in Himachal Pradesh introduced proper pruning techniques for apple trees. Today, all farmers, approximately 280 apple growers, have followed John's recommendations during the 2002-2003 pruning season, resulting in more medium-sized and better-colored fruits. The prices received for these fruits US$2-4 higher than for other fruits.
- Soybean Processing Unit in Bhopal under the umbrella of Indian Council of Agriculture Research, for the first time in India introduced the following with the help of FTF Volunteer Dr. H.R. Ashraf
    - established a Soy-Dairy Plant Certification Program
    - constructed kitchen based on the layout provided by the FTF Volunteer
    - started a HACCP Program for Soy Cow Plant
    - formed an Association of Soybean Processing Utilization Trainees Alumni (SPUTA)
- Because of the intervention by FTF volunteer, Dr. Wyatt Mangum, Tamil Nadu Agriculture University started a formal course on beekeeping with a group of 50 students. One trainee has, in turn, taken on the responsibility of training the tribal people in beekeeping through the use of natural flora available in the forest, which will enhance the income and sustainability for them.
- Through FTF Volunteer Roy Chapin's practical recommendations and suggestions, the village of Koti achieved higher milk yields of 25-30% (from 2.25L to 3.25L per day per animal) and improved animal health. The host adopted the village of Koti -with approximately 50 families - and developed it as a model village for replicating practices to other villages in the Garhwal Himalayas of Uttaranchal.

II. Public Outreach and Impacts in the United States

A. Volunteer Outreach

Each period, Winrock surveys the volunteers fielded in the previous period regarding their post-assignment outreach activities, such as newspaper articles written, radio or television interviews, and group presentations. Winrock emails or faxes an outreach survey to all volunteers. During FY2003, 21 volunteers reported that they have conducted public outreach regarding their FTF assignments. Over the life of project, 94 volunteers have reported that they completed 279 group presentations (**Appendix A, Table X**).

- Dave Calley, Jr. spoke about his calf and heifer management assignment in Nigeria to over 80 members of his local FFA and had an article published in the Tribune Phonograph, a local newspaper.

- Dr. Romulus Whitaker has presented information on his conservation assignment in Bangladesh three times to over 150 people.

- Larry Plesent has given a total of three presentations on his soap making assignment in Ghana to approximately 75 people.

Newspaper and newsletter articles received during this period are included in **Appendix C**. **Appendix D** contains newsletters and articles published overseas about the FTF Program.

III. Administrative Information

A. Africa Regional FTF Program

During this quarter the partner database was refined. This tool enables partner organizations to have a place on the Winrock system to have their own volunteer management and tracking system. All aspects of volunteer support from volunteer application to submission of the final report are tracked using this system. The Tuskegee team was briefed on these changes. Tuskegee University team members also traveled twice to Nigeria last quarter to assist with impact gathering. They also recruited and conducted outreach.

B. Asia Regional FTF Program

In July of 2003, Dr. P. S. Srinivasan, FTF Asia Regional Director, was elected President of the Rotary Club of Gurgaon, New Delhi.

In Nepal, an independent four-member team, under the leadership of Dr. Naba Raj Devkota, Deputy Director or Research and Publication, Tribhuvan University, was assigned by the Social Welfare Council (SWC) to evaluate the FTF Nepal program. The team members have

independently evaluated and published the evaluation report in June 2003. The evaluation report shows the satisfactory performance of volunteers and the FTF Nepal program.

C Other Administrative Information

Farmer-to-Farmer field staff contributed substantially to the preparation of this report by submitting program results and analysis, and writing all of the volunteer impact summaries in **Appendix B**.

D. Financial Information

Table 1 presents financial information for this period and project to date.

Table 1. Summary of Worldwide FTF Financial Analysis for Third and Fourth Quarter of FY2003

3rd and 4th Qtr. Financial Analysis FY2003	Total Spent All Previous Periods	Expenses 3rd and 4th Qtr. FY2003	Expenses Project Life to Date	Total Budget*	Remainder	Percent Spent
Program Total	$4,362,887	$616,048	$4,978,935	$5,280,540	$301,605	94%
Sub-recipient	$927,884	$194,314	$1,122,198	$1,320,690	$198,492	85%
Procurement	$175,104	$4,630	$179,734	$255,236	$75,502	70%
Indirect Costs	$1,227,928	$144,511	$1,372,439	$1,391,884	$19,445	99%
Total USAID Amount	**$6,693,803**	$959,503	$7,653,307	$8,248,350	$595,043	93%
Non-Federal Contribution	$2,634,600	$326,249	$2,960,849	$2,729,097	($231,752)	108%

Table 1 does not reflect complete expenses for the third and fourth quarter because all bills have not been submitted to Winrock.
*This reflects the Nigeria add-on and WWFTF extension.

Appendix A

Farmer-to-Farmer Program Indicator Tables

FTF Program Inputs and Outputs

During FY2003, Worldwide FTF has fielded 118 volunteers to complete 153 assignments in Bangladesh, India, Mali, Nepal, Ghana, Nigeria, Mauritania, Nicaragua, Sri Lanka and Senegal. Thirty of the volunteers completed multiple assignments. Eighty-eight of these volunteers are new to the program this fiscal year.

Table I.1 Annual Volunteer Inputs

	FY 00	FY 01	FY 02	FY 03	LOP
A. Total LOP number of volunteers[1]	37	63	71	88	336
Male	28	53	45	73	259
Female	9	10	26	15	77
B. Annual number of international FTF volunteer trips[2]	52	78	126	130	494
C. Annual average cost per volunteer day[3]	$826	$1,230	$958	$880	$976
D. Annual average cost per volunteer day (full assignment) [4]	--	--	$839	$768	$861
E. Annual estimated value of FTF volunteers' professional time	$344,800	$484,228	$604,800	$702,171	$2,662,766

[1]This number is **cumulative**. One volunteer may only be counted once in this row for the entire LOP.
[2]International Volunteer Trips originate in the U.S. A multiple assignment trip in which the volunteer travels between two local countries will only count as one International Volunteer Trip.
[3]The intent of Row C is to provide a simple annual measure of the cost efficiency of the volunteer program. For each reporting period, please provide an average cost per volunteer day, including all overhead and indirect costs. Volunteer Days should be calculated the same as "per diem days".
[4]This includes Volunteer Days plus an additional two days for pre assignment preparation and post assignment wrap up in the U.S.

During FY2003, thirty volunteers completed piggyback assignments. While the cost per volunteer day is higher, there are significant benefits to this regional approach. Winrock calculates the estimated value of WW FTF volunteers' professional time based upon a 6-day work week, valued at $400 per day.

Table I.2 Cumulative Number of Volunteers and Assignments by U.S. State of Origin

		Cumulative Number of Volunteers (see Table I.1, Row A)[1]						Cumulative Number of Volunteer Assignments[2]					
		Previous Total		This Period		New Total		Previous Total		This Period		New Total	
Regions	**States**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
Northeast													
	Connecticut	1	2	0	0	1	2	2	3	0	0	2	3
	Delaware	1		0	0	1	0	3		0	0	3	0
	Maine		1	0	0	0	1		1	0	0	0	1
	Maryland	6		0	0	6	0	6		0	0	6	0
	Mass.	2	1	2	0	4	1	2	3	3	0	5	3
	New Hamp.	1	1	0	0	1	1	1	1	0	0	1	1
	New Jersey	2	3	1	1	3	4	5	3	1	1	6	4
	New York	4	4	5	1	9	5	5	5	6	1	11	6
	Penn.	4	1	1	0	5	1	7	1	1	0	8	1
	Rhode Is.			0	0	0	0			0	0	0	0
	Vermont	1	2	1	2	2	4	1	5	1	3	2	8
	Wash., DC		1	0	1	0	2		1	0	1	0	2
	Subtotal	22	16	10	5	32	21	32	23	12	6	44	29
Southeast						0	0					0	0
	Alabama	3		4	1	7	1	3		5	2	8	2
	Arkansas	14	3	7	1	21	4	38	3	8	1	46	4
	Florida	15	1	2	0	17	1	39	1	2	0	41	1
	Georgia	7		1	1	8	1	7		1	1	8	1
	Kentucky	2	1	0	0	2	1	3	2	0	0	3	2
	Louisiana	2	1	1	1	3	2	2	1	2	2	4	3
	Mississippi	2		1	0	3	0	3		3	0	6	0
	North Carolina	17	2	7	0	24	2	35	2	11	0	46	2
	South Carolina			0	1	0	1			0	1	0	1
	Tennessee	1		1	0	2	0	2		1	0	3	0
	Virginia	7	3	2	0	9	3	16	6	2	0	18	6
	West Vir.			1	0	1	0			1	0	1	0
	Subtotal	70	11	27	5	97	16	148	15	36	7	184	22
Midwest						0	0					0	0
	Illinois	2	4	0	1	2	5	4	7	0	1	4	8
	Indiana	3	1	0	0	3	1	5	1	0	0	5	1
	Iowa	16	4	1	0	17	4	19	4	1	0	20	4
	Kansas	4		2	0	6	0	6		3	0	9	0
	Missouri	4	1	0	0	4	1	5	1	0	0	5	1
	Nebraska	4	4	0	0	4	4	7	8	0	0	7	8
	Ohio	1		0	0	1	0	2		0	0	2	0
	Subtotal	34	14	3	1	37	15	48	21	4	1	52	22

Table I.2 Cumulative Number of Volunteers and Assignments by U.S. State of Origin (cont.)

		Cumulative Number of Volunteers (see Table I.1, Row A)[1]						Cumulative Number of Volunteer Assignments[2]					
		Previous Total		This Period		New Total		Previous Total		This Period		New Total	
Regions	**States**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
Upper Midwest													
	Michigan	4	1	3	0	7	1	4	1	3	0	7	1
	Minnesota	8	3	2	0	10	3	9	3	2	0	11	3
	North Dakota			0	0	0	0			0	0	0	0
	South Dakota	1		1	0	2	0	3		1	0	4	0
	Wisconsin	13	2	5	1	18	3	18	7	5	1	23	8
	Subtotal	26	6	11	1	37	7	34	11	11	1	45	12
Rocky Mountain						0	0					0	0
	Colorado	6		3	0	9	0	6		4	0	10	0
	Idaho	3	2	0	0	3	2	4	2	0	0	4	2
	Montana	2	1	2	0	4	1	2	1	4	0	6	1
	Utah	1		1	0	2	0	1		1	0	2	0
	Wyoming			0	0	0	0			0	0	0	0
	Subtotal	12	3	6	0	18	3	13	3	9	0	22	3
West Coast						0	0					0	0
	Alaska			0	0	0	0			0	0	0	0
	Hawaii	5	2	1	0	6	2	8	2	1	0	9	2
	California	21	2	5	0	26	5	34	2	5	0	39	2
	Oregon	5	2	0	0	5	2	9	2	0	0	9	2
	Washington	7	1	2	0	9	1	12	2	3	0	15	2
	Subtotal	38	7	8	0	46	7	63	8	9	0	72	8
Southwest						0	0					0	0
	Arizona	1	1	0	0	1	1	2	1	0	0	2	1
	Nevada			1	0	1	0			1	0	1	0
	New Mexico	1		1	0	2	0	5		1	0	6	0
	Oklahoma			1	0	1	0			1	0	1	0
	Texas	5		3	0	8	0	7		3	0	10	0
	Subtotal	7	1	6	0	13	1	14	1	6	0	20	1
Other countries		8	4	1	0	9	4			1	0	1	0
	TOTAL	186	62	73	15	259	77	331	80	127	26	456	108

[1]This number is cumulative. One volunteer may only be counted once in this row for the entire LOP. Therefore, columns for this period do not include volunteers already fielded in the previous period.

[2]This number is cumulative, however it will reflect a double-counting of volunteers, as often a volunteer will perform multiple assignments, either by piggy-backing on a single trip or by making multiple volunteer trips.

Table II. Annual Volunteer Outputs

	FY 00	FY 01	FY 02	FY 03	LOP
A. Annual estimated value of resources leveraged by the grantee/ volunteers in the U.S.[1]	$928	$9,743	$8,790	$13,655	$47,208
B. Annual estimated value of resources leveraged by the host in host country[2]	$27,172	$39,543	$55,104	$83,658	$256,726
C. Annual estimated value of resources mobilized by Host[3]	$4,463	$33,761	$8,300	$21,040	$3,211,257
D. Annual total number of direct beneficiaries of FTF assistance.[4]	3,945	9,430	8,497	6,797	35,384
Male	2,495	5,391	5,753	4,696	23,445
Female	1,450	4,039	2,744	2,101	11,939
1. Annual number of persons receiving direct formal training (a subset of direct beneficiaries) [5]	1,283	2,421	3,005	4,937	12,119
Male	1,082	1,701	2,014	3,943	8,947
Female	201	720	991	994	3,172
E. Annual number of Hosts who have participated in U.S. based training and exchange programs through all sources (e.g. USIA, NET, Cochran, etc.)	2	0	17	8	41

[1]These funds are raised in the U.S. by the volunteer or grantee and counted as a matching contribution for the grant. Sum across years will provide LOP total.

[2]These are funds leveraged by the host in the host country. Some examples might be lodging, meals or translator assistance provided by the host. This number is an estimate and also counts as a matching contribution for the grant. Sum across years will provide LOP total. (This row does not include "resources mobilized").

[3]"Resources mobilized" are resources that FTF volunteers assist their hosts in accessing, such as various sources of credit, state assistance, PL 480 local currency, other donor assistance, etc. Sum across years will provide LOP total.

[4]Direct beneficiaries receive face-to-face or hands on training or assistance from the FTF volunteer. Indirect beneficiaries (for example, those trained by direct beneficiaries) should not be included in this data.

[5]Formal training would include an organized seminar in which participants are invited to specifically attend for planned and scheduled training. This would not include an impromptu or unplanned session. Estimates are not complete because Winrock started collecting this data, segregated by gender, in the middle of the fiscal year.

Table III. FTF Host Assignments Cumulative Summary

FTF Hosts[1]	**Previous Total**	**LOP Total**
A. Host with a single FTF assignment.[2]	143	179
B. Hosts with multiple FTF assignments.[3]	77	102
Total number of Hosts[4]	**220**	**281**

[1]There should be no carryover numbers from the former grant program, i.e., multiple assignments include only those in the current grant program. A host will not be counted more than once in this table for the entire LOP.
[2]Hosts with first-time assignment(s) may receive one volunteer or a team of volunteers. For example, if three volunteers work together with a single host for the first time, that host should be counted in row A.
[3]Once a host receives a second assignment, add it to New Total in row B, hosts with multiple FTF assignments. Subtract this number from Row A. For example, if the former total number of hosts with first time assignments is 10, and in this reporting period, five of those hosts receive volunteer assistance again, then the "new total" column will reflect five additional hosts in Row B, and consequently it will reflect five fewer hosts in the "new total" for Row A.
[4]The LOP Total to date will always be reflected in the Total Hosts/New Total box which is a sum of A+B.

Table IV. Annual and Cumulative Total Number of FTF Hosts

	FY 00		FY 01		FY 02		FY 03	
Host Categories[1]	Annual[2]	Cumulative[3]	Annual[2]	Cumulative[3]	Annual[2]	Cumulative[3]	Annual[2]	Cumulative[3]
A. Private Enterprises	22	50	21	65	23	85	33	108
B. Organizations	15	35	21	53	35	87	33	110
C. NGOs	7	15	14	28	24	47	21	60
D. Rural Financial Institutions	0	0	0	0	0	0	3	3
Total Number of Hosts[4]	**44**	**100**	**56**	**146**	**82**	**219**	**90**	**281**

[1]The new host classifications in Table IV replace the old system for PVC/FTF's purposes. However, it is recommended that each grantee keep a more detailed breakdown of host categories as it applies to each specific program. The categories in this table are defined below. All FTF hosts should be counted in only one of the following:

A. Private Enterprises: These are primarily farmers and agribusinesses. They may also include informal farm and community groups.

B. Organizations: This category includes Cooperatives, Associations, Governments, Education Institutions, and other formal organizations, excluding NGOs. NGOs are counted in a separate category.

C. NGOs are non-governmental, non-profit organizations serving community interests. NGOs are "host country PVOs". Many different types of hosts will fit under the NGO category according to the PVC/FTF criteria listed here. Therefore, use the NGO category if a host cannot be defined in any other category according to the indicator guidelines that PVC/FTF has set forth. For example, an association is an association first and an NGO second. "Association" will provide a more specific definition of the host type.

D. Rural Financial Institutions: These are lending institutions with rural outreach to the agricultural sector.

[2]Annual data should apply to the Fiscal Year indicated. If one host was assisted during more than one year, that host should be counted once each year TA was received. Do not double count Hosts within a single year. For example, if Host A (a Private Enterprise) received volunteer assistance in February FY 00, April FY 00 and December FY 01, that host will be counted once in the Private enterprise Row for FY 00 Annual, once for FY 00 Cumulative, and once again for FY 01 Annual. Host A **should not** increase FY 01 Cumulative total.

[3]The purpose of this column is to track the total number of hosts worked with in each category for the LOP. There should be no double counting. If one host is assisted in more than one year, they will be counted each year in the "Annual" column, but they will only be counted the first year of assistance in the "Cumulative" column. Therefore, if there are no new hosts in a given category for one reporting period, the cumulative number will be the same as the previous reporting period. Also, the final year of reporting should also serve as the LOP total for the cumulative data.

[4]The total of A+B+C+D in each of the "Cumulative" columns should also equal the total number of hosts from Table III.

FTF Program Impacts with Hosts

The results in **Tables V** to **IX** are derived from those hosts that have been surveyed during this reporting period. Impact surveys are completed by field staff for most hosts 6 to 12 months following the volunteer assignment. Field staff schedule the impact survey based upon when results are expected to begin appearing. To track the objectives and results of each assignment, impact surveys are completed for each scope of work. The results reported below by host consolidate multiple surveys completed during the reporting period.

During FY2003, field staff completed 83 follow-up impact surveys with 62 hosts on volunteer assignments that occurred at least six months ago. Results are reported in **Tables V** through **IX** below.

Table V. Hosts with Improved Business Operations as Result of Grantee/ Volunteer Assistance

	FY 00			FY 01			FY 02			FY 03			LOP		
FTF Hosts[1]	**Assessed**[2]	**Impacted**[3]	**% Impacted**	**Assessed**[2]	**Impacted**[3]	**% Impacted**	**Assessed**[2]	**Impacted**[3]	**% Impacted**	**Assessed**[2]	**Impacted**[3]	**% Impacted**	**Assessed**[2]	**Impacted**[3]	**% Impacted**
A. Number of hosts providing new or improved products and/or services.	14	13	93%	38	35	92%	39	38	97%	51	51	100%	142	137	96%
B. Number of hosts with production increases over pre-assignment levels.	24	20	83%	36	30	83%	36	36	100%	41	38	93%	137	124	91%
C. Number of hosts with increased business efficiency or resource conservation.[4]	26	24	92%	35	31	89%	31	30	97%	47	47	100%	139	132	95%
D. Number of hosts receiving increased revenue/ resources through increased sales receipts as a result of grantee/volunteer intervention.	24	17	71%	36	30	83%	32	29	91%	35	34	97%	127	110	87%
E. Number of hosts with increased profits.	24	11	46%	30	24	80%	30	26	87%	29	25	86%	113	86	76%

[1]Any Host (regardless of type) included in Inputs Table IV can be counted here.

[2]Note that the previous heading of "Host Targeted" has become "Host Assessed". Please assume that if a host is assessed under a specific indicator, then it is being targeted for change as measured by that indicator. But you should only count a host on this table after an assessment has been completed, regardless if the assignment and assessment were completed in different fiscal years. Please count the host in this new column for the year in which the assessment was completed.

[3]Targeted Hosts meeting performance objectives as determined from assessment should be counted in all applicable indicator categories as "Hosts Impacted".

[4]"Resource conservation" in this table refers to business or financial resources and should be differentiated from "natural resource conservation" listed on Table IX-"FTF Hosts with Improved Use and/or Protection of the Environment."

NOTE: At some point, possibly at the end of the grant, we would like to be able to obtain a cumulative summary of the information provided in tables V-IX. Please keep track of

the cumulative numbers for future reference.

Table VI. FTF Hosts with Improved Organizational Capacity as Result of Grantee/Volunteer Assistance

	FY 00			FY 01			FY 02			FY 03			LOP		
FTF Hosts1	Assessed 2	Impacted 3	% Impacted	Assessed 2	Impacted 3	% Impacted	Assessed 2	Impacted 3	% Impacted	Assessed 2	Impacted 3	% Impacted	Assessed 2	Impacted 3	% Impacted
A. Number of organizations formed as a result of grantee/volunteer intervention.4	1	1	100%	8	5	63%	10	9	90%	16	16	100%	35	31	89%
B. Number of hosts using new or improved planning techniques, program methodologies and/or management practices, including the use of a business plan or a strategic plan.	26	25	96%	44	42	95%	38	38	100%	47	47	100%	155	152	98%
C. Number of hosts with increased revenue/resources through new grants and/or increased fees.	1	1	100%	14	10	71%	13	10	77%	12	12	100%	40	33	83%
D. Number of hosts that have increased their membership as a result of grantee/volunteer interventions.	0			12	8	67%	18	18	100%	23	22	96%	53	48	91%

1Any Host (regardless of type) included in Inputs Table IV can be counted here.

2Note that the previous heading of "Host Targeted" has become "Host Assessed". Please assume that if a host is assessed under a specific indicator, then it is being targeted for change as measured by that indicator. But you should only count a host on this table after an assessment has been completed, regardless if the assignment and assessment were completed in different fiscal years. Please count the host in this new column for the year in which the assessment was completed.

3Targeted Hosts meeting performance objectives as determined from assessment should be counted in all applicable indicator categories as "Hosts Impacted".
4 An organization formed must meet the following criteria: Operating with democratic principles. Has initiated efforts to gain legal recognition from the government.

Table VII. FTF Hosts with Improved Services to Membership/Employees as Result of Grantee/Volunteer Assistance

	FY 00			FY 01			FY 02			FY 03			LOP		
FTF Hosts[1]	**Hosts Assessed**[2]	**Hosts Impacted**[3]	**% of Hosts Impacted**	**Hosts Assessed**[2]	**Hosts Impacted**[3]	**% of Hosts Impacted**	**Hosts Assessed**[2]	**Hosts Impacted**[3]	**% of Hosts Impacted**	**Hosts Assessed**[2]	**Hosts Impacted**[3]	**% of Hosts Impacted**	**Hosts Assessed**[2]	**Hosts Impacted**[3]	**% of Hosts Impacted**
A. Number of hosts that have successfully intervened on behalf of members with government or business.	7	5	71%	14	14	100%	18	16	89%	17	17	100%	56	52	93%
B. Number of hosts with new training courses or new subject matter for courses to use with membership or associates.	0			14	11	79%	18	16	89%	26	26	100%	58	53	91%
C. Number of hosts with improved training materials and skills.	5	5	100%	14	11	79%	18	16	89%	26	26	100%	63	58	92%

[1]Any Host (regardless of type) included in Inputs Table IV can be counted here.

[2]Note that the previous heading of "Host Targeted" has become "Host Assessed". Please assume that if a host is assessed under a specific indicator, then it is being targeted for change as measured by that indicator. But you should only count a host on this table after an assessment has been completed, regardless if the assignment and assessment were completed in different fiscal years. Please count the host in this new column for the year in which the assessment was completed.

[3]Targeted Hosts meeting performance objectives as determined from assessment should be counted in all applicable indicator categories as "Hosts Impacted".

Table VIII. FTF Host with Improved Financial Services to the Agricultural Sector as Result of Grantee/Volunteer Assistance

	FY 00			FY 01			FY 02			FY 03			LOP		
FTF Hosts[1]	**Hosts Assessed**[2]	**Hosts Impacted**[3]	**% of Hosts Impacted**	**Hosts Assessed**[2]	**Hosts Impacted**[3]	**% of Hosts Impacted**	**Hosts Assessed**[2]	**Hosts Impacted**[3]	**% of Hosts Impacted**	**Hosts Assessed**[2]	**Hosts Impacted**[3]	**% of Hosts Impacted**	**Hosts Assessed**[2]	**Hosts Impacted**[3]	**% of Hosts Impacted**
A. Number of Hosts with an increased number of agricultural related loans	0			0			2	0	0%	1	0	0%	3	0	0%
B. Number of Hosts with loan delinquency rate < 10%	0			0			2	2	100%	1	1	100%	3	3	100%
C. Number of Hosts that provide improved banking services to the agricultural sector[4]															
1. Number of Hosts with an increase in average loan size	0			0			2	2	100%	1	1	100%	3	3	100%
2. Number of Hosts with an increase in Producer Portfolio Value (ag production and processing loans)	0			0			2	0	0%	0			2	0	0%
3. Number of Hosts with an increased number of Branches/Groups	0			0			1	1	100%	1	1	100%	2	2	100%
D. Number of Hosts with an increase in Enterprise Portfolio Value (microfinance loans)	0			0			2	2	100%	1	1	100%	3	3	100%

[1]Any Host (regardless of type) included in Inputs Table IV can be counted here.

[2]Note that the previous heading of "Host Targeted" has become "Host Assessed". Please assume that if a host is assessed under a specific indicator, then it is being targeted for change as measured by that indicator. But you should only count a host on this table after an assessment has been completed, regardless if the assignment and assessment were completed in different fiscal years. Please count the host in this new column for the year in which the assessment was completed.

[3]Targeted Hosts meeting performance objectives as determined from assessment should be counted in all applicable indicator categories as "Hosts Impacted".

[4]This is the main heading for the three indicators below it. It is not meant to be measured as an indicator.

Table IX. FTF Hosts with Improved Use and/or Protection of the Environment as Result of Grantee/Volunteer Assistance

	FY 00			FY 01			FY 02			FY 03			LOP		
FTF Hosts[1]	**Hosts Assessed**[2]	**Hosts Impacted**[3]	**% of Hosts Impacted**	**Hosts Assessed**[2]	**Hosts Impacted**[3]	**% of Hosts Impacted**	**Hosts Assessed**[2]	**Hosts Impacted**[3]	**% of Hosts Impacted**	**Hosts Assessed**[2]	**Hosts Impacted**[3]	**% of Hosts Impacted**	**Hosts Assessed**[2]	**Hosts Impacted**[3]	**% of Hosts Impacted**
A. Number of Hosts adopting one or more practices to improve waste or pollution management.	0			9	8	89%	12	11	92%	18	18	100%	39	37	95%
B. Number of Hosts adopting one or more practices to improve natural resources management (soil, water, forest, grazing lands, national park land, etc.).	2	2	100%	13	12	92%	12	11	92%	15	15	100%	42	40	95%

[1]Any Host (regardless of type) included in Inputs Table IV can be counted here.

[2]Note that the previous heading of "Host Targeted" has become "Host Assessed". Please assume that if a host is assessed under a specific indicator, then it is being targeted for change as measured by that indicator. But you should only count a host on this table after an assessment has been completed, regardless if the assignment and assessment were completed in different fiscal years. Please count the host in this new column for the year in which the assessment was completed.

[3]Targeted Hosts meeting performance objectives as determined from assessment should be counted in all applicable indicator categories as "Hosts Impacted".

FTF Program Impacts

Each period, Winrock surveys the volunteers fielded in the previous period regarding media events, such as newspaper articles, radio, or television interviews, and group presentations. Survey results are reported in **Table X**.

Table X. Increased Awareness in the U.S. Agricultural Sector Concerning International Agricultural Development[1]

Indicators	FY 00	FY 01	FY 02	FY 03	LOP
A. Number of FTF volunteers who have performed public outreach activities.	10	12	13	21	94
B. Number of media events by implementors and FTF volunteers.[2]	7	21	1	11	57
C. Number of group presentations by implementors and FTF volunteers.	29	32	12	29	279

[1]This remains a primary objective of the FTF Program. An overall assessment of FTF impact on "Increased Awareness in the U.S. Agricultural Sector" will be addressed in periodic evaluations by PVC/FTF. Currently, the FTF Program makes measurements at the output level on the indicators listed in the table above.
[2]Any internet-based outreach activity should be counted as a media event in row B. Examples may include hosting a chat room or using the internet or an email system to disseminate a newsletter. This does not include emailing information packets for recruitment purposes.

Newspaper and newsletter articles received during the past six months are included in **Appendix C**.

Appendix B

Third and Fourth Quarter
FY2003
Volunteer Impact Summaries

Volunteer Impact Summary

Winrock Expert: James E. Rakocy, Ph.D.
Host Enterprise: MACH-CARITAS Project (Fisheries Component), Bangladesh
Dates at Site: December 2 to 12, 2001
Persons Interviewed: Mr. Iqbal Faruk, Coordinator and Mr. A S M Mostaque, Program officer
Date of interview: September 24, 2002 and August 20, 2003

Assignment objectives: The main objectives of volunteer Jim Rakocy's assignment were to assess existing technical and management capabilities of tilapia farming by evaluating pond culture practices and provide training on brood selection for fry production, manual sexing to separate male and female fries, nursery rearing of fingerlings and grow-out farming to maximize production and increase income of MACH-CARITAS project beneficiaries, the rural fisher communities.

Volunteer Profile: Dr. James Rakocy is a highly qualified aquaculture specialist having a Ph.D. from the Auburn University and an M.S. from the University of North Carolina. He is currently the director of the Agriculture Experiment Station (AES) at the University of the U.S. Virgin Islands. He has taught aquaculture and limnology in various capacities and has to his credit many research publications in international journals. He is the member of many professional societies including American Fisheries Society, American Tilatpia Association and World Aquaculture Society. This was Rakocy's third volunteer assignment for Winrock International in Bangladesh.

Host Background: MACH is a Government of Bangladesh program sponsored by USAID. The objective is to promote ecologically sound management of floodplain resources including fisheries and other wetland products for the sustainable supply of food for the poor of Bangladesh. The MACH 'community' includes those people who are dependent, either economically or nutritionally, on the wetland and its products. The program emphasizes and works with poorer individuals and groups, particularly fisher communities who are generally the poorest members of rural society, but also includes local government and local elites. MACH is being implemented by four non-government organizations, namely Winrock International, Bangladesh Center for Advanced Studies (BCAS), the Center for Natural Resource Studies (CNRS) and CARITAS. The activities of fisheries component of MACH are coordinated by CARITAS.

Principal Impacts: "Rakocy's training has been extremely beneficial for the MACH project staff and beneficiaries", said fisheries component coordinator Iqbal Faruk and program officer Mostaque. As an outcome of volunteer training and demonstration, the fisheries program beneficiaries in all the three sites (Kaliakoir, Sreemangal and Sherpur) of MACH project are now more knowledgeable about tilapia fry production and grow-out farming practices, and the farmers can now separate male and female fries through manual sexing, which is very important for profitable tilapia production. Before volunteer interventions, the farmers used to use one pond for both nursery and grow out farming purposes, leading to inbreeding and other production problems. Rakocy's recommendations to use separate ponds for nursing and grow-out farming have helped the farmers produce good quality fingerlings and reduce inbreeding problems.

Faruk and Mostaque reported that there were only 4 (four) farmers raising tilapia in 4 (four) ponds before volunteer interventions. After Rakocy's training number of tilapia ponds has increased to 30 (about 500 decimal water area) resulting in marked increase in tilapia production. All tilapia ponds in the MACH project sites are now managed in two layer systems, which means, nursery rearing

and grow out farming are done in separate ponds and this has helped reduce inbreeding problems. By applying improved pond management practices suggested by the volunteer, the farmers have succeeded in raising fish production by about 58% (on average from 9.5 kg/decimal to15 kg/decimal) in three sites of the project. The tilapia farmers have been able to generate a total profit of about $.5100 (Taka 300,000.00) by producing and selling an estimated amount of 7500[1] kilograms of tilapia fish since the volunteer interventions. This income will increase further in coming years as more fish farmers in the MACH project sites are getting involved in tilapia production.

Rakocy's training in improved tilapia farming practices has been a boost for MACH project's extension activities, and following volunteer recommendations, the project has already produced a number of promotional materials (20 Flip Charts, an illustrated Training Manual and a four-fold colorful promotional brochure/leaflet) to enhance extension activities further. Besides, the MACH project has significantly improved training materials by incorporating the recommendations made by volunteer Jim Rakocy aiming to improve tilapia production and management practices. "As of to date, MACH project staff has provided training to a total of 80 farmers interested in undertaking fish farming for an income and also to meet own nutritional requirements", conclude Faruk and Mostaque adding that as a result of this assignment there has been increased awareness and enthusiasm among the fisher community about the potential of tilapia farming and more farmers will come to rely on tilapia production to improve livelihood in future.

Direct Beneficiaries:
Female: 21
Male: 53

[1] Latest data available

Volunteer Impact Summary

Winrock Expert: Roy Elliot Chapin, Ph.D.
Host Enterprise: Saudi-Bangla Fish Feed Ltd. (SBFFL), Bhaluka, Mymensingh
Dates at Site: February 15 to March 11, 2000; January 22 to February 10, 2001
Persons Interviewed: Mr. Mohammad Khasru, Plant Manager, Mr. Jadu Gopal Paul, Marketing Officer
Date of Interview: August 14, 2003

Assignment objectives: Major objectives of this assignment were to help SBFFL develop the first dairy feed program in Bangladesh. This included developing a computer assisted program for formulating rations for lactating cows, a calf starter ration and a ration for growing heifers. Most important objectives were to assist the host to improve the feed rations to decrease the cost of producing milk and meat, and to assist in developing a sales program for formulated dairy feed, which is a new product for Bangladeshi dairymen.

Volunteer Profile: Dr. Roy Chapin is a highly qualified animal nutritionist having a Ph.D. in animal nutrition from Cornell University and an M.S. from Oregon State University. He has more than 30 years experience with animal feed and nutrition related projects. In his long professional career Dr. Chapin has accomplished many international projects working as consultants for American Holstein Association, United States Feed Grains Council, USAID, USDA, Texas AandM University, Southern States Cooperatives, etc. Dr. Chapin worked with SBFFL twice as Winrock International volunteer (February 15 – March 11, 2000; and January 22 - February 10, 2001).

Host Background: Saudi Bangla Fish Feed Limited (SBFFL) is a Public Limited Company, a joint venture project between Saudi Arabia and Bangladesh owned and managed by Saudi-Bangladesh Industrial and Agricultural Investment Company Limited (SABINCO). The company was conceived in 1987 and started commercial production in 1991.

SBFFL is the pioneer in launching production and marketing of formulated pellet feed for fish and poultry in Bangladesh. Initially in 1991, the company started with the production of formulated feeds for shrimp and fish but faced severe marketing problems as formulated pellet feed was a new concept to the fish/shrimp farmers. By adopting innovative market promotion programs, SBFFL came out successful in creating awareness about the benefits of using pelleted feed to ensure better production performance. With this initial success, SBFFL decided to diversify product lines and successfully started production and marketing of formulated poultry feeds. And finally, to help the dairy farmers of the country to address the crisis of nutritionally balanced supplemental feeds, SBFFL decided for the first time in Bangladesh to go for production of formulated dairy feeds and to this end in view, volunteer Chapin's assignments were designed. At the time of volunteer Chapin's assignment, the company was producing annually 15,000 MT of formulated feeds for fish and poultry.

Principal Impacts: Following volunteer Chapin's feed formulation programs and having all necessary technical facilities in place, in 2002 SBFFL started for the first time in Bangladesh production and marketing of balanced supplemental dairy feeds.

Land is scarce in this densely populated and disaster prone country and therefore, grazing land for

livestock is shrinking day by day. Also, due to poor genetic potential of milking cows coupled with non-availability of balanced supplemental feed, the national average milk production in Bangladesh has remained very low (in the range of 1.5-3.0 liters per cow per day) over the last decades. In this backdrop, Chapin's assistance to SBFFL to successfully launch formulated dairy feed production is very significant for the sustainable growth of dairy and beef cattle farming leading to increasing milk and meat production in the country. "Making dairy feed is the intermediate step in having more milk, meat, money and manure produced in Bangladesh so people there will have more protein, energy, vitamins and minerals in their diets, more money in their pockets and more rice straw converted to fertilizers to increase soil fertility", mentioned volunteer Roy Chapin in his comments after the assignment. In practice, feed produced following Chapin's formulation is showing highly encouraging results with an average increase in milk production by around 40%, which means, the cow that earlier gave an average of 5 liters milk per day, now with Chapin formulated feed is giving 7 liters. SBFFL plant manager Mohammad Khasru and marketing officer Jadu Gopal in a recent interview mentioned that demand for their dairy feed is increasing and the company's marketing horizon is gradually being widened to cover most of the strategic dairy pockets in northern, eastern and north eastern parts of the country. In line with volunteer recommendations, SBFFL installed a separate feed mill of 6000 MT/ year capacity to gradually increase production of dairy feed to meet increasing demand from dairymen.

"As a key player in the Bangladesh's poultry, fish and animal feed market, SBFFL has a plan to gradually widen market coverage to cater the needs of at least 10 - 15% of around 10 million (45% of the total national cattle herds) milking cows of the country in the next 5 – 7 years,"- says marketing officer Jadu Gopal and adds that the dairymen have come to rely on SBFFL feeds, and as a result, the company's (SBFFL) business is growing, and most importantly, dairy farmers are benefiting from increased milk production. "By the end of the year 2003, the company is expecting to generate an additional profit of about $.7,500 from dairy feed sales but we believe that the profit will increase substantially in coming years as production and sales volume is gradually increasing"- concluded Jadu Gopal.

As part of this assignment with SBFFL, Chapin created spreadsheets for formulating lactation ration to be fed with rice straw, a calf starter ration and a replacement heifer grower ration. Chapin also created sheets for evaluating the density of vitamins and trace minerals in the total ration; and comparison sheets to compare milk response from various rations with the ability to price the milk to see the economic returns. These valuable outputs of the assignment are helping SBFFL to intelligently formulate feed rations, plan production schedules and market feeds leading to increased management efficiency and higher profits.

Direct Beneficiaries:

Female:	00
Male:	80

Volunteer Impact Summary

Winrock Experts:	Hea-Ran Ashraf, Ph.D., and Mr. Leonard and Irene Stuttmans
Host Enterprise:	Soy Foods, Punjab, India and the Central Institute of Agricultural Engineering (CIAE/ICAR), Madhya Pradesh, India
Dates At Site:	March 12 to 22, 2000, November 18 to 29, 2001, April 15 to 19, 2002
Date Interviewed:	February 27, 2001 and December 10, 2002

Assignment Objectives:
Soy Foods

- Major objective for this host were to improve the shelf life of soy milk and tofu through better packaging and other methods, improve tofu color, make the packaging more attractive, and prepare new products

Central Institute of Agricultural Engineering (CIAE/ICAR)

- Major objective for this host were to improve the taste and quality of the product through enrobing, improve the quality of soymilk and tofu, optimize and suggest improvements on the packaging and handling of the soy products and increasing the shelf life and enhance the shelf-life of soymilk and tofu.

Volunteer Profile:
Dr. H. L. Ashraf is a professor of food and nutrition in the Collage of Agriculture in Southern Illinois University and has been involved in teaching, research and service work for more than 20 years. She has worked in developing HACCP system for food service industry. She has written and presented many papers regarding the benefits of the soy products and their nutritional advantages. She has won many awards including Distinguished Service Award from The National Institute for the Food Service Industry in 1985. This is her third assignment in India assisting the Soybean processing researchers and entrepreneurs.

Both Leonard and Irene Stuttman's, Soynut Processing Consultants from Lansing, Michigan, began their career in India during late 1950's with USAID. Upon their return to US, both of them started business on whole soy nut processing for more than 25 years. Both continued to maintain their contacts in India. They are fully familiar with cross-cultural situations and to adapt easily on their assignment in Bhopal.

Host Profile:
Mr. Kuldeep Singh Cheema and Mr. Devinder Singh Sahota owns Soy foods- Rouble 007. Mr. Cheema, the production in charge is from a farming family. In 1996, he took training from the Central Institute of Agricultural Engineering (CIAE), Bhopal in soybean processing. Soon after he bought the Soy Cow machine for soymilk and tofu production and started operations at the cottage level. Mr. Cheema has been interacting with the scientists at the Central Institute of Post Harvest Engineering and Technology (CIPHET), an institute of the Indian Council of Agricultural Research (ICAR), at Ludhiana.

Soybean processing and utilization project (SPU) was established in April 1985 at Central Institute of Agricultural Engineering (CIAE), Bhopal by Indian Council of Agricultural Research with the financial/technical assistance of the USAID and implemented by Winrock International. The major thrust of SPU has been in development and dissemination of technology for processing and

utilization of soybean and other plant proteins in food, feed and pharmaceuticals. SPU project has developed 17 products, 20 machines, and 5 technologies since its establishment.

Principle Impacts

Due to the FTF Volunteer Dr. Helen Ashraf 's assistance, the hosts were able to contact the scientific community of the area especially those from Central Institute of Post Harvest Technology, American Soybean Association (ASA), Punjab Horticulture Post Harvest Technology Centre, and Punjab Agricultural University. The Hosts have also participated in the Agriculture fair organized by the Punjab Agricultural University, and this gave them a wide publicity. All India Radio, Jalandhar Station had invited the Hosts to give a radio-talk on the benefits of the soy-products. This further boosts benefits of soybean in the city of Ludhiana and nearby places. Due to the interaction with the volunteer and the local community the hosts were able to expand their market base. More people have come to know about their products and the benefits of the Soy. This has helped the Host in selling more produce in the local area. According to the host, one milk shop owner from Hrishikesh, Uttranchal, with 10 outlets has placed orders to the tune of 100 kg tofu per day. The local health clubs also started promoting soymilk as health drink

With the advise from the Volunteer to promote the products as soy products instead of comparing with the cow's milk and Indian Cottage cheese (paneer), the Hosts have started using pre-printed poly packs for soymilk and tofu. The print message highlights the importance, benefits, and nutritional aspects of their products.

SPU Project of the CIAE-Bhopal followed the major recommendations made by Dr Ashraf for their Soy project and achieved the following:

- Establish a Soy-Dairy Plant Certification Program
- Train women scientists and nutritionists on the benefits of soy and its products
- Construct a modern kitchen for training based on the layout provided and designed
- Establish HACCP Programs for "SoyCow" plant

Results

- The formation of the Association of Soybean Processing Utilization Trainees Alumni (SPUTA) with 395 members effective from April, 2001 to December 15, 2002
- Seven Farm Women have become entrepreneurs – selling soy nuts; soymilk; and soy flour
- With the involvement of American Soybean Association (ASA) as a partner organization for implementation of the assignment, 3 soy food manufacturers started producing and marketing soy nuts with Mr. Stuttman's recommendations. One manufacturer in Delhi, VSMD enterprises and one in Chandigarh, Super Foods started producing and marketing soy nuts in local markets. From January first week onwards, super Foods has placed their Allegro brand soynuts with other soy food products in Delhi market in about 25 outlets.

Volunteers Impact Summary

Winrock Experts:	John M. Aselage
Host Enterprises:	Mustang Agro Industry, Tukuche and Sri Mustang Sahakari Sanstha Ltd., Jomsom, Mustang, Nepal
Dates at site:	October 21 to November 11, 1997, October 21 to November 9, 1998, October 20 to November 5, 1999, and October 29 to November 4, 2002
Person Interviewed:	Mr. Krishna Lal Bhattachan (Chair person) and Mr. Surendra Tulachan, (Secretary) of Sri Mustang Sahakari Sanstha Ltd., Jomsom.

Assignment Objectives: Volunteer John M. Aselage completed four assignments with apple growers in the remote Himalayan mountain district of Mustang over the period 1997-2002. The assignment objectives included: increasing apple production, increasing income of apple farmers from increased sales revenue, improving capabilities, practices and technology of apple production including methods of pest and disease control and appropriate methods of handling and storage.

Volunteers Profile: John M. Aselage holds MS degree in Horticulture from Michigan State University (1975-77) and has worked as teaching assistant and graduate research assistant in University of Missouri and Michigan State University respectively. He is presently working with Gerber Products Company, Ft. Smith, Arkansas and advises the growers of vegetables for baby food products. He owns and operates a 40-acre high-density apple and peach orchard, apple tree nursery, and roadside market for fruits and vegetables in Green Forest, Arkansas.

John completed four assignments with apple farmers in Mustang of which three were with Mustang Agro Industry, Tukche and the last assignment was with host organization Sri Mustang Sahakari Sanstha Ltd., Jomsom, a cooperative society that was established by apple farmers as successor of Mustang Agro Industry. In January 2002, he briefly visited Nepal to donate 76 shoots of apple varieties brought from the United States to his previous FTF hosts, Bhim Thakali of Sri Mustang Sahakari Sanstha Ltd. and Lok Darsan Shrestha of Karnali Apple Co., Jumla. Some other FTF volunteers also complemented the work of John with Mustang apple growers helping achieve significant overall impacts on apple farming in the area. Volunteer Amos Bourgo provided technical assistance to Mustang apple growers on improved methods of handling and storage on September 1999. Similarly, Dr. James Walgenbach, an entomologist visited Mustang (25 May to 9 June 1999) on the recommendation of John to help identify the pests. John in his visit during October-November 1999 recommended appropriate pest control measures to apple growers based on the inputs from Dr. Walgenbach.

Host Background: Sri Mustang Sahakari Sanstha Ltd. was established in the year 1999 and formally registered in cooperative board in November 1999 with the objectives: to raise the income of the members through the activities of horticulture, agriculture and other relevant cottage industries for the economic development of the district; to produce quality products and to promote it in national and international market helping the members to get the appropriate market. The cooperative has 91 shareholders. The cooperative is involved in apple collection (from members as well as non-members) and marketing of apple mostly to Pokhara. The cooperative has seven executive members and deposits US $1,200 from the shareholders. Apple cultivation in Mustang district started some 30 years ago due to suitable agro climatic conditions. In 1998 the district produced approximately 450 tons of apple. Mustang's geographical remoteness makes the

transport of fresh apples to major markets in Kathmandu and Pokhara very costly. Because of high transportation cost Mustang apples can hardly compete with apples imported from India. However, the area under cultivation kept increasing to capitalize favorable environmental conditions to produce high quality apples and government subsidy on transportation by air. With the increased coverage of apple farming various problems related to cultivation practices, pest management and post-harvest processing gradually emerged. As a result to overcome the problems the apple growers requested the volunteer services mainly covering the following aspects:

- Apple production technologies
- Pest management in apple
- Improved methods of handling, packing and storage of apple

At present, total area under apple cultivation in Mustang is about 181 hectare. Production has gradually increased from about 1,500 tons in the year 2000 to 2,000 tons in the year 2001 and 2,260 tons last year (2002). Of the total production of 2,260 tons 850 tons were sold as fresh apples and 250 tons were used for juice making and drying. Due to the lack of transport facility (Mustang district lacks road access) part of apple produced could not be sold in distant market. Moreover, the government last year did not allocate any fund to provide air transport subsidy for the marketing of apples produced in remote inaccessible districts like Mustang. This resulted in higher transportation cost for the apple growers, as they had to depend on transport by porters and mules.

Principal Impacts: A total of 600 apple growers of Mustang including 228 female and 372 male have been the direct beneficiaries of FTF volunteer technical assistance. Major impacts recorded were:

- With the adoption of sound tree training, pruning and improved overall apple orchard management productivity on an average has increased from 27 kg per tree to 40 kg per tree (48% increase).
- The apple growers launched Apple scab disease management program. The government supported the program with a grant amounting to Nepalese Rs. 600,000. Farmers gladly contributed 50% of the cost of the insecticide and labor for the spraying campaign. As a result growers are now able to market scab free high quality apples.
- Environmental friendly dormant oil spray used since February 2001 to minimize the scale and to some extent mites problem. District Development Committee and District Agriculture Office coordinated to procure 1,200 liters of dormant oil from India worth $3,567.
- Due to the proper handling and packing the growers are able to sell good quality apple at higher price. The loss during storage is reduced by about 7% due to gentle picking of apple fruits. The farmers in Jomsom, Tukche, Kagbeni and Marpha reported saving 126 tons of apple fruits from spoilage loss in storage in the year 2000, total value of which was estimated at $25,540.
- Apple production has increased in Mustang from 450 tons in 1998 to 2,260 tons in the year 2002.
- Apple growers have increased sales revenue by $18,300 in 2002 representing 20% increase over the sales revenue of $ 90,600 in 2001. Apple farming is increasingly becoming an important contributor to income of farm families in Mustang despite problems caused by its remoteness and inaccessibility.

Appendix C

Outreach
Third and Fourth Quarter
FY2003

Appendix D

Illustrative Photographs on Volunteer Assignments

Appendix E

Summaries of Volunteer Assignments
Third and Fourth Quarter
FY2003

Summary of Volunteer Assignments by Country

Country	FY2003 Country Goals	LOP Country Goals[2]	Volunteers Fielded 10/1/96 to 3/31/03	Volunteers Fielded in 3rd and 4th Quarter	Total at End of 3rd and 4th Quarter
Bangladesh	17	64	78	6	84
India	17	104	111	12	123
Nepal	26	104	105	20	125
Nigeria	61	100	126	56	182
Ghana	9	34	29	3	32
Other	4	29			
- Senegal	7	8	4	2	6
- Guinea	0	0	3	0	3
- Burkina Faso	0	0	1	0	1
- Morocco	0	0	1	0	1
- Gabon	0	0	1	0	1
- Mali	1	0	2	0	2
- Mauritius	0	0	0	1	1
- Nicaragua	0	0	0	2	2
- Sri Lanka	0	0	0	1	1
Total	**142**	**443**	**461**	**103**	**564**

[2] LOP country goals are from 9/30/96 - 9/29/03, including Nigeria.

Appendix F

Nigeria FtF Final Report

Please see attached Nigeria Report –
NIG – SA – 10-2003