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YEMEN AGRICULTURAL SUPPORT PROGRAM

FINAL REPORT

October 2005 – April 2008



APRIL 2008

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

The Yemen Agricultural Support Program was implemented under the Rural and Agricultural Incomes with a Sustainable Environment (RAISE) IQC U.S. Agency for International Development Contract No. PCE-I-00-99-00001-00, Task Order No. 829

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COVER PHOTO:

Young coffee field on hillside in the Amran Governorate, courtesy of consultant Daniele Giovannucci.

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The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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ACRONYMS AND ABBREVIATIONS

AI	Avian Influenza
DGAR	Director General of Animal Resources
EG	Economic Growth
FY	Fiscal Year
GDA	Global Development Alliance
GIS	Geographic Information System
GOY	Government of Yemen
KG	Kilogram
LOP	Life of Project
MAI	Ministry of Agriculture and Irrigation
PPR	<i>Pestes Des Petite Ruminants</i>
SGP	Small Grants Program
USD	United States Dollars
USAID	United States Agency for International Development
YASP	Yemen Agricultural Support Program
YR	Yemeni Rial

I.0 BACKGROUND AND SUMMARY OF YASP ACHIEVEMENTS

I.1 BACKGROUND

The Yemen Agricultural Support Program (YASP) is a three-and-a-half-year activity designed to increase income and improve food security in the five target governorates of Amran, Sa’adah, Al-Jawf, Marib, and Shabwa. YASP is achieving this goal by supporting sustainable improvements in rural agricultural production and market expansion. We employ a collaborative approach to rural economic development; our approach mobilizes targeted communities of producers, public institutions, and the private sector to support demand-driven interventions that contribute to sustainable rural economic development. Current activities focus on a balance of improved animal and crop farming practices that increase production, market opportunities, and employment in rural areas. Sixteen local extension agents distributed across the target governorates are the motor that drive YASP activity. Partnering with the Ministry of Agriculture and Irrigation (MAI) and the USAID Agricultural Office, YASP technical assistance measured results based on the indicators and targets cited below in Table 1.

YASP worked initially with 300 farmers in each of the five governorates, totaling 1,500. However, over the course of the program, YASP increased this number of farmer beneficiaries threefold.

The Yemen Agricultural Support Program achieved all of the initial targets established in 2005 for measuring program performance (Original LOP Targets). This information was reconfirmed during an USAID evaluation of YASP performed by two consultants in May 2007. As a result of this success, the YASP field team set new targets for FY2007. These FY2007 targets were modified and extended to future quarters to form FY2008 targets as part of the no-cost contract extension through April 2008.

Indicators	Original LOP Targets	Fiscal Year 2007 Targets	Fiscal Year 2008 Targets
# of farmers and businesses adopting new technologies	1,500	5,000	3,500
# of farmers with increased animal production and plant yields	1,500	3,000	2,100
# of farmers trained in food processing and preservation	1,500	3,000	2,100
50% reduction in crop loss during processing and storage	50% reduction	5% reduction	5% reduction
# of producers with enhanced marketing capacity	1,500	4,500	3,150

TABLE I: YASP INDICATORS AND TARGETS

Indicators	Original LOP Targets	Fiscal Year 2007 Targets	Fiscal Year 2008 Targets
50% increase in marketable production	50% or 15,600 kgs/ha and 14 heads/farm	50% increase or 58,737 kgs/ha and 15 heads/farm	50% increase or 41,850 kgs/ha and 9 heads/farm
50% increase in market sales and transactions	50% or \$2,367 in crop sales and \$735 in livestock sales, and 3.75 crop and 11.25 livestock transactions	50% increase or \$5,668 in crop sales and \$3,582 in livestock sales, and 8 crop and 8 livestock transactions	50% increase or \$26,555 in crop sales and \$6,470 in livestock sales, and 6 crop and 9 livestock transactions

1.2 SUMMARY OF LIFE OF PROJECT (LOP) ACHIEVEMENTS

During the life of project, YASP client farmers increased their incomes as a result of improved production and sales of their livestock and crops. These gains in livestock and crop productivity were a direct result of the “hands-on training” sessions YASP extension agents conducted with client farmers. Many farmers responded positively to the project extension agents through the on-farm demonstrations where they learned and applied different farming techniques. Many farmers became “first adopters” and quickly incorporated YASP methods. Other farmers were cautious, and benefited less from YASP training. However, as the cautious farmers saw the success of first adopters, more of these became eager to receive project technical support. Our extension agents needed to convince farmers that they brought value and the potential to increase income when they presented new ways for farmers to improve their crops and livestock. A good example that illustrates this point: of the 1,500 target YASP farmers, not all of them accepted that fertilizer would improve crop production or that concentrated feed would improve livestock productivity enough to justify the investment in these inputs. The challenge for YASP was to show farmers how crop inputs like fertilizer interact to fulfill the basic nutritional requirements of crops and how concentrated feed complements the forage fed to livestock to meet their nutritional requirements.

The following seven points represent the progress made since project inception. It is important to note that the most significant progress occurred during the 21 months when YASP engaged MAI extension agents to provide governorate-based hands-on agricultural extension services with the added support of a small, highly qualified technical unit in the Sana’a office. Most of the performance references in this YASP Final Report cite the dates July 2006 through March 2008 that more accurately reflect the implementation period where most YASP activities and results were achieved.

1. ***Farmers and businesses adopted new technologies*** – 17,289 men and women received technical support in the form of training and improved agriculture/agro-processing technology and were observed by YASP staff using these technologies that resulted in improved productivity and increased incomes. The farmers were taught improved management, nutrition, and health of their animals. They also learned better agriculture production practices, pest protection, reduction in post-harvest loss, and food-processing techniques.
2. ***Farmers increased animal productivity and plant yields*** – 11,677 farmers benefited from introducing concentrated feed to fatten animals, the use of drought-resistant forage, hoof trimming, vaccination techniques against the major animal epidemic diseases, de-worming, how to provide care for pregnant and newborn animals, plant fertilizer application, plant protection, pruning, and irrigation improvement.
3. ***Farmers and individuals trained in food processing and/or preservation*** – 4,689 farmers (mostly women) were trained in making tomato paste, olive preservation, and milk processing (yoghurt and curd).
4. ***Reduction in crop loss during processing and preservation*** – YASP achieved a crop loss figure of 7.86 percent over the life of the project by teaching farmers how to improve storage and product

processing, for example, fresh tomatoes into tomato paste and fresh olives into olives preservation. This crop loss figure represents a 66 percent reduction from the June 2006 baseline figure.

5. ***Producers with enhanced marketing capacity***– 10,322 farmers enhanced their marketing capacity through training courses on improved post-harvest applications such as product sorting and packing as well as animal nutrition, management, health, and production.
6. ***Increase in marketable production (yield)***– An average total of 23,521 kilograms/hectare of harvested product or 126 percent increase from the June 2006 baseline was achieved by YASP producers. Marketable production of animals reached an average of 7 head per farm over the life of the project, which did not represent an increase over the July 2006 baseline. It is unclear what the reasons are for this lack of measurable improvement in livestock production. It may be due to a tendency for Yemeni farmers to sell the animals as soon as possible to avoid having to care for them longer than necessary, inaccurate reporting of data by our target farmers, inconsistencies in data reporting between current animal populations and total populations over a defined reporting period, or some combination of the above. Perhaps better measures for livestock productivity are increases in market sales and transactions discussed below.
7. ***Increase in market sales and significant increases in transactions (quantity sold)***– The average crop sold during the life of the project was USD \$32,037 or a 1,932 percent increase over the July 2006 baseline, and average livestock sold during the life of the project was USD \$7,694 or a 1,470 percent increase over the baseline. Crop transactions doubled over the baseline figures, and livestock transactions increased fivefold.

YASP DATA SUMMARY

YASP has been industriously working over the past three years to promote improved agricultural production and marketing practices that result in increased yields, sales, and transactions. New targets were selected for 2007 and 2008 because YASP had achieved all of the initial targets. The 2006 baseline will be used when necessary to compare production data.

As a result of the intensive training and on-site technical assistance provided to farmers and other trainees, YASP staff reported that 17,289 male and female farmers adopted new technologies, and 11,677 male and female farmers increased their animal production and/or plant yields.

While YASP was able to coach significant numbers of male agricultural producers to achieve increased production results, the project team succeeded in effectively providing technical assistance in food product processing, particularly targeting female farmers. YASP worked with 708 women to impart technical food processing instruction.

The YASP team has achieved a cumulative reduction in the rate of crop loss of 5.91 percent for key crops during FY2008, and a total of 7.86 percent for the life of the project. This is 132 percent of the target for the life of the project. The key crops were alfalfa, citrus, dates, cucumbers, mangoes, grapes, onions, potatoes, tomatoes, and watermelons. Overall, YASP helped to decrease key crop loss (composite 10) by 80 percent among our client farmers, from 17 percent of the composite crops (during July–September 2006) to 3.42 percent of the 10 composite crops in the period January to March 2008.

YASP has succeeded in training over 2,194 producers in enhanced marketing skills and strategies during 2008 and a total of 10,322 during the life of the project. Male farmers have consistently been well targeted for this type of capacity building. Since July 2006, a total of 7,238 male producers have been trained in different marketing skills and strategies, while 3,039 female producers have received technical assistance to improve marketing of their products. As mentioned in previous reports, YASP technical assistance in food processing and preservation continued to be more widely received by female farmers and participants, whereas YASP interventions in agricultural product marketing have been more consistently well received by male farmers.

Table 2 presents YASP intermediate results and targets for FY2008 and cumulative results for the life of the project.

TABLE 2: YASP PERFORMANCE RECORD

IR and Common Indicators:	FY 08 Target:	FY08 Actual:	Life of the Project:
#1. Number of farmers or businesses adopted new technologies	3,500	3,823	17,289
#2. Number of farmers with increased animal production and plant yields	2,100	2,183	11,677
#3. Number of farmers and individuals trained in food processing and/or preservation	2,100	1,022	4,689
#4. 50% reduction in crop loss during processing and storage	5%	5.91%	7.86%
#5. Number of producers with enhanced marketing capacity	3,150	2,194	10,322
#6. 50% increase in marketable production (Yield)	50%	For crops, 56% of target achieved For livestock, 56% of target achieved	For crops, 126% of target achieved For livestock, 0% of target achieved
#7. 50% increase in market sales and significant increases in transactions (quantity sold + value added)	50%	61% for crop sales 43% for livestock sales 67% of crop transactions target 100% of livestock transactions target	1,932% for crop sales 1,470% for livestock sales 100% of crop transactions target 500% of livestock transactions target

The following statements synthesize the data contained in Table 2 in an effort to clarify to the reader the data and information provided.

Indicator # 4

The cumulative FY2008 average percent of crop loss (October 2007 through March 2008) is 5.91 percent. For the life of the project (July 2006 through March 2008), the cumulative average percent of crop loss is 7.86 percent. The baseline is 23 percent.

Indicator # 6

Crops: Cumulative average from October 2007 through March 2008 is 23,374 kgs/ha. FY2008 target is 41,850 kgs/ha, therefore YASP reached 56 percent of the FY2008 target. For the life of the project (July 2006–March 2008), the cumulative average yield is 23,521 kg/ha. The baseline is 10,400 kg/ha.

Livestock: Cumulative average from October 2007 through March 2008 is 5 heads. FY2008 target is 9 heads. Five (5) heads is 56 percent of the FY08 target. For the life of the project (July 2006 through March 2008), the cumulative average yield is 7 heads. The baseline is 9 heads.

Indicator # 7

Crop Sales: Cumulative sales from October 2007 through March 2008 are \$16,188. FY2008 target is \$26,555. \$16,188 is 61 percent of the target \$26,555. For the life of the project (July 2006–March 2008), cumulative average sales are \$32,037. The baseline is \$1,577.

Livestock Sales: Cumulative sales from October 2007 through March 2008 are \$2,782. FY2008 target is \$6,470. \$2,782 is 43 percent of the target \$6,470. For the life of the project (July 2006 through March 2008), cumulative average sales are \$7,694. The baseline is \$490.

Crop and Livestock Transactions: FY2007 crop and livestock transactions were 4 and 6, respectively. Fifty (50) percent increases over FY2007 are 6 and 9, respectively. The FY2008 target for crop transactions is 6 and for livestock transactions, 9. FY2008 crop transactions were 4, which is 67 percent of the FY2008 target and livestock transactions were 9, which is 100 percent of the FY2008 target. For the life of the project (July 2006 through March 2008), average crop transactions are 4 and average livestock transactions are 6. The baseline for crops is 2 and for livestock, 1.

One of the indirect results YASP activity has had in the target governorates has been to generate employment for men, women, and youth through agriculturally based production and income-generating activities. Table 3 below illustrates the number of jobs created by YASP during the three years of project implementation. The figures for FY2006 represent the fourth quarter (July–September 2006), while the figures for FY2008 represent the first and second quarters (October 2007–March 2008).

	FY2006	FY2007	FY2008	Grand Total
Full-time for women	163	427	83	673
Full-time for men	187	803	217	1,207
Part-time for women	40	2,312	1,046	3,398
Part-time for men	62	5,526	2,037	7,625
Total	452	9,068	3,383	12,903

In addition to the indicators listed above, YASP also worked with USAID to establish targets for FY2008 for four standard USAID indicators for Economic Growth, Element EG 5.2 Agricultural Sector Productivity. These indicators and associated targets are included in USAID/Yemen's Work Plan for FY2008. Table 4 below lists the proposed FY2008 targets and the results through the second quarter of FY2008.

Indicator	Proposed FY2008 Target	FY2008 Actual
Number of Individuals who have received USG-supported short-term agricultural sector productivity training.	4,200	5,303
Number of new technologies or management practices made available for transfer as a result of USG assistance.	0	2 Coffee dryers and Langstroth beehives
Number of rural households benefiting directly from USG interventions.	10,373	12,325 farmers were trained in general, 146 of whom were members of associations that received small grants.
Number of women's organizations/associations assisted as a result of USG interventions.	0	2 Training course in animal health for women's association in Lahjj Governorate and one in Shabwa Governorate.

2.0 YASP PROJECT ACTIVITIES

This section summarizes YASP activities from October 2005 to May 2008 in each of its five different priority areas: Capacity Building; Livestock Extension Services; Horticulture Extension Services; Irrigation Initiatives; and the Small Grants Program.

2.1 CAPACITY BUILDING

Capacity building activities focused largely on training extension agents and local farmers in:

- Refining technical skills in the latest farm technology to improve production and profitability; and
- Food processing.

YASP also provided subject-specific training to MAI staff. One of the most significant capacity-building activities was assisting the Government of Yemen (GOY) to develop a National Avian Influenza (AI) Action Plan. The results of this initiative are detailed below as well as all the other capacity-building workshops. Additionally, YASP assisted MAI in responding to emergencies linked to animal and plant disease outbreaks and sponsored staff participation in regional and global workshops and conferences.

- 1. *Refining technical skills in the latest farm technology to improve production and profitability*** - YASP worked with agricultural specialists to refine technical skills and bring the latest in appropriate technology to improve local farmer production and profitability. 17,289 men and women received technical support in the form of training and improved agriculture/agro-processing technology and were observed by YASP staff using these technologies.
- 2. *Food processing*** - YASP conducted regular trainings in food processing. Farmers learned how to make concentrated juice and jam. They also learned to preserve pickles and to dry a variety of vegetables and herbs, including okra, hot peppers, parsley, and mint. One of the most successful female-oriented processing events was teaching them how to process milk into curd and yoghurt. In addition to classroom instruction, the training usually included a hands-on session to provide realistic experience to the trainees and to discuss any practical issues related to food processing.

This training was very popular among women—4,689 farmers, 4,047 of whom were women, were trained in the last two years. Food processing is also beneficial since it ensures the use of crops and reduces crop loss. YASP achieved a reduction in crop loss of 7.86 percent over the life of the project (LOP) by teaching farmers how to improve storage and product processing; for example, fresh tomatoes into tomato paste and fresh olives into olive preservation. This crop loss figure represents a 66 percent reduction from the June 2006 baseline.
- 3. *Training MAI staff*** - YASP conducted a two-week training for staff members from the Livestock Department of the MAI on the use of the Geographic Information System (GIS). This system will help the department to monitor animal movement, disease location, and situation as well as to impose certain measures such as disease containment and zoning animal movement restrictions. YASP also funded a three-month-long English course at the Yemen American Language Institute (YALI) for two MAI staff members.
- 4. *Workshops and meetings*** - In December 2005, YASP implemented a Livestock Capacity Building Training Course for the USAID targeted governorates. Thirty-two (32) provisional veterinaries attended the three-day course.

On March 2 and April 7, 2008, YASP held a two-part women’s speaker series. The first day was entitled, “Raising Awareness about the Issues Facing Women in Agribusiness.” The second was entitled, “Empowering Women in Agribusiness.” Both days featured three female speakers from different sectors in agribusiness, including farmers, directors of associations, and government officials. The afternoon sessions on both days were held as small group workshops where the participants were encouraged to discuss issues that are of importance to them, and to share experiences, opportunities, and strategies on how to succeed in the agribusiness industry.

5. **Avian Influenza Action Plan** - In April 2006, ARD consultant Dr. Noel L. J. Miranda arrived in Yemen for a two-and-a-half-week-long mission focused on assisting the Government of Yemen to synthesize their National Avian Influenza (AI) Action Plan. In May 2006, YASP published its report entitled “National Avian Influenza Action Plan: Outbreak Response Preparedness” detailing the conclusions drawn during Dr. Miranda’s visit. The report outlines the activities and findings during the trip, the action plan, and recommendations. The plan was translated into Arabic, and 150 copies were published and distributed to the MAI, Ministry of Health, and the GOY Cabinet.

On May 26 and 27, 2006, the YASP Livestock Specialist attended a meeting in Kuwait that covered the most recent developments on AI worldwide and where regional experiences could be shared by members of the Gulf States. The objective was to exchange information and to discuss the current preparedness of the Member Gulf Countries to respond to an AI outbreak.

USAID/YASP sponsored and financed a visit to Cairo, Egypt from June 29 to July 4, 2006, for MAI Deputy Minister Abdul Malik Al-Erashi; Finance Ministry Deputy Minister Fadle Al-Shoaibi; and Director General of Legal Affairs of the MAI Najib Alqadhi to attend a conference on Egypt’s Avian Influenza (AI) Plan. The Yemeni officials were able to learn firsthand about the outbreak of AI in Egypt, its impact, and the successes and failures of Egypt’s plans. This visit helped the Yemeni representatives to discuss the GOY’s current implementation of AI surveillance, budgeting, coordinating with other related authorities, and to review lessons learned by Egyptian officials.



YASP’s Chief of Party/Livestock Specialist Najib Al-Hammadi, together with the MAI Minister Dr. Mansour Al-Hebshi, and the Director of General Animal Resources (DGAR) Dr. Ghalib Al-Eryani participated in the International Ministerial Conference on Avian and Pandemic Influenza held in New Delhi, India, on December 4-6, 2007. The conference discussed the current status of AI, success stories in controlling the disease, and the importance of creating awareness to limit the spread of the influenza. The conference also resulted in the formulation of a joint roadmap for the 111 countries that participated in the conference, to synergize the global fight to contain the deadly AI. The United States was the single largest donor, pledging USD \$195 million to finance the roadmap. This amount represents almost half of the total pledges of USD \$406.1 million.

2.2 LIVESTOCK EXTENSION SERVICES

2.2.1 Activities

YASP methodology for training its client farmers is simple. Farmers were taught using materials already available on the farm, introduced to basic hygiene of the animal quarters, and shown improved feeding techniques. The YASP staff focused its basic livestock training and support to client farmers in the following areas:

- Basic animal health care and management training;
- Vaccination for *Peste des Petits Ruminants* (PPR), sheep pox, and clostridium;
- Treatment for internal and external parasites and other common diseases;
- Nutrition improvement and training;
- Hoof trimming;
- Introduction of drought-resistant forage;
- Improving animal housing;
- Genetic improvement of livestock and marketing training; and
- Introduction of modern methods in beekeeping.

Each of these activities is described in further detail below. YASP's livestock team also published a study entitled, "Livestock Movement and Trade Study," which is also described below. Combined, these efforts led to YASP farmers being able to sustain an average marketable production of seven (7) heads per farm over the life of the project.

1. *Basic animal health care and management training* - YASP trained 11,244 male farmers and 10,608 female farmers from the five target governorates in basic animal husbandry, animal health care, and hygiene. Training included classroom sessions and a practicum during which participants learn hands-on techniques needed to treat animals in rural villages. The training started with demonstrating the examination and diagnosis of the animals. The treatment included vaccinating, de-worming, treating for internal and external parasites, and hoof trimming.

YASP also published its "Animal Management and Production" booklet as well as its "Animal Health Care" booklet, which detail all the activities and interventions implemented by our extension agents. The booklets will serve as a reference for farmers to help them in the future after the project closes. Five thousand copies of each have been published and distributed to farmers as well as veterinarians who participated in the Yemen Veterinary Association Conference in Aden.

In addition, 70,000 livestock posters were produced to promote the use and benefits of feeders, drinkers, concentrated feed, improved animal housing, drought-resistant forage, animal marketing, hoof trimming, and disease control. The posters were distributed to the farmers in the five targeted governorates.

- ***Vaccination for PPR, sheep pox, and clostridium***

During the LOP, YASP worked closely with the MAI and the Director of General Animal Resources (DGAR) to improve government response capabilities and contain disease outbreaks in the targeted governorates. YASP has increased and developed the epidemiological work, as well as techniques for early warning and quick response in controlling major epidemic diseases. YASP livestock extension agents took the lead as the first to report the outbreak of *Peste des Petits Ruminants* (PPR), sheep pox, screwworm, and clostridium.

More than 55,000 animals were vaccinated against PPR, 15,000 against sheep pox, another 4,000 were vaccinated for clostridium, and 15,000 animals in Sa'adah and Hajjah Governorates were treated for screwworm.

In Shabwa, a PPR outbreak was successfully contained by YASP and local MAI livestock specialists. The quick response to disease outbreaks by YASP is the model the MAI is preparing to replicate within the MAI itself.

- ***Treatment for internal and external parasites and other common diseases***

YASP extension agents treated animals for internal and external parasites. In the last two years, 32,000 animals were de-wormed for external and internal parasites, and 651 sheep and goats were vaccinated against clostridium disease. Roughly 21,000 other animals suffering from a variety of ailments including

mineral and vitamin deficiency, bloating, enteritis, joint stiffness, abscesses, diarrhea, dystocia, mastitis, and respiratory diseases were treated as emergency cases.



A female extension agent prepares vaccine to administer to sheep.



A Shabwah farmer treats his camel after receiving training.

PHOTOS COURTESY OF THE YASP ARCHIVES

Moreover, YASP worked with the MAI and the DGAR to control the outbreaks of myiasis in sheep and goats in Sa'adah and Hajjah Governorates. Myiasis is an infestation of living tissue by maggots, such as fly larvae. It is a fast-spreading, lethal disease, mainly affecting domestic small ruminants, and it can also affect people. About 1,000 animals, out of a total population of 60,000, were infected in Sa'adah and 1,200 out of a total population of 40,000, were infected in Hajjah Governorate. The symptoms included diarrhea, high temperature, and larvae-infested wounds. Working closely with the MAI, YASP personnel spent three days treating the infected animals, establishing a camp for about 16 days to investigate and treat animals in surrounding districts as well as collecting samples that were sent to a laboratory in England. Lab tests confirmed a positive result for a form of myiasis called screwworm. Subsequently, approximately 15,000 animals in Sa'adah and Hajjah Governorates were treated. Because of YASP's training in health precautions, there were no indirect health problems with regard to the farmers.

- ***Nutrition improvement and training***

YASP nutrition improvement and training activities focused on improved feeders and drinkers; training farmers how to make feeder blocks and silage; and demonstrating the benefits of concentrated feed. YASP distributed more than 181 feeders and 130 drinkers to farmers in the five governorates. Feeders reduced forage loss by 30 percent, and drinkers are reducing dehydration and heat stress. YASP also trained 115 female farmers and 87 male farmers in Marib, Al-Jawf, Shabwa, and Amran to make feed and mineral food blocks from locally available waste products, such as chaff and hulls that come from barley and wheat. The waste materials and a small amount of cement are mixed with water and placed into a square mold or a bucket. When the blocks dry, they can be fed at a rate of one block per three sheep for one week. Mineral blocks eliminate deficiencies that are common in Yemen. There is a low level of phosphorous in Yemen soils, which means that the forage that is produced is also lacking in this nutrient. Mineral blocks were used to supplement the phosphorous in animals' food.

YASP trained 197 farmers in Amran, Marib, Shabwa, and Al-Jawf to make silage, which increases the digestible nutrients available from the forage. The silage is stored and then can be used in the drought seasons when fresh forage is not available. Farmers were taught to pack forage into 55 gallon drums. The farmers learned to eliminate all the oxygen from the drum as they pack it. Once the forage is packed tightly and the drums sealed, the mixture becomes silage. The drums containing the silage can be stored until the dry season and then fed to the animals.



PHOTOS COURTESY OF THE YASP ARCHIVES

With regard to concentrated feed, results indicate that calves and lambs that were fed concentrated feed gained weight at a rate of 750-800 grams per day for calves and 180-200 grams per day for lambs. This is compared to the weight gain without concentrated feed, which was measured at less than 400 grams per day for calves and less than 90 grams per day for lambs. The results of this technique are reflective of its success. In Marib, four eight-month old lambs that were fed only alfalfa and sorghum sold for 27,000 Yemeni Rials (YR) per head during Eid Al-Adha holiday. This contrasted to a YASP-supported farmer whose three five-month old sheep, which were fed concentrated feed, alfalfa, and sorghum, sold for the same price, despite being three months younger. Likewise, in Amran during Eid Al-Adha, one seven-month old lamb fed alfalfa and sorghum and weighing 18 kilograms was sold for YR 15,000 with the weight of the meat 11 kilograms after slaughter. Another seven-month old lamb fed supplemental concentrated feed, alfalfa, and sorghum that weighed 29 kilograms sold for YR 20,000, with the weight of the meat at 21 kilograms after slaughter. The increase in weight resulted in a net increase of revenue to the farmer of YR 4,200, once the cost of the concentrated feed is taken into account. Balancing the lamb's diet and using YR 800 worth of concentrated feed created an extra 10 kg of meat. The introduction of concentrated feed has also caused the birth weight of newborn lambs to increase significantly, in some cases by 100 percent.

The sales of concentrated feed for ruminants has really taken off in Yemen as a result of YASP training and promotion. Concentrated feed sales in Sa'adah have increased from one ton per month to eight tons. As farmers learned about the weight gains that can be achieved with concentrated feed, they purchased more feed. The ruminant feed industry in Yemen is growing and should expand exponentially in the years to come. As the sales of feed increases, the demand for improved feeders and drinkers also increases, creating a market for this low-cost technology.



PHOTOS COURTESY OF THE YASP ARCHIVES

- ***Hoof trimming***

YASP trained farmers on the proper technique for hoof trimming, which improves the productivity and fertility of the animals. Approximately 3,000 sheep and goats had their hooves trimmed by the trained farmers.

- ***Introduction of drought-resistant forage***

Lack of suitable livestock feed is a major constraint to animal production throughout Yemen. Malnutrition, death, and disease result from the lack of nutritional forage. YASP introduced elephant grass to Al-Jawf, Marib, and Shabwa because it is drought- and weed-resistant, highly productive, nutritious, and liked by the animals.

- ***Improving animal housing***

YASP extension agents made improvements to 153 animal shelters in Marib, Sa’adah, Amran, and Shabwa Governorates. Thirty (30) percent of these improvements were paid for by YASP, while the remaining 70 percent were funded by contributions from the beneficiary farmers. This reinforces the conclusions of the independent program assessment that farmers valued YASP interventions so much that they were willing to contribute their own resources to support them. The improved animal shelters have led to better animal health, and this has contributed to animal fertility and improved production.

2. ***Genetic improvement of livestock and marketing training*** - In cooperation with the MAI Livestock Research Station in Dhamar, YASP implemented its sheep genetic improvement program in the five targeted governorates. YASP extension agents in Amran systematically improved the genetic potential of sheep in 10 villages. The new White Bony and Dhamari rams have replaced the local inbred rams and become the cornerstone of the sheep crossbreeding program. The characteristics of these two improved breeds are large size (which can reach 32 kilograms quickly); easily adapts to different environments; has greater tolerance to drought; and exhibits a high incidence of twinning with excellent milk production.

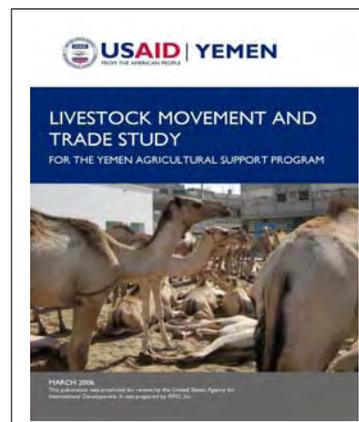
In Marib and Shabwa, YASP extension agents crossbred the local White Jabali ewes with mating Najdi rams. In Sa’adah, the Jowfi rams were crossbred with the local breed. The characteristics of these new rams are similar to the Dhamari breed, but with a lower incidence of twinning.

The crossbred lambs produced from mating Bony, Dhamari, Najdi, and Jowfi rams with local ewes are more productive for Yemeni farmers. The increases in sheep productivity directly impact the income and food security of client farmers as well as local villagers. Producing a bigger, healthier lamb means low incidence of mortality and reduced time to reach market weight so the farmer can sell the lambs in four or five months instead of the usual nine months. The farmers have profited from their sheep herds and are learning new ways to care for their sheep, ensuring the long-term productivity of their herd.

3. ***Introduction of modern methods in beekeeping*** - The extension agents in Shabwa introduced modern methods of beekeeping to 28 selected farmers by distributing one Langstroth hive to each farmer and providing them with training in beekeeping. As this project is relatively new, results are not yet available. However, it is predicted that at the end of the year, the beekeeper will harvest 5 kilograms of honey/hive/year, earning YR 7,000 per kilograms. The annual gross income will be YR 7,000 X 5 kilograms, which equals YR 35,000/year/hive. The traditional hives normally harvest 3 kilograms of honey/hive/year, earning only YR 21,000/year/hive.

2.2.2 Livestock Studies

YASP published its study entitled “Livestock Movement and Trade Study.” The purpose was to assess livestock movement into and within Yemen and to make suggestions based on the findings. The principal author was Dr. David Fleming. This study brought to light that the method of livestock movement in Yemen is



currently detrimental to the Yemeni livestock trade, as there is very little control of the animals entering any of the three main ports in Yemen. Also, the inspection of the animals upon entry is not thorough and, therefore, many diseased animals end up entering the country and the livestock markets. At the end of the study, suggestions were made to improve the safety and productivity of the livestock movement and trade in Yemen.

Mark La Grange, an animal marketing specialist, conducted a short-term consultancy for improving animal marketing in Yemen from March 17 to April 5, 2008. During his stay, he visited animal markets, farms, and the livestock import quarantine area in Al-Mukulla. He also met with animal trainers in Al-Hodiedhah and Taiz, where he discussed animal health and nutrition issues. Mr. La Grange's report on livestock marketing practices in Yemen will be published in May 2008.

2.3 HORTICULTURE EXTENSION SERVICES

2.3.1 Activities

YASP field activities in horticulture were focused on training and support to their client farmers in the following areas:

- Preventative curative plant protection;
- Preparation and application of fertilizer;
- Preparation of nurseries;
- Method and timing of pruning; and
- Food processing and post-harvest activities.

A total of 11,677 farmers benefited from these activities. YASP trained 8,514 farmers in different agricultural operations such as irrigation, pruning, fertilizer application, pest control, and harvest and post-harvest operations for alfalfa, potatoes, cucumbers, onions, tomatoes, peppers, citrus, mangoes, dates, apples, and peaches. More than 5,498 farmers attended YASP-led discussion sessions that addressed the above activities as well as how to improve the marketing of their agriculture products. An average total of 23,521 kilograms per hectare of harvested product or a 126 percent increase from the June 2006 baseline was achieved by YASP producers. Each activity is described in further detail below.

- ***Preventative curative plant protection***

YASP purchased and distributed pesticide sprayers to its farmers and conducted trainings in safe pest control measures. These trainings included instruction on applying several plant protection techniques to demonstrate accurate pest identification, correct dilution of the pesticide, and beneficial insect safety.

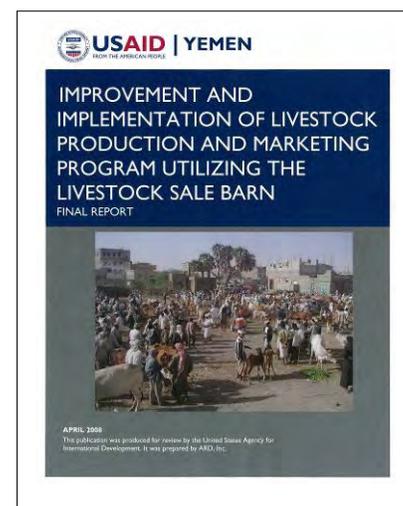
- ***Preparation and application of fertilizer***

Farmers were trained to safely apply natural foliar fertilizer to their crops. Distributing samples of fertilizers on certain farms for demonstration increased production by 20 percent or more.

- ***Preparation of nurseries***

YASP rehabilitated two MAI nurseries in Amran and Sa'adah. The seedlings from these two nurseries were distributed to other new nurseries. YASP also assisted the MAI office in Abyan to establish a coffee nursery by providing all the materials required to build it.

In a pilot household economy project, YASP implemented five backyard gardens for five low-income families in Shabwa. The aim of these gardens is to respond to each family's need for vegetables and



fruits, and to help improve their incomes. Twenty-five female members of these families were trained in the design and implementation of these gardens. The instruction covered preparation and partition of the land, selecting and sowing of the seeds, and conveying water used in the kitchen into the garden.

- ***Method and timing of pruning***

Pruning of fruit and citrus trees is not commonly practiced in Yemen. As a result, fruit and citrus yields are very low. YASP hands-on training program taught farmers the purpose, production benefits, timing, method, and strategy of pruning. The training allowed farmers to prune their own trees and experience the results of increased flowering.

- ***Harvest and post-harvest activities***

Harvesting training included instruction on the correct timing and method for harvesting the produce; how to sort, grade, wash, and dry the produce; and the proper method for packing. These methods help prolong freshness of the produce, resulting in a higher profit for farmers.

- ***Produce Marketing Training***

YASP conducted a four-day workshop in Marib on marketing. The focus of the workshop was to improve farmers' income by understanding marketing systems, gaining up-to-date information on prices and assisting them in establishing a marketing information system in the region. The training covered the concept of agricultural marketing, understanding marketing systems, estimating quantities, packages, and weights, collecting and analyzing prices and inflation using computers. The training was conducted by three specialists from the DGAR. The training was held at the offices of the Eastern Region Agricultural Development Authority (ERADA) of the MAI with trips to the wholesale and retail markets in Marib.



YASP conducted a training course on food processing for 26 women from several districts in Sa'adah.

Women trained in making concentrated juices, jams, preserving pickles and drying a variety of vegetables, including okra, hot peppers, parsley, and mint.

2.3.2 Olive and Date Palm Activities

Olive Activities

YASP olive activities took place in the governorates of Amran, Sa'adah, Marib, and Al-Jawf. This program included distributing olive seedlings and training farmers in planting, irrigation, pruning, and fertilizing of olive trees. Activities in Marib and Al-Jawf were focused on rehabilitating existing olive farms. Olive tree farmers in these two governorates were trained in fertilization, irrigation, and pruning of olive trees.

These activities have shown tremendous results. The olives trees in these governorates were pruned, fertilized, and watered. Olive trees that had been neglected and have never flowered in Marib and Al-Jawf are

now flowering for the first time, confirming that olives can become an important cash crop in all five of the target governorates.

- ***Distribution of olive seedlings***

YASP extension agents in Amran and Sa'adah distributed and planted 8,485 olive seedlings. YASP received an additional 5,000 seedlings from the MAI to be distributed and planted. Three thousand seedlings were placed in the nursery in Sa'adah and the remaining 2,000 seedlings were placed in Al-Bawn nursery in Amran. These nurseries are operated by the GOY, but the seedlings are controlled and distributed by YASP staff.

- ***Rehabilitation and improvement of nurseries***

In collaboration with the MAI, YASP organized two four-day training field trips to Mahweet and Dhamar Governorates. The Olive Specialist, part of YASP technical staff based in Sana'a, focused the training on planting, irrigating, pruning, and fertilizing olive trees. This effort allowed extension agents to plant more olive seedlings. The objective was to rehabilitate and improve the infrastructure of the olive nurseries in both of these governorates. YASP also improved the conditions within nurseries in two other governorates—Amran and Sa'adah.

- ***Olive Workshops***

On December 15-17, 2007, YASP conducted an olive production workshop in cooperation with the MAI and the regional office of the Center on Agrarian Reform and Rural Development for the Near East (CARANE). The workshop focused on improving olive production and harvesting. It covered the practical and theoretical aspects of olive production and plantation maintenance. Representatives from the MAI and 40 participants from several governorates all around the country attended the workshop and participated in a field visit to Kawkaban for a hands-on demonstration of olive production and best harvesting practices.

Date Palm Activities

- ***Distribution of date palm seedlings***

In its effort to improve fruit quality and household income, YASP acquired and distributed high-yielding varieties of date palm trees. YASP bought 1,176 tissue culture seedlings of these varieties. Beneficiaries in Sa'adah, Al-Jawf, Marib, and Shabwa Governorates received training in planting the seedlings and planted them under the supervision of YASP staff.

- ***Distributing protection bags***

YASP also bought and distributed 1,000 special bags designed to protect date palm clusters. These bags, which cost YR 60 each, are lightweight and have tiny holes which allow sun and air to pass through but keep bugs and birds out. The same holes reduce humidity inside the bag which helps increase date production. Farmers in Al-Jawf, Marib, and Shabwa were trained on how to use them with the objective of reducing post-harvesting losses. YASP's extension agent in Shabwa estimated that the loss reduction using the bags was 25 percent. In Marib, similar results were reported. The demand for the newly designed bags is high. Al-Khayr Cooperative Farming Association in Al-Jawf ordered 500 bags. One of our target farmers has already imported 125 bags from the Emirates and is currently using them on his farm. Another target farmer in Marib purchased 3,000 bags.

- ***Date Preservation and Packaging***

YASP distributed three locally fabricated date pressing machines and 850 new empty tins to beneficiary date farmers in Al-Jawf, Marib, and Shabwa. These tools allow farmers to sell preserved and packaged dates at YR 150 to 200 per kilograms, instead of YR 50.

- ***Date Palm Workshops***

Date palm training workshops have been held in Shabwa and Marib. On April 23-24, 2007, a workshop was held in Shabwa. It was attended by four YASP extension agents, 10 participants from the MAI office, and 10 farmers. Training covered the propagation and planting of imported varieties of tissue culture date palm seedlings.

On August 14-15, 2007, another workshop on date preservation and packaging was conducted in Marib. Twenty-two farmers attended the workshop. The training covered preserving dates using vacuum packaging machine.



Yahya and his brothers are pressing dates in tins.



Yahya displays a full tin of dates.



The father is making sure the tin is closed tightly.

PHOTOS COURTESY OF THE YASP ARCHIVES

2.3.3 Coffee Activities

- ***Coffee harvesting trainings***

YASP sponsored field trainings on coffee harvesting and post-harvesting operations in the coffee areas of Amran. Fifty-five farmers attended two sessions. The trainer, Said Al-Sharjabi, a coffee expert from the MAI, taught farmers the correct way of picking, sorting, and drying coffee cherries. The participants expressed their appreciation for the training. They acknowledged the importance of marketing and promised to implement these procedures in their respective localities. YASP's coffee extension agent in Amran continued training coffee farmers on harvesting and post-harvesting operations in the four districts he covers. He also trained farmers in proper agriculture practices with the coffee crop.

- ***Irrigation pipes for coffee farms***

YASP provided coffee farmers with irrigation pipes, as there is a scarcity of water in the valleys where the coffee is grown. Also, since coffee is grown on terraces, transporting water from the source to the fields is difficult and the losses are high. YASP shared the expenses of the pipes with 25 groups of farmers. About 60 coffee farmers benefited from this assistance.

- ***Coffee dryers***

YASP also helped farmers purchase coffee dryers. Traditionally, farmers dry coffee cherries on top of their homes. The new coffee dryers are placed in areas that prevent dust and particles from mixing with the coffee as it dries. The driers also shorten the drying period of the coffee cherries.



Teaching farmers the proper way to pick, sort, and dry coffee cherries.

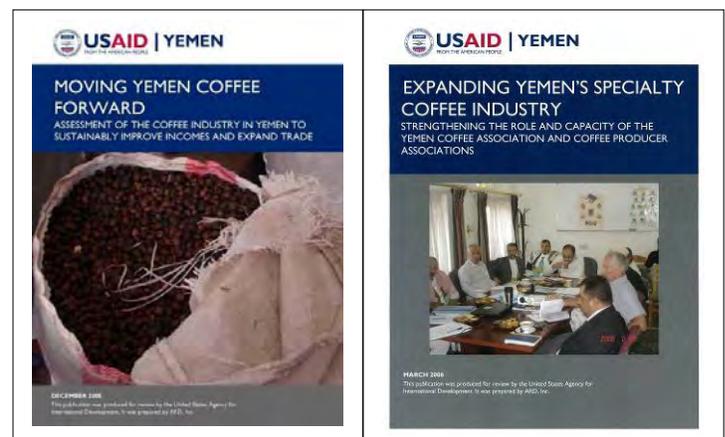
- ***The Yemen Coffee Association***

The five major Yemeni coffee processors and exporters decided to work together to improve the quality and quantity of Yemeni coffee. With the funding of USAID/YASP and Global Development Alliance (GDA), the coffee companies of Al-Ezzi, Al-Kabous, Al-Sowaid, and Yemen Coffee established the Yemen Coffee Association (YCA). With Al-Kabous taking a leadership role, several meetings were held to discuss the YCA's business plan and strategy as well as the support they sought from USAID/YASP and GDA. YASP hired Michael Schwartz, an international coffee expert to assist the YCA in capacity building. During his assignment, from February 5 to March 3, 2008, Mr. Schwartz worked on strategies to build the institutional capability of the YCA. He was able to look closely at the coffee sector and to evaluate its strength and shortcomings. Through his study (described in further detail below), he proposed technical assistance for the YCA, specifically:

- Send three members to participate in the Specialty Coffee Association of America conference;
- Provide equipment to coffee growers (e.g., dryers, irrigation pipes) on a subsidized basis;
- Purchase a coffee lab; and
- Pay a portion of YCA operating expenses.

- ***Coffee Studies***

There were two coffee studies completed during the Yemen Agricultural Support Program. The first one was authored by the renowned international coffee expert Daniele Giovannucci. Mr. Giovannucci did an overarching assessment of the status of the Yemen coffee sector entitled "Moving Yemen Coffee Forward." This was published in December 2005. The second study was authored by Michael Schwartz, a coffee consultant, in March 2008. Entitled "Expanding Yemen's Specialty Coffee Industry: Strengthening the Role and Capacity of the Yemen Coffee Association and Coffee Producer Associations," the study gives a brief description of the coffee value chain in general, with particular emphasis on conditions that affect Yemen's capacity to export to specialty markets and the role of the Yemen Coffee Association.



2.3.4 Horticulture Studies

In November 2007, YASP published its horticulture study entitled, “Horticulture Market Development in Yemen: Competitiveness, Policies, and Potential.” The purpose of the study was to broadly assess market opportunities, the competitiveness of Yemeni production, support inputs (infrastructure, services, policies, aid agencies, project support), and any constraints. The study outlines some strengths and weakness in the competitiveness of the sector and challenges farmers face in agribusiness. The study outlines opportunities that the horticultural market in Yemen could exploit and recommended short-/long-term action to be taken.

In November 2005, YASP’s grape study entitled, “Grape Subsector Assessment Report” was published. This study profiled and assessed the grape value chain in Yemen. It also documents the current production and marketing constraints of grapes in Yemen. The assessment makes recommendations for stimulating sustainable expansion of the grape sector.



2.4 IRRIGATION INITIATIVES

2.4.1 Activities

In its effort to improve water use and irrigation efficiency, YASP undertook several small irrigation projects and trained MAI extension agents and farmers in the target governorates on basic field water management and irrigation scheduling.

- ***Drip irrigation and pipe conveyance networks***

YASP implemented 104 projects to set up drip irrigation and pipe conveyance networks in the five governorates. These projects replaced the traditional earth channels with PVC and polyethylene pipes, which save between 20-40 percent of the irrigation water. The networks set up by YASP now cover a total area of 208.5 hectares.

- ***Irrometers***

YASP acquired and distributed 15 sets of irrometers (tension-meters) to beneficiaries in the five governorates. The irrometers allow farmers to see when enough water has been applied to their field, which also helps them to conserve their precious water resources. Three field training sessions were conducted in Sa’adah, Amran, and Marib on the installation and use of the irrometers in determining soil

moisture and scheduling irrigation. These sessions were attended by eight YASP extension agents, 16 MAI staff members, and 47 farmers. After the training, YASP extension agents installed the irrometers in the fields of some target farmers. Other farmers have been trained in the proper installation.

The results in using irrometers are tremendous. Until YASP's introduction of them, only a few moisture-detecting instruments had reached Yemen. For the first time, farmers are able to see if water is reaching the root zone of their crops. Irrometers have reduced some farmers' water usage by 20-40 percent. Some farms also achieved savings in water and fuel that amounted to 50 percent due to the improved irrigation technologies that have been introduced.

- **Water tanks**

In the five target governorates, YASP installed 28 concrete water tank projects for multipurpose use: drinking, irrigation, and animal water consumption.

2.5 SMALL GRANTS PROGRAM

2.5.1 Background

Through the Small Grants Program (SGP), YASP worked with local and rural agricultural associations to implement projects that directly benefit underserved members of the community. A main goal of the program was to involve women in activities that yield positive economic and social improvements for them. YASP awarded grants to 27 associations with projects in the area of horticulture improvement, livestock investment, and skills training. Twelve of these projects were focused on livestock. Eight were devoted to horticultural improvement. Six provided skills training, and one provided community assistance. These 27 associations benefited a total of 5,266 direct beneficiaries and 25,330 indirect beneficiaries. Of the direct beneficiaries, 3,028 were men and 2,239 were women. The total value of in-kind assistance approved for grants was USD \$1,166,699. The total contribution from YASP was USD \$619,263, and the contribution by the beneficiaries was USD \$547,436.

2.5.2 Grant Activities by Governorate

Al-Jawf

YASP provided grants to a total of six projects in Al-Jawf. Four of these projects were devoted to livestock investment. One supported horticultural improvement and one provided skills training. There are a total of 977 direct beneficiaries in Al-Jawf (655 men and 322 women). YASP has contributed a total of USD \$134,083 to projects in this governorate.

Livestock

Al-Salam Development Association's (ADA) livestock project has a total of 60 members, all of whom are women. ADA's project was focused on sheep-raising. The total contribution from YASP to ADA was USD \$27,876, and the contribution by the beneficiaries was USD \$9,137. YASP purchased 300 pregnant ewes and distributed them to 30 farmers who were in need of assistance. Each family received 10 sheep. YASP staff trained the families to raise the sheep in a clean environment with proper veterinary care. The ewes were expected to birth two twin lambs each year. The beneficiaries raised the offspring for six to seven months before returning 300 ewes to the association to be distributed to new families. ADA reported the number of offspring at 135.6 percent of the targeted figure.

Al-Jawf Agriculture Cooperative Association (AACA) has a total of 55 members, all of whom are men. Many families in Al-Jawf earn meager wages and, therefore, have little income to establish or enlarge a business. However, they are experienced in raising sheep. YASP provided the association with 200 three-month

old lambs, routine medicines, and vaccines for the animals. The members of AACA cared for the lambs and fed them until they sold the fattened animals for profit. The AACA supplied low-income families with the opportunity to generate a higher income and thus become self-sufficient. The income generated from the first cycle of lamb fattening was YR 4,100–5,927 per family. The total contribution from YASP to AACAA was USD \$15,076, and the contribution by the beneficiaries was USD \$8,543.

Al-Eman Agricultural Cooperative Association (Al-Eman) has a total of 602 members, 500 men and 102 women. Al-Eman focused on lamb fattening using the same methods as AACAA, described above. The total contribution from YASP to Al-Eman was USD \$15,076, and the contribution by the beneficiaries was USD \$8,543.

The aim of *Al-Jawf Women's Association* (AWA) was similar to that of AACAA and Al-Eman, except that the project focused more on the needs of widowed and divorced women who also had skills in sheep-raising but no income to start a business. AWA members also used their grant to buy water pipes and build a well and irrigation system, which established household connections to clean water. AWA is composed of 60 women. The total contribution from YASP to AWA Association was USD \$33,557, and the contribution by the beneficiaries was USD \$16,446.

Horticulture

Al-Salam Development Association's (ADA) horticulture project has a total of 110 members, 100 of whom are men and 10 of whom are women. The goal of this project was to establish a sesame production facility using oil presses powered by electricity. Using this facility, members could produce and sell sesame oil and sesame cakes, which created jobs for them and increased the incomes of local farmers and association members. The total contribution from YASP to ADA's horticulture project was USD \$24,798, and the contribution by the beneficiaries was USD \$50,101.

Skills Training

Al-Amanah Wa Al-Aml Association (Al-Amanah) consists of 90 members, all of whom are women. Al-Amanah introduced new income-generating opportunities by organizing women in how to weave traditional rugs. YASP provided spinning wheels and looms as well as training on how to use them. Al-Amanah recycled local wool, which was being discarded into the fields, as their primary source of raw materials for making thread and rug creation. An indirect benefit of their enterprise was to stimulate an increase in the local demand for wool, which would in turn encourage sheep production projects in the district. The total contribution from YASP to Al-Amanah was USD \$17,700, and the contribution by the beneficiaries was USD \$1,353.

Amran

YASP provided grants to a total of six projects in Amran. Three of these projects were devoted to livestock investment. One worked on horticultural improvement, one provided skills training, and one provided community assistance. There are a total of 1,434 direct beneficiaries in Amran (808 men and 626 women). YASP contributed a total of \$176,327 to projects in this governorate.

Livestock

Al-Safa Agricultural Cooperative Association (Al-Safa) has a total of 250 members. Half of the members (125) are men and the other half are women. Al-Safa wanted its own farm for producing clover and grain to feed its herd of cows. This would decrease the cost of feeding the association's existing herd and allow Al-Safa to expand its herd eventually to 300 cows. The project first purchased and installed a generator and electric pump. Next, Al-Safa built a water tank and irrigation system. Al-Safa then began cultivating additional land. The association sought to increase its dairy herd by using silage and hay harvested from additional land as feed. The area of cultivated land increased from 900 libna to 2,600 libna. The area of irrigated land increased from 900 libna to 1,300 libna. The number of cows at milk production stage

increased from 27 to 34, and the total number of cows increased from 100 to 130. The total contribution from YASP to Al-Safa was USD \$37,345 and the contribution by the beneficiaries was USD \$57,789.

Al-Ekhlbas Agricultural Cooperative Association (Al-Ekhlbas) has a total of 44 members, 34 of whom are men and 10 of whom are women. The focus of Al-Ekhlbas was to expand its dairy farm. YASP provided the association with 50 local Frisian cattle, and Al-Ekhlbas purchased a refrigerated truck for transporting the milk to the market for sale. Together, these initiatives enabled the association to increase the amount of milk that it produced and was able to sell. The total contribution from YASP to Al-Ekhlbas was USD \$46,482, and the contribution by the beneficiaries was USD \$49,643.

Dafar Agricultural Cooperative Association (DACA) has a total of 229 members (136 men and 93 women). The methods used in this project were the same as those used with Al-Ekhlbas Agricultural Cooperative Association (see above). The total contribution from YASP to DACA was USD \$22,700, and the contribution by the beneficiaries was USD \$48,500.

Horticulture

Al-Dhabar Agricultural Cooperative Association (Al-Dhabar) consists of 51 members (21 women and 30 men). Before the start of the project, the association purchased 200 tons of potatoes annually during harvest and stored them, un-refrigerated, to use as seeds for the next season. The use of un-refrigerated storage led to a 20 percent loss rate, which equates to 40 tons of potatoes, significantly reducing the available seeds for the next season. YASP provided Al-Dhabar with refrigerated storage containers, which reduced the rate of loss and increased the amount of potatoes available to use as seeds. The total contribution from YASP to Al-Dhabar was USD \$46,000, and the contribution by the beneficiaries was USD \$89,116.

Skills Training

Kharef Agricultural Cooperative Association for Women (Kharef) has a total of 60 female members. Women in the Kharef District lack adequate employment opportunities, but they had been making traditional handicrafts and sewing clothes, both of which were marketed locally through a showroom before awarding of the small grant. Kharef built on women's existing knowledge and introduced new income opportunities by training women to make traditional rugs using a loom. YASP provided start-up resources for rural women to process available wool into traditional rugs. This was intended to stimulate local demand for wool, which would in turn stimulate incentive for farmers to raise more sheep. At the time of the SGP evaluation, the trainees had produced 19 rugs in the first training course. Two of these rugs were sold for revenue of YR 47,000. Seventeen rugs of differing sizes were still for sale. The total contribution from YASP to Kharef was USD \$11,800 and the contribution by the beneficiaries was USD \$1,351.

Community Assistance

At the request of USAID, YASP assisted the *Al-Thaghafa School* which has an enrollment of 800 students (483 males and 317 females). YASP provided the school with a generator so that the students could study by light in the afternoon. The generator also powered the water pumps for improved hygiene in the latrines. The total contribution from YASP to Al-Thaghafa was USD \$12,000, and the contribution by the beneficiaries was USD \$4,277.

Marib

YASP provided grants to a total of four projects in Marib. Two of these projects were devoted to livestock investment and the other two provided skills training. Marib's projects were different from those in other governorates, as they only targeted female beneficiaries. The total number of direct beneficiaries in Marib is 360. YASP contributed a total of USD \$85,233 to projects in Marib Governorate.

Livestock

Arash Balquis Agricultural Cooperative Association (ABACA) has a total of 60 female members. ABACA's project was focused on sheep-raising and just as with ADA in Al-Jawf (see above), YASP purchased 300 pregnant ewes and distributed them to 30 farmers who were in need of assistance. Each family received 10 sheep. YASP staff trained the women to raise the sheep in a clean environment with proper veterinary care. The ewes were expected to birth two twin lambs each year. The beneficiaries raised the offspring for six to seven months before returning 300 ewes to the association to be distributed to new families. ABACA reported 302 new offspring, which is 100 percent of the targeted figure. The total contribution from YASP to ABACA was USD \$22,842, and the contribution by the beneficiaries was USD \$5,584.

Al-Marsah Association also has a total of 60 female members and used the same methodology as ABACA to assist in sheep-raising. The total contribution from YASP to Al-Marsah was USD \$22,842, and the contribution by the beneficiaries was USD \$5,584.

Skills Training

Woman and Child Development Association (WCDA) has 180 female members. The WCDA sought to incorporate women into the development process by providing them with a skill that can help them to find work and generate income for their families. The project successfully trained 147 women in dress designing and sewing. Eighty women received sewing machines, which increased their incomes by YR 4,625 per month. Almost 50 percent of targeted figure of women had part-time jobs sewing at the time of evaluation. The total contribution from YASP to WCDA was USD \$31,346, and the contribution by the beneficiaries was USD \$6,354.

Hawa Charity Association for Women (Hawa) has 60 female members. The goal of Hawa was similar to that of WCDA. The project's aim was to train 60 women in ma'awez weaving. The association trained 93 percent of the number of women it had targeted for training. During the training courses, Hawa produced 340 ma'awez. The creation of jobs for women reached 75 percent of the targeted figure for full-time jobs and 55.6 percent of the targeted figure for total job creation. The total contribution from YASP to Hawa was USD \$8,203, and the contribution by the beneficiaries was USD \$4,726.

Sa'adah

YASP provided grants to a total of four projects in Sa'adah. Three of these projects were devoted to horticulture improvement, and the fourth one targeted livestock investment. There are a total of 1,058 direct beneficiaries in Sa'adah (896 men and 162 women). YASP granted a total of USD \$117,482 to projects in this governorate.

Horticulture

Alb Association had a total of 254 members, 244 of whom were men, and 10 of whom were women. The Alb Association trades fruit; it experiences a surplus of fruit in the peak of the season. Without a refrigeration unit, this fruit was deteriorating quickly, resulting in the fruit being sold cheaply or simply discarded. YASP provided the association with a refrigeration unit to prolong the shelf life of the fruit, thus increasing its value on the market and increasing the income of the members of the association. The total contribution from YASP to Alb was USD \$46,008 and the contribution by the beneficiaries was USD \$38,490.

Al-Ekab Village is a poor agricultural village along a migratory route for nomads and their herds. Prior to the grant, women, who are the primary care givers for their families and animals, spent two to three hours per day gathering water due to the limited availability of the nearest water well. YASP designed and built a water tank and animal drinking area for the people of the village and their animals. There are a total of 50 direct beneficiaries of this project (25 women and 25 men). The total contribution from YASP to Al-Ekab village was USD \$2,930, and the contribution by the beneficiaries was USD \$2,965.

Al-Sonbola Cooperative Agricultural Association (Al-Sonbola) has a total of 540 members (520 men and 20 women). The association is a major distributor of cucumbers in Sa'adah. Prior to the grant, the association was transporting its cucumbers in un-refrigerated trucks, which limited the duration and distance of trips without significant losses. YASP donated a refrigerator truck to allow Al-Sonbola to transport its cucumbers throughout Sa'adah and neighboring areas without the product rotting during the trip. The total contribution from YASP to Al-Sonbola was USD \$50,000, and the contribution by the beneficiaries was USD \$70,752.

Livestock

Bani Hothifa Association has a total of 214 members. Half of the members (107) are men and the other half are women. The focus of this association was sheep-raising. The method used was the same as that of Arash Balquis Agricultural Cooperative Association ABACA in Marib (see above). The total contribution from YASP to Bani-Hothifa was USD \$18,544, and the contribution by the beneficiaries was USD \$24,212.

Shabwa

YASP provided grants to a total of six projects in Shabwa. Two of these projects provided skills training, two were focused on livestock development, and two were devoted to horticultural improvement. There are a total of 1,438 beneficiaries of YASP grants in Shabwah (669 men and 769 women). YASP contributed a total of USD \$130,937 to projects in this governorate.

Skills Training

Al-Nida Association for Supporting Handicapped People (Al-Nida) has a total of 171 members (135 men and 36 women). The project aimed to serve handicapped men and women of the Nisab region in Shabwah by teaching them to produce clothes, which they could then sell to generate income. YASP's financial support enabled the association to start a center for producing clothes. The total contribution from YASP to Al-Nida was USD \$39,225, and the contribution by the beneficiaries was USD \$9,863.

Al-Wihda Association has a total of 100 members, half of whom are women and the other half are men. The project helped create a manufacturing capability for threaded spindles used in the production of ma'awez. YASP provided the machinery and training necessary for Al-Wihda to establish a threaded spindle manufacturing enterprise. The total contribution from YASP to Al-Wihda was USD \$35,525, and the contribution by the beneficiaries was USD \$10,203.

Livestock

Dat Al-Jar Group has a total of 30 female members. Dat Al-Jar's project focuses on sheep-raising and uses the same methods as ABACA in Marib, ADA in Al-Jawf, and others mentioned above. The total contribution from YASP to Dat Al-Jar was USD \$26,667, and the contribution by the beneficiaries was USD \$7,172.

Ataq Women's Development Group (Ataq) has a total of 285 female members. Ataq also focused on sheep-raising. See ABACA in Marib for details on the method used in this project. The total contribution from YASP to Ataq was USD \$29,548, and the contribution by the beneficiaries was USD \$10,422.

Horticulture

Like Al-Ekab village in Sa'adah, *Al-Metala* is a poor agricultural region along a migratory route for nomads and their herds. YASP designed and built a water tank and animal drinking area for the people of the village and their animals. The 600 inhabitants (300 men and 300 women) of this area have greatly benefited from this project. The total contribution from YASP to Al-Metala was USD \$2,714 and the contribution by the beneficiaries was USD \$2,599.

Mohsin Fareed Farmer Group (MFFG) has 17 members (10 men and 7 women). The farmer’s collective owns 12 hectares of land suitable for growing tomatoes, potatoes, onions, wheat, and sesame. Prior to the YASP grant, the collective was experiencing a shortage of water in their well and were therefore only cultivating one hectare of land. The grant allowed the group to deepen their well to reach more water and cultivate a total of 5 hectares. The total contribution from YASP to MFFG was USD \$7,538, and the contribution by the beneficiaries was USD \$3,166.

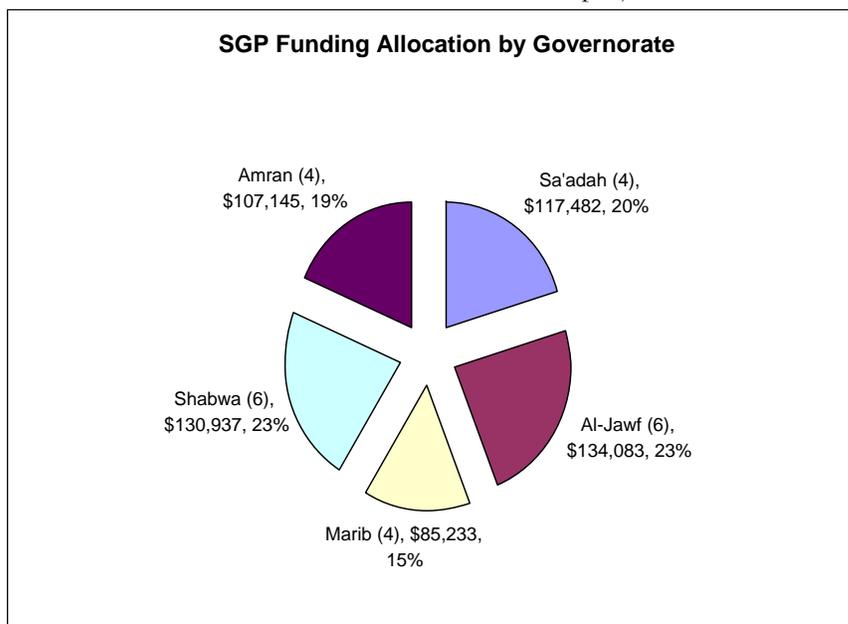
2.5.3 Business Marketing and Management Training for SGP Associations

September 2-3, 2007, a two-day workshop was conducted in Sana’a on marketing and managing small grants. The workshop was attended by 36 members of the associations that received small grants. The workshop activities began with a briefing on the most recently completed SGP projects. This was followed by presentations on enhancing the associations’ marketing capacity, including training on how to gather information about customers, pricing products, promotion, and advertising.

On April 6, 2008, YASP held a Business Training Workshop for 27 representatives from each beneficiary association. The workshop was aimed at educating the association representatives on how to access various forms of support after the Yemen Agricultural Support Program comes to an end. The business training included presentations by Khlood Al-Haj, a representative of the Social Fund for Development (SFD), and Faiza Alssulimani, a representative of the Small and Micro Enterprise Promotion Service (SMEPS), a subsidiary of SFD. Both of these women described to the association members the services offered by SMEPS and SFD and the steps that they would have to take in order to apply for these services. The workshop also included business training by Marwan Moharram, a trainer from New Horizons. This training guided association members in some business development skills, such as accounting, budgeting, and financial analysis.

2.5.4 Summary of SGP Evaluation Report

In September 2007, the YASP Small Grants Program Evaluation reported that “The YASP Small Grants Program definitely had an overall positive impact on the communities it served in terms of teaching new skills, creating jobs, and increasing incomes.” The evaluator found that the most successful projects were those that fully incorporated the beneficiaries into the activities of the associations. In these associations, the members had a personal investment in the success of the project and were passionate about achieving positive results. In projects, such as the lamb fattening, where one or two people were involved in project implementation, the result was less successful, as the rest of the members of the association lacked incentive to commit themselves to the work of the association. A breakout of SGP spending by governorate is shown in the chart to the right.



The evaluator went on to say, “the SGP encouraged entrepreneurship, leadership, coordination among business sectors, and positive interaction with concerned authorities and agencies that promoted sustained growth in incomes and employment among the poorest segments of the population. Through training courses, such as those in the sewing and weaving projects, the SGP was able to

broaden the beneficiaries' skills and teach them how to identify uses for new products and how to build market access. The SGP improved the beneficiaries' knowledge of animal husbandry and agro-based product development for wool rugs, ma'awez, and dresses. Several associations, such as the Woman and Child's Association, Hawa, and Al-Safa, significantly increased their income and the incomes of their beneficiaries. The SGP has an effective methodology for performing regular monitoring functions through its field staff. Field staff observed factors influencing the projects and identified constraints in order to prevent the projects from failing."

In order to ensure success in realizing the goals of future small grants programs in Yemen, the evaluator made the following recommendations:

- Provide close supervision and technical backstopping support to grantees on a regular basis.
- Hold regular meetings and workshops to highlight important issues relevant to its activities, enabling beneficiaries to exchange ideas and learn from each others' experiences.
- Demand a full-time commitment from the leadership of the associations in the original grant agreement.
- Establish agreements with the MAI and the Ministry of Social Affairs and other relevant authorities to ensure continuation of the services after the conclusion of the project.
- Establish an appropriate project period based on the economic feasibility of the project.
- Establish agreements with financial institutions, donors, or charitable trusts to provide loans or donations to people who received training to enable them to start new income-generating activities.
- Limit the role of the associations to supervisory tasks and encourage beneficiaries in the community to formulate their own groups, or associations to involve them in management tasks for future SGP activities:
 - Maintain two to three people in each governorate as field staff focusing on the grants to provide short-term technical assistance; solve emerging problems; and provide training as needed.
 - Encourage associations to use banks and keep records.
 - Offer training courses for the associations in accounting and recordkeeping.

2.6 YASP SUCCESS STORIES

During YASP implementation, male and female extension agents developed close working relationships with the farmers and income-generating associations they supported. Delivering innovative technical assistance using practical training and field demonstration models often produced fascinating human interest stories that aptly depict beneficiary reflections on the results of the Yemen Agricultural Support Program. A few of these success stories can be found on the following pages. They represent only a small sample of the impact YASP has had on the target population over the LOP.



SUCCESS STORY

YASP Increases Farmer Incomes

Family sheep farmers experience 50%-100% productivity gains



Photo courtesy of YASP

YASP helped Hassan Al-Mogahed (left) and Mohamed Ahmed Alawili provide better feed and a clean environment in order to improve the quality of their livestock.

“The evaluation mission has noticed the real achievements in the livestock and horticulture components... There is a tangible increase in farmers’ income from animal production by a minimum of 30%, while horticulture and agricultural production increased farmers’ income by a minimum of 25%”

Dr. Amer S. Jabarin

Associate Professor, Department of
Agriculture Economics & Agribusiness,
University of Jordan

Hassan Al-Mogahed and Mohamed Ahmed Alawili are farmers in Amran Governorate who worked with livestock extension agents from the Yemen Agricultural Support Program (YASP) for five months. YASP is a USAID-funded initiative to enhance agricultural production and rural economic development in Yemen.

The YASP extension agents trained Hassan and Mohamed in the correct way to use concentrated feed, mineral blocks, and appropriate methods for successfully raising sheep in a clean environment. The extension agents also provided vaccines for the animals and treated them for parasites. As a result, the health and productivity of these farmers’ sheep improved dramatically.

Before the YASP intervention, Hassan and Mohammed’s sheep usually delivered one lamb weighing an average of two kilograms. After YASP intervened, ten of Hassan’s 20 sheep delivered triplets, each weighing three kilograms, and another four sheep delivered twins, each weighing four kilograms.

Mohamed had similar results. Of his 14 sheep, four delivered twins, weighing four kilograms each, while a fifth sheep delivered quadruplets weighing three kilograms each. These positive results inspired both farmers to permanently adopt the new methods for raising sheep that were introduced by YASP extension agents. Both farmers plan to buy concentrated feed and mineral blocks for their newborn sheep, which will lead to a higher sale price for the sheep in the market.



SUCCESS STORY

Farmers Sustain the Circle of Life

By providing excellent care to their sheep, Yemen's farmers profit from many healthy offspring



YASP field staff introduced new feeding techniques to Yemen's farmers in order to improve animal health. Farmers also learned to house their sheep in a clean environment, and to treat illness and injury.

As a result of the intensive training and on-site technical assistance provided to farmers, 17,289 male and female farmers adopted new technologies and 11,677 reported increased animal production and/or plant yields.

In Yemen's impoverished Al-Jawf region, many families have experience raising sheep, but they often don't have large enough herds to support their families. Without any education on the best ways to raise sheep, the livestock is often kept in a dirty environment without proper veterinary care. The mortality rate is often high, and families are unable to profit from their herds.

The USAID-funded Yemen Agricultural Support Program (YASP) Small Grants Program and the Salam Wa Tanmiah Association developed a sheep raising project to help Al-Jawf farmers increase their herds and provide better care for their sheep.

The project began by donating 10 pregnant ewes to each of 30 participating families (300 sheep total). As the families cared for the pregnant ewes, YASP field staff supported them by providing small grants to purchase concentrated feed and training on how to properly administer this enriched diet to their animals. YASP also provided animal husbandry training, stressing clean environments, treating illness and injury.

Since most pregnant ewes give birth to twins, 10 of each family's offspring were returned to the Salam Wa Tanmiah Association and distributed to another needy Al-Jawf family, while the first family kept all the other sheep.

After YASP distributed 300 sheep in the first round of the project, the ewes produced 352 offspring that could be returned to the association. The original families could keep their sheep, or sell them for YER 10,000 for a pregnant female, or YER 15,000 for a male. In November of 2007, those offspring were distributed to additional farmers.

Salam Wa Tanmiah has continued overseeing the program, ensuring that the cycle continues. The program will sustain long after the YASP program concludes in April 2008.



SUCCESS STORY

YASP Helps Contain PPR Outbreak

USAID-Funded YASP assists the Yemeni Government fight PPR



Photo courtesy of YASP

A member of the YASP staff prepares vaccines for uninfected animals to help stop the spread of disease.

Working closely with the Yemen Ministry of Agriculture, YASP personnel spent a week in an area infected with PPR, a disease that affects sheep and goats. They treated the infected animals against secondary infections, and vaccinated animals that were not infected.

On February 20, 2007, the Yemen Agriculture Support Program (YASP) livestock extension agent in Shabwa Governorate received a letter from the local Ministry of Agriculture office informing him of outbreaks of *peste des petits ruminants* (PPR) in three villages in Mifa'a District. The letter requested YASP assistance in combating this fast-spreading, fatal disease that affects sheep and goats.

The YASP extension agent accompanied the Ministry of Agriculture staff to the infected area where they found the outbreak was worse than expected. An estimated 2,000 of 20,000 animals were infected and 350 were already dead. The infected animals, all goats between two and six months old, were suffering from diarrhea, high temperatures, mouth lesions, and discharges from the mouth and the nose.

Working closely with the Yemen Ministry of Agriculture, YASP personnel spent a week in the infected area. They treated infected animals against secondary infections, and vaccinated animals that were not infected. YASP staff collected samples from the infected animals and sent them to the government's laboratory to confirm the outbreak. They also took organ samples from the deceased animals to identify the specific PPR strain. YASP staff and Ministry of Agriculture personnel canvassed surrounding areas asking people to halt movement of animals into and out of the infected area. In Sana'a, Yemen's capital city, the YASP livestock specialist contacted the Directorate General of Animal Resources and informed the office of the outbreak. The directorate reacted quickly and sent two teams to vaccinate animals in the surrounding areas.

YASP extension agents vaccinated animals against PPR, sheep pox, and clostridium, as well as treating them for endo- and ectoparasites. Because of this proactive intervention, farmers working with YASP in Shabwa were spared direct effects from the outbreak.



SUCCESS STORY

Elephant grass provides green feed in Yemen

Farmers learn to use elephant grass to keep their livestock healthy and productive



Photo courtesy of YASP

Farmers learned to plant grass because it is drought- and weed-resistant, highly productive, nutritious, and well-liked by livestock.

Elephant grass planted in Al-Jawf, Marib, Sa'adah, Amran and Shabwa Governorates will provide green feed to livestock throughout the year. The grass can also protect crops from sand storms and strong winds.

Lack of suitable livestock feed is a major constraint to animal production throughout Yemen. Malnutrition, death and disease result from the lack of nutritional forage. The Yemen Agricultural Support Program (YASP), a USAID-funded program, introduced elephant grass to Al-Jawf, Sa'adah, Marib, Shabwa and Amran governorates because it is drought and weed resistant, highly productive, nutritious and liked by the animals.

To feed their animals, Yemeni farmers graze them in open areas or keep them on the farm and provide them with alfalfa, sorghum, old bread and other food leftovers. However, in governorates where drought is a reoccurring problem, farmers struggle to raise animals during hot and arid seasons. Faced with rainfall shortage and ground water scarcity, farmers often slaughter or cheaply sell their animals. The local variety of elephant grass distributed by YASP helps farmers feed their animals even in times of severe drought.

In Shabwa, YASP Extension Agent Mohamed Nishily distributed elephant grass seedlings to farmers in June 2007. Farmer Ahmed Ben Bakran of the Nisab District planted the seedlings along the water earth irrigation channels and around his farm. Four months later, elephant grass production far exceeded Bakran's expectations. The grass not only provided feed for his sheep, goats and camels—it also protected other crops from sand storms and strong winds. Because of the example set by farmers like Bakran, many more farmers planted elephant grass, which provides a lasting, green animal feed.



SUCCESS STORY

Pepper Farmer Realizes Huge Yield Increase

Nashtan Hussein Learns the Benefits of Organic Fertilizers



Photo courtesy of YASP

Nashtan Hussein and his brothers are pleased with the effects of organic fertilizer, which was recommended by YASP employees.

Depending on the harvest and time of year, Nashtan Hussein's income has now been increased by 38% to 52%.

Nashtan Hussein learned first-hand the benefit of organic fertilizers through his work with a horticulture extension agent with the USAID-funded Yemen Agricultural Support Program (YASP). Nashtan primarily grows bell peppers on his 2,880 square meter farm in the Qa' Al-Bawn region of the Amran Governorate. To evaluate the impact fertilizer could have on his produce, the extension agent and Nashtan agreed to apply fertilizer to one-third of his fields. They used a mixture of sea algae and other organic materials, which were applied directly to the pepper plants' leaves (foliar feeding).

Because of YASP, many Yemeni farmers like Nashtan became "first adopters" and quickly incorporated methods taught by YASP. Other cautious farmers were skeptical, and have yet to benefit significantly from YASP training. However, as they witness the success of the early adopters, more and more farmers are using YASP techniques.

When they present improved farming methods, extension agents must convince farmers that the methods have the potential to dramatically increase income. Some of the 1,500 farmers targeted by YASP do not believe fertilizer will improve crop production or that concentrated feed will improve livestock productivity.

However, when they see results like Nashtan's, they are much more likely to adopt YASP's recommended farming methods. Nashtan's results were dramatic: a 55% increase in yield. Depending on the harvest and time of year, this yield increase equates to a 38% to 52% increase in income. Even today, Nashtan communicates regularly with the extension agent. He is considering growing potatoes and peppers next season, and he frequently asks for additional recommendations to achieve better yields.

Nashtan gained confidence from his experience with the YASP extension agent and applied to receive olive tree seedlings from YASP so that he can begin growing olive trees on his farm.



SUCCESS STORY

Fashion Takes Families Forward

Woman's sewing course improves family livelihoods



Dresses made by Yasmin and her classmates are supporting Yemeni families suffering from poverty. Now, Yasmin is teaching other women in her community to sew.

Funds provided by USAID trained 147 women to sew and design dresses. The project dramatically increased their income and quality of life.

Yasmin Saleh Shahrani, a young woman from the Marib Governorate, was raised by a poor family. When she heard about sewing training conducted at the Woman and Child's Association through a grant from the USAID-funded Yemen Agricultural Support Program (YASP), Yasmin knew she wanted to participate.

Yasmin excelled in the course and, upon graduation, she received a sewing machine so she could practice her new skills. She generates income for her family by sewing dresses she can sell for up to YER 2,500 or about \$12. She also sews and embroiders maqramas, headscarves worn by Yemeni women.

With her proceeds, Yasmin recently purchased an embroidery machine for YER 20,000 (\$100). The embroidery machine, she said, has further improved the quality of her work.

Yasmin values the support she received from YASP, and now offers free sewing lessons to women in her neighborhood. Yasmin believes her community should benefit from her new skills.

Because of the quality of her work and her generosity, Yasmin has become well-known in many villages in the Marib Governorate. Her dresses, which she displays in a small shop operated out of her father's home, are popular among women in several villages. In December 2007, Yasmin was able to earn YER 45,000, or about \$226, by selling her dresses during the weeklong Eid holiday, when it's customary for people to buy new clothes.

Yasmin is continuing to study her new industry so she can further her skills. She said her dream is to open a sewing and embroidery training center to meet her community's great need for marketable skills.

About 147 women were trained by the Woman and Child's Association, and 80 of the women now own sewing machines. After they completed training, the estimated total income per month is \$1,850 for all the women.



SUCCESS STORY

A Little Space Provides Big Possibility

Yemeni woman pursues opportunity with a little space to call her own



ARD, Inc.

Maryam creates ma'awez garments on her loom.

Maryam was eager to begin weaving and selling ma'awez after she graduated from a training course, but she had no place to keep her loom. YASP provided the materials to build an extra room in her house where she can weave comfortably. She can now weave one ma'awez in two days.

Maryam has a large family of 17 brothers and sisters, all of whom live in one room in Yemen's Marib Governorate. The family relies heavily on Maryam's income, so she enrolled in a training course to learn how to make ma'awez, a traditional woven garment worn by Yemeni men.

Maryam was a member of Hawa Charity Association for Women (Hawa). Hawa was founded in 2002 to serve very poor and marginalized women. At the end of 2006, the USAID Yemen Agricultural Support Program (YASP) provided Hawa with 40 ma'awez looms: 20 for training purposes and 20 for the first group of graduates that would be used for production.

As one of the top three graduates from the training program, Maryam received a ma'awez loom upon graduation. However, because of her family's tight living quarters, Maryam had no place in her crowded home to put the loom.

YASP Small Grants Office intervened, supplying Maryam with the materials to build a room for her loom. YASP is a 44-month program funded by USAID and implemented by ARD, Inc.

Now, with a private weaving room, Maryam can make one ma'awez every two days. By creating 15 ma'awez per month, she can sell them for YER 15,000 or about \$75.

"I thank God that I was given the ability to restart again especially after the YASP helped me build a room for weaving ma'awez." Maryam said. "Now I have a private room where I can work neatly to make my weaving look attractive and it is sold easily."

3.0 CONCLUSION

For the last three years, the Yemen Agricultural Support Program (YASP) has been using horticulture, livestock, and building individual/institutional capacity complemented with small grants funding to confront poverty and despair—often root causes of conflict and militancy. The 44-month program funded by USAID and implemented by ARD, Inc. under the RAISE IQC closed April 30, 2008, after achieving immeasurable successes by teaching new ways to approach an age-old practice. YASP worked with 1,500 farmers in Al-Jawf, Amran, Marib, Sa’adah, and Shabwa Governorates that have had trouble with extremism and terrorism in the past. In those five governorates, YASP established strong working relationships with government and farmers while creatively overcoming challenges presented by Yemen’s harsh deserts, unstable tribal relations, gender inequality, and security hazards.

Part of YASP’s success stems from the program’s focus on strengthening both agricultural production and marketing. The program was also able to infuse financial resources in the form of small grants to a wide range of associations to help them generate revenue and grow their businesses. By working in collaboration with the Yemen Ministry of Agriculture and Irrigation (MAI) and training MAI’s own extension officers to implement YASP, the program was able to provide constant, local support for participating farmers. Having this local physical presence also restored farmer confidence and engendered trust, making it possible to achieve significant progress.

Through YASP, farmers learned to better care for their most valuable belongings—livestock—by vaccinating, de-worming, administering parasite treatment, and providing basic physical care, like hoof trimming. They also reduced food waste by using livestock feeders instead of spreading animal food on the ground, and instituted enriched feeding programs by adding alfalfa, wheat chafe, or other nutritionally sound foods to livestock diets. The result is healthier animals and more offspring. The tremendous accomplishments made in the livestock sector were validated during the YASP external evaluation (see text boxes on this page).

YASP also trained eight Yemeni females as extension agents, who in turn hold similar livestock trainings for women. Women often manage a family’s “petites ruminants,” or small livestock like sheep and goats. The women also learned to use goat’s milk to make cheese and yogurt, since the milk traditionally goes to waste because, culturally, it is not accepted as a beverage.

YASP addressed horticultural constraints confronting Yemen producers using demonstration field models to show local farmers how improved growing methods can increase crop quality and production. This model is especially useful because an entire region can actually witness the benefits of fertilizing or using technology to measure ground moisture. Recognizing that assisting farmers to grow more and better-quality food was just the first step; YASP helped farmers identify high-demand products and then assisted them to effectively market products through value addition such as canning, juicing, milling, and pressing.

“The evaluation mission has noticed the real achievements of the livestock component in the field. All interviewed farmers and stakeholders were delighted with the progress made in terms of improvements in animal health.... livestock extension was first introduced to the 5 governorates through YASP which explains the tremendous impact of the project on this important sub-sector. The overall assessment of the interventions in livestock sector concluded that there is a tangible increase in farmer’s income from animal production by a minimum of 30%.”

– Dr. Amer S. Jabarin

“All interviewed farmers and stakeholders assured the real progress made in terms of improvements in agriculture production, quality and returns. The overall assessment of the interventions in horticulture and agricultural production sector concluded... an increase in farmer’s income by a minimum of 25%.”

– *Dr. Amer S. Jabarin*

The Yemen government is so pleased with YASP’s progress that the Ministry of Agriculture and Irrigation pledged to continue supporting YASP activities from their own local budgets after the program ended. Governors from almost all of the five target governorates sent letters to the YASP office to thank the program for its support. “The activities have had a very positive effect on the quality of life for farmers in the region,” wrote Mutahhar Rashad Al Masri, Governor of Sa’adah. YASP recognition was further echoed by the

Minister of the MAI in a letter addressed to the President of ARD (see next page) where he lauded the efforts made by YASP over the past three years.

Republic of Yemen
Ministry of Agriculture & Irrigation
Ministers Office



الجمهورية اليمنية
وزارة الزراعة والري
مكتب الوزير

No. : 1027
Date : 05/02/2008

الرقم : ١٠٢٧
التاريخ : ٠٥ / ٠٢ / ٢٠٠٨

Jan Auman
President
ARD Inc.
159 Bank Street, Suite 300
Burlington, Vermont 05401

Dear Mr. Auman,

It is my distinct pleasure to express to you how pleased we are to have collaborated with ARD during the implementation of the Yemen Agricultural Support Program (YASP).

My colleagues within the Ministry have greatly appreciated the professionalism demonstrated by your team, led by Mr. Jeffrey L. Gray, Senior Technical Advisor and Manager for YASP. Also, I would like to recognize the contribution of all YASP Chief of Parties. Dr. Al Hammadi recently accompanied me to India for a conference on avian influenza. This trip gave us the opportunity to exchange information on the important achievements YASP has made. Over the past three years, Mr. Gray and Dr. Al Hammadi have skillfully guided a complex set of agriculture interventions targeting thousands of rural Yemenis farmers in 5 northern Governorates. In recognition of YASP efforts, almost all of the Governors have sent us letters praising the work of your team. They have asked us to speak to USAID about the importance of the program in their respective regions in the hopes that it might be extended beyond its current end date. Our Ministry conducted its own internal evaluation of the YASP and found that it has made exceptional improvements, notably to the livestock sector with regard to animal feeding and health.

YASP has contributed in three significant ways to the development of Yemen agriculture. First, it has left us with several useful technical studies including: Moving Yemen Coffee Forward; Livestock Movement and Trade; Grape Subsector Assessment; Avian Influenza Action Plan; and, most recently, Horticulture Market Development Study. We are awaiting with great anticipation the agriculture policy technical support planned for the coming months. Second, by focusing on targeted assistance to the rural areas YASP has been able to quickly demonstrate tangible results working with farmers and associations on improved agricultural production techniques, value-added processing, and marketing. These represent important lessons learned for the beneficiary farmer as well as our Ministry extension agents involved. Finally, the ARD program has remained flexible and responsive to our Ministry. We have very much appreciated the reliable technical assistance provided, such as conducting joint animal vaccination campaigns; taking a leading role to support Yemen's Avian Influenza Preparation Program; assisting with tactical response to plant disease outbreaks; and the capacity-building training given to our personnel in the Ministry.

In conclusion, you have my personal gratitude and thanks for a job well done. It will be difficult for our Ministry to imagine not having YASP and USAID to call upon for agriculture support. We certainly hope that ARD will continue to support Yemen in the future, and that our Ministry will have the opportunity to work together with your firm to fulfill Yemen's agricultural aspirations.

Dr. Mansour Ahmed Al-Hawshabi
Minister of Ministry of Agriculture and Irrigation
Yemen



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