

# PEACE TIMES CORPS

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“Peace Corps is back in the Rose Garden,  
where it has always belonged.”



*White House Photo*

African bound trainees with President Reagan, Vice President Bush and Peace Corps Director Loret Miller Ruppe.

May–June 1985

# From the Director

*The following is excerpted from Director Ruppe's remarks at the Rose Garden Ceremony.*

National Volunteer Week is our opportunity to show our nation that Peace Corps is at the forefront of American voluntarism in the developing world. President Reagan has said many times that the spirit of voluntarism runs through this country like a mighty river, and the individuals standing here are proof of that far-reaching power of the spirit of American commitment.

This year, among all our 5500 Volunteers serving in 60 nations worldwide, Peace Corps is honoring in particular three Volunteers for their exceptional work in agriculture and food production projects. In a very positive sense, they are standing in for the other thousands of Volunteers engaged in similar projects around the world.

Dr. Lynn Blaylock, a retiree, is helping Caribbean dairy farmers and sheep herders develop improved livestock feeds and increase their availability. He is serving with his wife, Jean, who is working with the library system. They are Volunteers in Barbados, in the Eastern Caribbean.

Phil Heilman, serving in Burkina Faso in West Africa, one of the hardest hit of sub-Sahara Sahel countries,

is working with 12 different schools and youth centers to teach about 500 schoolchildren how to plant small vegetable gardens and raise small animals.

Kathy Lynn Gilchrist, who served in the Pacific island nation of Micronesia, has created jobs and an export crop by establishing the first commercial seaweed farm in that country.

Our warmest thanks to these Americans for their contributions to fostering world peace and friendship.

Even as Peace Corps is honoring those who are serving now and the 110,000 Americans who have served in the past 24 years, it's also a time to look to the future. Standing here today are 44 trainees going to 14 different African countries to work in agriculture and related projects. They are but a fraction of Peace Corps' effort on that drought-stricken continent, but each one will make an impact in his or her village, helping host country nationals to become self-sufficient in the coming years.

Peace Corps has been in Africa for 24 years, answering the critical call for assistance with improving food availability on the continent. Generations of Volunteers have made a difference in countless villages, transferring their skills to millions of Africans. But the struggle continues. And all Americans must pitch in and help to the best of their abilities.

Even as a Democratic President, John F. Kennedy, started Peace Corps in the 60's, now in the 1980's a Republican, President Ronald Reagan, has revitalized its efforts. Peace Corps is back in the Rose Garden, where it has always belonged.

They called them "Kennedy's Kids." They've grown up now, respected, loved, appreciated, and needed more now than ever. Future Ethiopias must be stopped. African farmers, women in agriculture, must be given improved techniques which our country has in such a great abundance. These trainees, Volunteers, and hopefully thousands more who will follow them, will help in the greening of Africa, and around the globe. And our new programming will help them to be even more effective.

We thank them for being in the forefront of the work being done, producing world peace through development; to end hunger on our



planet by the year 2000; to work on the real enemies of the people of the developing world: hunger, illiteracy, poverty, lack of agricultural production. You see it on our television screens each night, we read it in our press, we listen to it on our radios. These Volunteers who are honored here today are doing something about it through their Peace Corps service. They are at the right place at the right time.

Loret Miller Ruppe  
Director

## Peace Corps Times Legend

- APCD—Associate Peace Corps Director
- CAST—Center for Assessment and Training
- CD—Country Director
- CREST—Center for Reassessment Training
- Med-evac—Evacuated for medical reasons
- MOU—Memorandum of Understanding
- NANEAP—North Africa, Near East Asia and Pacific (one of the three Peace Corps Regions)
- OSS—Office of Special Services
- PCV—Peace Corps Volunteer
- PVO—Private Volunteer Organization
- RPCV—Returned Peace Corps Volunteer
- SPA—Small Project Assistance

## Peace Corps Times

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### Deputy Director

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### Public Affairs Director

Hugh O'Neill

### Peace Corps Times Editor

Dixie Dodd

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# Remarks of President Ronald Reagan at Peace Corps Africa Send-Off

Today, I think it's America that is cheering you. As we send you off to Africa on your mission of aid and good will, you make us proud to be Americans. This is the second day of National Volunteer Week and I've been meeting here in the White House with men, women and children from across our country who are outstanding examples of the volunteer spirit.

But I've come to realize that even if we celebrated Volunteer Week every week, all year long, it wouldn't be enough time to honor all the remarkable, selfless Americans who give their time, money, labor and love to help their neighbor. Even if, as in your case, the neighbor lives across an ocean on another continent.

The French chronicler of American life, Alexis de Tocqueville, remarked on the spirit of voluntarism in this country 150 years ago. I was only a small boy then. I didn't hear him, but I remember well. He said, "Americans are forever forming associations." No sooner do they see a need, he observed, than they rush to meet it.

Well, the tide of giving and concern that has risen in response to the plight of millions in Africa is one of the latest and proudest examples of that quality in America—in the American character that makes us rush to volunteer. New private sector initiatives are developing at unprecedented rates to find innovative ways to help those in need. Americans of every age, from every city and region have pitched in to do their part.

In Portland, Oregon, Sarah Kreinberg, is just seven years old, suffering from cancer, has donated over \$2,200 that she earned selling tree ornaments and other handcrafted items to friends and neighbors because she wanted to help other suffering children in Ethiopia. Her parents, by the way, were Peace Corps Volunteers in South America.

When the First Baptist Church of Belfry, Kentucky, received an—unexpected gift of \$125,000 the congregation unanimously voted to send \$100,000 of that to Ethiopian relief. Their generosity set off, as a member described it, "one miracle after another of giving."

Last February, the all-star players

of the National Basketball Association donated their prize money. And the NBA matched the players' contributions for a total of \$100,000.

Today, every few minutes on the radio, you can hear the stars of rock, soul and country music who came together as USA for Africa, singing the chorus of "We Are the World," America's recent number-one song hit. Every time a record is sold, more money is raised for African famine relief.

Since we first learned of the crisis in Africa, private donations have been flooding in, and they now total over \$100 million. With our recently approved supplemental for humanitarian assistance, the United States will have committed over a billion dollars to African famine relief.

But as we see here today, America is giving more than money. Last January, Peace Corps Director Loret Miller Ruppe announced a recruitment drive for agricultural volunteers for Africa. In the following weeks, the Peace Corps was besieged by responses. All across America there were people rushing to volunteer, willing to interrupt their lives and devote the next two years to meeting the emergency.

And you are a cross section of America. Now, some of you are first-generation Americans; some of you are naturalized citizens. You come from all across the country, from Honolulu, Hawaii, to Madawaska, Maine, and you represent a wide range of ages. I'm told that one retired couple, the Bells, is following their son into service in the Peace Corps.

Soon you'll be in Africa, where you'll be a vital part of the relief aid to help the millions suffering from malnutrition and starvation. You'll be living in some of the most impoverished countries of the world, working in food production, soil conservation, fisheries production, forest preservation, and water supply development. By bringing your training and skills to bear on the underlying problems of agricultural and economic development, you can help your host nations make the difficult, but vital, journey from dependence on short-term aid to self-sufficiency.

Last month, when Vice President

Bush returned from his trip to the famine-stricken regions of Africa, he gave me a personal account of the heartbreaking conditions in that land. While there, he visited one Peace Corps project, and he told me of the outstanding work of the Peace Corps volunteers.

The crisis in Africa is severe, and the problems deeply rooted, but relief efforts are already making a great difference. Today we also honor three outstanding individuals who are making a difference around the world and have been selected as Peace Corps Volunteers of the Year. Kathy Lynn Gilchrist of Salem, Oregon, established a seaweed farm in Micronesia, providing a new food source and employment opportunities. Mr. Lynn Blaylock of Minneapolis, Minnesota, is working with dairy farmers and sheep herders on the Caribbean island of Barbados to increase and improve livestock feeds. And Phil Heilman of Gibsonia, Pennsylvania, is working with school-age children in the West African nation of Burkina Faso to start home and school gardens and raise small animals to increase food availability. All three of these Volunteers of the Year deserve our warmest thanks for their untiring commitment to the peoples of the host nations.

In the chorus of the song, "We Are the World," they sing, "We are the ones to make a brighter day, so let's start giving." Well, you have answered that call to make a brighter day. We are proud of you, we are grateful. Good luck, God speed, and God bless you.

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*Preview—The July-August Peace Corps Times will feature a CREST with trainees on their way to Ecuador and highlights of Peace Corps' participation in the National Council for International Health Conference.*

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# New Country Directors

## **Niger** **Lee Yellot**

Lee Yellot has been appointed Country Director for Niger. He has served as Acting Director there since April of last year.

No stranger to Peace Corps, Yellot has been Acting Director in Benin where he also served as ACPD for agriculture and rural development. He was an agriculture Volunteer in Niger from 1971 to 1974 and has done contract work for U.S. AID in several African countries.

## **Mali** **Hilary Whittaker**

The new Country Director for the African country of Mali is Hilary Whittaker.

Whittaker, a native of Michigan, has a distinguished career in public service. Since 1977, she has been the Senior Policy Fellow for the National Governor's Association. From 1976 to 1977, she was the Conference Coordinator for the International Women's Year Commission.

Her service with Peace Corps/Action began in 1967, when she served as a Training Officer in India for four years. She held several positions with the agency after that including Executive Officer of ACTION. She has been the Interim Country Director for both Sierra Leone and Togo during 1973 and 1974.

A Vassar graduate, she earned a master's degree from Wayne State University. She is fluent in French and Hindi.

## **Guatemala** **Douglas Frago**

A Volunteer in Guatemala from 1963 to 1965, Douglas Frago will be returning there as Country Director.

Frago, for the last 16 years, has been the owner and operator of a farm in his native California. In 1968, he served as an agriculture specialist for Peace Corps training with the American Institute for Research. Upon completion of his service as a Volunteer, he was an instructor at California State Polytechnic University, from which he graduated with a degree in agronomy.

He will be accompanied to Guatemala by his wife, Donna, a Volunteer in El Salvador from 1963 to 1965, and his four children.

## **Burkina Faso** **Steve Taylor**

Assuming the post of Country Director for Burkina Faso, is Steve Taylor who has been associated with Peace Corps since 1977.

Since early last year Taylor has been the Program and Training Officer for the Inter-America Region. From 1982 to 1984, he served as Training Manager in Togo and in 1981, was the Director of Training in Benin. Prior to that, he worked as a staging officer and in Volunteer placement. He served as a TEFL Volunteer in Togo from 1977 to 1980.

Taylor is a graduate of St. Meinrad College in Indiana and is pursuing a master's degree through Syracuse University. He holds a certificate in

French from the Institut Catholique in Paris, where he also studied at the Foyer Marial. He speaks French, German, Spanish and Mina/Bwe.

## **Yemen** **Dr. George Doumani**

Distinguished earth scientist Dr. George Doumani has been named Country Director for Yemen. For the past ten years, Doumani has been involved in the transfer of technology and human resource development in 19 Third World countries. He has also been the energy advisor to the Emir of Qatar. From 1966 through 1975, he served as the Science Advisor to the United States Congress.

A geologist and glaciologist, he spent 16 months in Antarctica with the Arctic Institute of North America under the auspices of the National Academy of Sciences. The U.S.

*(continued on page 12)*



*Peace Corps Director Sargent Shriver leads the first group of Volunteers to the Rose Garden to meet with President John Kennedy before their departure for Ghana and Tanzania, August 28, 1961*

# Thai Staffer Receives Award

Thailand Country Director Robert Charles sang the praises of one of Peace Corps' "unsung" heroes at a recent awards ceremony in Bangkok.

Khun Saipen Vongkitbuncha, one of over 300 host country nationals who work in Peace Corps' offices abroad, is an administrative specialist in the Peace Corps/Thailand office. Her consistently outstanding performance and exceptional administrative competence were recognized recently in a cash incentive awards ceremony.

"During the two years I have served as country director in Thailand, Khun Saipen has proven—time after time—a tremendous understanding of the complex Peace Corps regulations," Charles said.

In nominating Khun Saipen, Charles praised her "diligence, her unstinting giving of time to explain procedures to staff, and her dedication to following the spirit, as well as the letter, of Peace Corps regulations." She also deserves recognition, he said, for assuming additional training duties for Peace Corps administrative officers in Sri Lanka and the Philippines while continuing her day-to-day work. "She generously



*Peace Corps/Thailand Director Robert Charles presents achievement certificate to Kuhn Saipen at a recent awards ceremony in Bangkok.*

shares Peace Corps/Thailand policies, procedures and forms with other countries as requests come in for help," Charles said.

Finally, Khun Saipen's support of the Peace Corps goals and philosophy of promoting cross cultural understanding through her willingness to share her knowledge to non-Asian Peace Corps staff also warranted her outstanding recognition.

Peace Corps' host country nationals have provided invaluable services to all countries abroad. "Thank you" can never be said too often to the entire corps of host country nationals who furnish, in many cases, the continuity, sensitivity, and special insights which make Peace Corps worthy of its credibility around the world.

*Sherrod Shim*

## Personal/Personnel

Jill A. Carty, will be returning to Guatemala as the Associate Peace Corps Director for Health. Carty served as an agriculture and nutrition education Volunteer there from 1972 to 1975.

\* \* \*

Returned Peace Corps Volunteer Robert E. Reid has been named Associate Peace Corps Director for Programming and Training in Dominican Republic. Reid was a Volunteer in Fiji where he served as a social psychologist from 1974 to 1976 and as a rural development advisor from 1976 to 1979.

\* \* \*

Returning to Nepal after three years, Donna J. Fiebelkorn will be associate Peace Corps Director for TEFL (Teaching English as a Foreign

Language). Fiebelkorn was a TEFL Volunteer in Nepal from 1979 to 1981.

\* \* \*

Barbara Pabotoy will be returning to the Philippines as Associate Peace Corps Director for generalists. Pabotoy served in the Philippines as a rural health community organizer from 1972 to 1976.

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Theodore Pierce is the new Associate Peace Corps Director for rural development in Fiji. Pierce has served in a number of capacities with the Peace Corps since 1970. He served as a secondary education teacher in Fiji from 1970 to 1973 and in Kenya from 1976 to 1977. From 1979 to 1982 he was a Volunteer in the Solomon Islands where he served as a planning officer.

\* \* \*

Formerly Chief of Professional Services at As Salam Hospital in North Yemen, Dr. Francis L. Turner has been chosen as Peace Corps Medical Officer for Sierra Leone. Dr. Turner served as Assistant Medical Director of the Laconia State School in Laconia, N.H., from 1983 to present. Prior to that appointment he was an internal medicine instructor at King Abdul Aziz Hospital in the Kingdom of Saudi Arabia.

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Konstantin "Gus" Konturas of Great Neck, N.Y., has been named Associate Peace Corps Director for health and rural development in Sierra Leone. Most recently, Konturas administered a primary health care development project in Swaziland for a medical services consultant firm.

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# FOCUS—National Volunteer Week

Following a theme of "Food for the World," the three Peace Corps Volunteers of the Year with agriculture projects, representing all of Peace Corps, were honored by President Ronald Reagan in a special awards ceremony in the Oval Office at the White House.

The Volunteers were: Kathy Lynn Gilchrist, Micronesia, NANEAP; Dr. Lynn Blaylock, Barbados, Eastern Caribbean, Inter-America and Philip Heilman, Burkina Faso, Africa.

## Kathy Gilchrist

A graduate of Oregon State University, Kathy Gilchrist began her Peace Corps service in January of 1983, in Pohnpei, Micronesia, a new nation comprised of small islands in the north Pacific Ocean.

She was assigned to municipal development in the municipality of Uh. In her development role, she soon saw that helping to create employment opportunities and cash incomes would be her top priorities. Her work in agriculture was a natural outgrowth of these priorities.

Securing title rights to three acres of shoreline was the first task in beginning the project she designed, a seaweed farm. After the first hurdle was passed, the planting began.

"We started with seedlings. In our



Kathy Gilchrist in front of her home with Micronesia "sister," Begonia.



President Ronald Reagan presents Volunteer of the Year award to Kathy Gilchrist in the Oval Office. Her mother, Shirley, was also in attendance.

Photo—White House

project, we used eucheima, a type of seaweed native to the area. The seedlings, about the size of a fist, were strung onto fishing lines which were attached to mangrove poles embedded in the sea floor.

"The seedlings must have at least one and a half feet of water covering them to protect them from the sun. For ease in harvesting, they should not be in water over seven feet deep.

"Once the seedlings are in place, there is little to do until they grow big enough to harvest, which takes about six months. In harvesting, the men cut off all the plant except the seed stock, which then renews itself.

"That is the beauty of a seaweed farm—once you start the seedlings, you never have to replant. And by rotating the planting, there is a continuous harvest.

"After the crop is harvested, it is left to dry in the sun for three days. The seaweed then is used and sold as fertilizer and is also sold to food processing and pharmaceutical plants.

The seaweed farming is done exclusively by the men," Gilchrist said.

Gilchrist's seaweed farm has become a prototype which has led to a new Micronesia/Peace Corps aquaculture program. New Volunteers in Kosrae and Pohnpei are now working to establish seaweed and sea cucumber farms as a cash export crop for the most remote of the outer islands.

In her second project, she also worked with the Pohnpei agriculture station to help regulate and increase production of pineapples. In contrast to the seaweed farm, the 9,000 pineapple plants were planted in rocky mountain soil and they were cultivated and harvested by the women.

The pineapple project was successful because Gilchrist was able to introduce a natural chemical, which is widely used in Hawaii, to the plants to regulate growth. This regulation made it possible to harvest the pineapples year round. This project was also a first for Pohnpei State and the Federated States of Micronesia.



*Phil Heilman of Gibsonia, Pa., Volunteer of the Year from Africa, receives his award from the President.*

*Photo—White House*

has been working as an agriculture Volunteer in Africa.

Since April of 1983, he has been serving the government and people of Burkina Faso as a technical facilitator in their Direction de la Formation et de la Organisation du Monde Rural (DFMOR) program. Its emphasis is the training of rural young people in improved farming methods. Heilman was scheduled to finish his Peace Corps service in March but, at the special request of his supervisors and the government of Burkina Faso, he has extended his assignment through June of 1986.

In his assignment with DFMOR, he works closely with twelve of its center/schools and about 500 students in a 60 kilometer radius of his base city of Koudougou.

Most of his work centers on improved food production including seed trials, extension improvements, school and family gardens and small animal husbandry. In recent months, he has been active in water management and soil concentration.

He has also organized several village groups and helped them to find financial support from international donors to help them in their projects.

One such grant from AID's Small Projects Assistance Program, helped students and parents create 12 model gardens in conjunction with DFMOR

*(continued on page 8)*

Her other work involved assisting the chief magistrate by providing management training to municipal office workers in bookkeeping, filing and other office management techniques.

During her stay in Micronesia, Gilchrist lived with the Joab family which numbered about 30, ranging in age from new babies to grandparents.

She is the daughter of Shirley Gilchrist of Salem, Ore., and the late Archie Gilchrist. Her mother accompanied her to Washington, D.C. for the ceremonies.

#### **Phil Heilman**

"One of the reasons I joined Peace Corps was to get a different perspective of the world," said Phil Heilman, Volunteer of the Year from Burkina Faso.

That wish has been fulfilled for Heilman who graduated with a degree in economics from Allegheny College and a master's degree in liberal arts from St. John's College. He



*Heilman with Georges Zongo, counterpart and agriculture teacher, examine a sack of millet at the DFMOR school.*

(continued from page 7)

centers. Another from the U.S. Ambassador's self-help fund will help students develop 12 model chicken projects.

In addition to his primary and secondary activities, he also finds time to assist other Volunteers. He was instrumental in organizing and compiling an outstanding DFMOR Manual for Peace Corps Volunteers. He has served as a technical trainer for Peace Corps in the pre-service program last year and will do so again this year.

Heilman is the son of Dr. and Mrs. Stephen Heilman of Gibsonia, Pa.

### Dr. Lynn Blaylock

Dr. Lynn Blaylock of Minneapolis, has been serving as the animal nutrition officer assigned to the Ministry of Agriculture in Barbados since June of 1983. A noted expert in this field, he received his bachelor's degree in animal husbandry and nutrition from Colorado A&M University and his master's degree and doctorate from Texas A&M University.



*Jean Blaylock watches as husband, Lynn, accepts his Volunteer of the Year award.*

*Photo—White House*



*Dr. Blaylock poses with Barbados sheep breeder outside the newly constructed sheep pen.*

During his tour with Peace Corps, Blaylock's technical expertise and dedication to helping the dairy farmers and sheep farmers has won praise from the Ministry, other professionals, donor agencies, such as AID and his fellow volunteers.

In addition to his accomplishments in his primary assignment he has helped a sheep breeder, who is handicapped, construct an enlarged sheep pen as a secondary project. He did this soliciting funds from his church in the United States to purchase materials and by personally helping with the construction.

A partial list of Blaylock's accomplishments include:

Made a field survey of local ingredients that could be used in animal feeds; determine a new and practical feeding level of molasses along with a commercial ration for producing pork more economically; helped dairy farmers improve milk production by improved feeding and management practices; published a dairy feeding guide based on the special needs and availability of feedstuff in the Caribbean; demonstrated that properly fed steers can produce quality beef



that will bring premium prices; improved feed rations in cow-calf operations; worked with breeders of black-belly sheep to demonstrate potentials for commercial lamb production and located markets for the lamb.

It should be noted here that not much fresh meat had been available in the local markets. Most is imported frozen. Blaylock's initiatives will greatly improve the economy of the livestock producers and also create new jobs on the island.

Dr. Blaylock's wife, Jean, is a Peace Corps Volunteer in library science. They are the parents of three daughters; Catherine Johnson of Seattle, Sandra Blaylock of Minneapolis and Ann Blaylock of San Diego.

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### "Volunteer" Nominees

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Special recognition should also go to the other agriculture Volunteers who were nominated by their countries for the Volunteers of the Year honor: Mark Powell, Ecuador; Roger Allen Tabor, Zaire; Stephen Claubuesch, Solomon Islands; Carl and Betty Lace, Dominican Republic/Caicos; Phil King, Malawi; Carla Nelson, Ghana; Jeff Spyhalski, Sierra Leone; Thomas Kennedy, Cameroon; Timothy Stuart, Jamaica; Bruce Campbell Burton, Honduras; Betty Peltier, Tonga; Paul Little, Fiji/Tuvalu; George Lebard, Belize; Richard Schuman, The Gambia; Rebecca Rogers, Senegal; Kate Debold, Central African Republic; Hilary Melton, Benin and David Purkey, Mali.

Dixie Dodd

*Peace Corp would like to thank the following corporations for making National Volunteer Week a special time for our honorees.*

- UTA, the French airline, for roundtrip travel for Phil Heilman from Africa to Paris;
- American Airlines, for donating roundtrip tickets for Kathy Gilchrist and her mother from Oregon to Washington, D.C.;
- Eastern Airlines, for transportation to and from Barbados for Lynn Blaylock and his wife, Jean.

# After Peace Corps? Become A UNV

How would you like to become a museum curator in the South Pacific? What about a glassblower in Bangladesh? Or a watch/camera/radio repairman in Malawi? Sound odd to you, not so odd to the 1,000 or more United Nations Volunteers serving in 90 developing nations around the world. This highly trained cadre of professionals has worked in projects ranging from crocodile farming in Papua New Guinea to teaching English as a Second Language in the Peoples Republic of China.

Begun in 1970 under the auspices of the United Nations Development Program, UNV provides developing nations with qualified and highly trained manpower.

Among these 1,000 Volunteers are 36 Americans, all sponsored by the Peace Corps. In fact, Peace Corps recruits all Americans who serve in the UNV program.

Though the percentage of Americans serving in the program is low, the United States surpasses all other industrialized nations, maintained Paul Knepp, Coordinator for the 15-year-old cooperative venture.

Peace Corps is responsible for recruiting and delivering all Americans to their assigned UNV project. Recruiting for UNV is "a little different from recruiting Peace Corps Volunteers," said Knepp. Unlike Peace Corps Volunteer placement, applicants to UNV are placed in a pool to be used as requests are made, he explains. Peace Corps Volunteers are recruited for assignments that have already been requested.

According to Knepp, the requirements for entrance are much more demanding. "Aside from the educational credentials, a postgraduate degree in some instances, a UNV recruit must have two years work experience in the required discipline," he pointed out. "UNV offers no language or cross-cultural training, so a recruit must possess these skills as well."

"These specialized requirements make Returned Peace Corps Volunteers a natural for the UNV project," said Knepp.

When Michael Vincent was looking

for a way to put the experience he gained as a PCV teaching refrigeration in two technical schools in Jamaica to use, UNV became a viable alternative. Vincent is now installing a freezer, icemaking and diesel generator plant in the Cook Islands, South Pacific.

Such was the case for William White. As a Peace Corps Volunteer, White was assigned to teach English at the University of Dakar in Senegal. He now teaches English at the Beijing Geological College in the Peoples Republic of China. More than half of the 275 Americans who have served in the UNV are RPCVs.

"The other half has not been people who could not get into Peace Corps," says Knepp, "but are those whose skills did not fit Peace Corps programs." UNVs are usually assigned to middle or upper level positions such as physicians, accountants, engineers and computer specialists.

While attending the Third Consultative Meeting on International Voluntarism and Development at UNV headquarters in Geneva in April, Knepp was able to review the applicant roster. "It opened my eyes to the number of highly skilled people on the roster," recalled Knepp.

Knepp attended the meeting along with 13 other country representatives and 15 private organizations cooperating with the UNV project. Jack Burgess, Associate Director for International Operations, delivered a paper on the Africa Food Systems Initiative to seek cooperation from the other organizations attending the meeting.

UNV offers Peace Corps the opportunity to assist in the development of countries where the agency does not have programs. These include China, Somalia, Ethiopia, Congo, Equatorial Guinea, Bangladesh, Turkey, Uganda, and Zimbabwe.

Inquiries about the United Nations Volunteers should be mailed to:

Paul Knepp  
International Operations/UNV  
Peace Corps  
Washington, D.C. 20526

Patti Raine

# To the Times

Dear *Peace Corps Times*,

As many of the education Volunteers know, one of the problems facing a teacher is the lack of books. It has become increasingly clear that although books are available, the cost of shipment is often a problem. Here in Kenya, we have formed a book committee to try to develop new funds specifically for shipment of books.

Our idea is to involve the RPCV organizations in setting up and maintaining a fund specifically for the shipment of books. Our basic ideas are as follow:

1. A donation system to funnel monies into a general book shipment fund.
2. Money in the fund could be applied for by any PCV wishing to ship books from the states.
3. Actual setting up and running of the fund will be left to the RPCV organizations.

If anyone has ideas or other sources for the shipment of books other than those in the ICE Manual we would appreciate your helpful suggestions. We look forward to hearing from you.

Thank you,  
PCV Book Committee  
P.O. Box 30518  
Nairobi, Kenya

Dear Book Committee members,

Since your predicament has been shared by many Volunteers through the years, we are happy to print your letter and hope that help will be forthcoming.

In view of the fact that many RPCVs can be reached by the National Council of Returned Peace Corps Volunteers' newsletter, we are relaying your letter to it.

Please keep us informed of your progress.

The Editor

Greetings from Jamaica,

Jamaica is where my husband and I are Peace Corps Volunteers. We think it is the best place for Volunteers to be. Jamaicans are truly wonderful and we feel our services are being appreciated and our time well spent. Other Volunteers do not feel the

same and are getting discouraged. This brings me to why I am writing.

I was thinking about the idea of Peace Corps Pen Pals, Volunteers from different countries corresponding with one another. I think that every country has its plusses and minuses and if Volunteers could correspond with each other they would come to realize this.

I would like to hear from other dental hygienists in the Caribbean about their problems and particularly, their solutions. Since I am the only dental hygienist in Jamaica, I have little or no professional support system.

Another reason for having Volunteers correspond with each other is to learn about another country. I know several people who are interested in extending but are unsure of what country they want to go to. Communicating with other PCVs could be helpful in this respect.

I believe the idea could be easy to incorporate. All new Volunteers, when they register, could check a box that states if they would mind having their name be in the pen pal computer. I have thought and thought about this idea and believe that there is a need for such a service.

Heidi Halverson  
% Styles  
Christiana P.O.  
Manchester, Jamaica  
West Indies

Dear Ms. Halverson,

Your pen pal idea is a good one that was implemented by ICE (Information Collection and Exchange) Almanac some years ago. It is called the Volunteer to Volunteer Network.

From time to time, ICE Almanac publishes a questionnaire for Volunteers to complete and return. When the responses are processed, ICE then either publishes a list of potential correspondents or sends the list directly to the Volunteer. I understand that the Volunteer to Volunteer form will be published next in the July-August issue.

Meanwhile, perhaps as a result of your letter you will hear from other dental hygienists. Thank you for writing, we always need to hear your ideas.

The Editor

To the *Peace Corps Times*,

Regarding your January/February issue and the article on motorcycle safety.

Motorcycle safety is clearly outlined in the Handbook for PCVs in Fiji/Tuvalu.

"Peace Corps Volunteers in Fiji and Tuvalu are prohibited from owning, renting or riding as a passenger on a motorcycle."

That, to me, is the ONLY motorcycle safety.

It is hard for me to imagine that convenience of getting around would be worth a year of hospitalization for Heidi or any of the other members of PCMAV.

The Peace Corps, very wisely, discourages PCVs from entering "dangerous areas." We do sessions in training on personal safety for Volunteers yet, in some countries Peace Corps provides a personal means of potential destruction. Twenty four years—21 deaths. Certainly not a record I would want to participate in.

Van Richards  
Training Officer  
Fiji/Tuvalu

Dear Mr. Richards,

The safety of the Volunteer, as I'm sure you will agree, holds the highest priority at Peace Corps. However, some Volunteers, busy in the service of others, sometimes tend to neglect their own needs and safety.

Because of the great distances some Volunteers must travel where no other transportation is available, several countries authorize the use of motorcycles. When Volunteers are issued these vehicles, it is our responsibility to provide them with the best instruction and safety information possible. Needless to say, Peace Corps takes no pleasure in reporting motorcycle fatalities, neither does it want to ignore them. To do so would be irresponsible. If reporting these accidents in a safety article reminds just one Volunteer to use more caution and avoid an accident, the publication will have been worth it.

We thought that a story from Heidi would have an additional impact, from one rider to another, as it were,

(continued on page 12)

# Tonga

Tonga.

Is it in Africa? Or the South Pacific?

Unless you worked at Peace Corps, chances are you'd assume (mistakenly) the former. Postal services worldwide make that error daily.

The Kingdom of Tonga—a Peace Corps country with different challenges....

As the last Polynesian Kingdom in the South Pacific, Tonga is a 169-island nation, usually mild and temperate country of 100,000, at the western outpost of Polynesia (beginning in Hawaii).

The people are warm and outgoing living up to their 200-year-old assigned reputation as "The Friendly Islands"; food is abundant (there is no Tongan word for famine); there are no serious health problems and Tonga has made great development progress in recent years.

Peace Corps/Tonga, which marked its 17th year in the Kingdom in October, has assisted that growth through the years and continues to do so.

From a program, at one time numbering 80 Volunteers, heavily emphasizing primary and secondary math, science and English teachers in the classroom in the 60's and the 70's, the program today is more balanced. This reflects Tonga's development progress.

Today, 33 Volunteers serve in education (still the largest sector), cooperatives, fisheries, agriculture, development banking, community development, special education, health and communications.

Three quarters of the PCVs work in and around the capitol city of Nuku'alofa where most of the government ministries' offices and educational/technical needs are situated. Others are located on other main island centers of outer-island groupings (Ha'apai, about 70 miles north of the capitol and Vava'u, about 150 miles north), and several on a sister island to the main island of Tongatapu.

Education sector Volunteers today focus on secondary level science and vocational teaching in the church systems (Wesleyan, Catholic, Anglican) and in curriculum development and teacher training with the ministry of education. These teaching areas are still a critical need in Tonga though greater educational opportunities

and progress in recent years for Tongans has provided for host country staffing of classroom needs in primary and most secondary areas.

In jobs requiring formally educated replacements for Volunteers,

of the more traditional PCV pressures of survival: long distance travel, isolation, health and food challenges, loneliness.

Movies, electricity, the proximity to other Volunteers, flat roads (except



*At the Fitness Fair—Tongans Sela and Betsy Tobi, lead exercises. The sisters have taken over the aerobics classes begun by PCVs Chery Akaba-Marr and Cheryl Nitz.*

an ongoing programming challenge is to determine serious needs and project fulfillment of those needs as many Tongans, educated overseas, decide to accept jobs in New Zealand, Australia or the U.S. instead of returning to Tonga. Growing Tongan communities exist in Honolulu, Los Angeles, San Francisco, Seattle, San Diego and Salt Lake City in addition to Auckland (N.Z.) and major Australian cities.

The strong Tongan family tradition of sharing has led to almost one-third of Tonga's annual income being remittances sent back from Tongans overseas. The 1984 per capita income figure of Tongan \$680 (about U.S. \$580) can be misleading as only a small percentage is spent on food due to individual and family "plantations" or access to root crops, fruit, meat and coconuts; and very little on shelter and cold weather clothing in the balmy climate.

In this comfortable climate (indeed, one of the government's goals is expanded tourist travel) there are few in Vava'u) for short bike distances or

fairly regular bus transportation, all suggest that, in the words of one returned Volunteer, 'Everything seems like it should be a perfect place to work so when things don't go just right you feel frustrated.'

With so little emphasis on survival aspects of the Volunteer experience, the job takes on greater significance. Successful Volunteers whose job hasn't been every satisfaction they have expected have often found a degree of success and satisfaction with secondary projects.

Such things as assisting another Volunteer with occupational therapy classes and handicapped children; a Volunteer coaching prisoners in the rules of volleyball in his spare time; two Volunteers teaching an international group of children softball; tutoring students after classes and in the evening; volunteering to correct copy and lend editorial guidance to the country's weekly and bi-weekly newspapers; a Volunteer assisting with the monthly financial reports of the Tonga Red Cross society, are

*(continued on page 12)*



*Author and former Country Director of Peace Corps/Tonga Jeffrey Schorr is greeted by the King of Tonga, His Majesty Taufa'ahau Tupou. Prior to his assignment in Tonga, Schorr was the editor of Peace Corps Times.*

some examples. Perhaps the best and long-lasting example of a successful secondary project has been the establishment of thrice-weekly aerobics dancing classes and two consecutive "Fitness Fairs" in Nuku'alofa (November 1983 and 1984).

Two years ago, health worker Chery Akaba-Marr, in her second year as a Volunteer, started what quickly became very popular with both the Tongan and expatriate community—a Monday, Wednesday and Friday aerobics exercise class, about one hour, beginning at 5:30 p.m.

Using her own cassettes and arranging for a community hall and electricity, she enlisted Cheryl Nitz, a Volunteer in business college curriculum development, and several Tongans to organize, and advertise, what immediately caught on and continues following their departure.

*Jeff Schorr*

## New Country Directors

*(continued from page 4)*

Board of Geographical Names named Doumani Peak and Mount Doumani in his honor in recognition of his explorations and discoveries in Antarctica

Born in Palestine, Doumani received his early education in England. He earned a bachelor's degree in geology and a master's degree in stratigraphic paleontology from the University of California, Berkeley. He holds a doctorate in environmental science from Pacific Western University and speaks Arabic, French and Spanish.

# Sept. 30th is Photo Deadline

In conjunction with our 25th Anniversary, Peace Corps is holding a Photo Contest. Winning photos will be on tour in the United States and abroad as part of the Anniversary observance which runs from Oct. 1985 through Sept. 1986.

All entries must be received by Sept. 30, 1985. Judging will be held in November.

There are two categories, color and black and white. You may enter as many as ten photos in each category.

The basic rules are:

Photos must be no smaller than 5" by 7" and no larger than 11" by 14" including mounting if any.

Negatives must accompany the photos.

No retouching is allowed.

No composition photos (multiple printing or montages) will be accepted

In the color category—slides may be submitted but must be

mounted on cardboard, plastic or metal frames.

Your name, address, data and locale of your photograph must appear on the back of each photo. Also, you must submit a brief biographical sketch (not to exceed one page, double-spaced) that includes dates and country of service in Peace Corps.

All entries become property of the Peace Corps and will be used as deemed appropriate.

All current and returned Peace Corps Volunteers are eligible to enter the contest.

Entries should be sent to the following address:

Peace Corps Photo Contest  
25th Anniversary Office  
M-1105  
Washington, D.C. 20526

Remember: Deadline for arrival in Washington, D.C. is Sept. 30. Several nice prizes will be awarded.

## Personal/Personnel

*(continued from page 9)*

\* \* \*

Dr. Irwin C. Webb, Jr., has been named Peace Corps Medical Officer for Senegal. Dr. Webb comes to Peace Corps from Farmington, Maine, where he was an emergency room physician at Franklin Memorial Hospital.

\* \* \*

A native of Honduras, Adan B. Herrera has been named Associate Peace Corps Director for animal husbandry in that Latin American country. Herrera received a B.S. degree in agronomy and animal science from California State Polytechnic University in 1973.

\* \* \*

Kansas City, Kan., Peace Corps Area Manager William R. Myer has been named Associate Peace Corps Director for Administration in Ghana. Myer served as a VISTA Volunteer on the Pine Ridge Indian Reservation in Pine Ridge, S. Dak., and in Marceline, Mo.

*Patti Raine*

## To the Times

*(continued from page 11)*

and I'm sure it has. (To correct an impression, Heidi was in the hospital here for about six weeks, not one year.)

We do appreciate your writing. It helps to keep Volunteer safety in the forefront.

The Editor

Dear *Peace Corps Times*,

On behalf of all the people who were taught Bee Keeping by Kathleen Rodger, a Peace Corps Volunteer, I want to say thank you. We sure appreciate the things she taught us. We are from all walks of life and she taught us something that is priceless.

K.A. Green  
Clarendon  
Jamaica, W.I.

Dear K.A.,

Thank you for writing. Volunteers need a little pat on the back and I'm sure your letter will be of interest to all Peace Corps Volunteers. Your continued success in apiculture is a tribute to Kathleen Rodger.

The Editor

## From The Field

# Secondary Forest Products/Burkina Faso

*This article is taken from a report written by PCV Janet K. Miller. The report is an investigation of secondary forest products from native tree and shrub species found in the Dinderesso classified forest, Burkina Faso. According to Miller's report, the findings will be used in a forest management plan integrating local species and the participation of villagers living around the forest. Miller adds, "It is also hoped that this study will provide inspiration to those planning forestry projects elsewhere in the developing world."*

Much has been said and written about the fuelwood crisis in Africa. In attempts to alleviate this problem thousands of hectares of native savannah have been cleared and planted with fast growing exotic species. Little thought has been given to the effect this might have on local populations who are dependent on the so-called "useless brush" for more than just firewood.

Traditionally, subsistence farmers have complemented their cultivated foods with foods from native plant species found in the bush. These bush foods provide variety and are an important source of vitamins and minerals in an otherwise high carbohydrate diet. During the rainy season when stores of cultivated foods are decreased or depleted, and during drought years when harvests are bad, consumption of these non-cultivated foods increases. With the scarcity of cereals due to the recent drought, people are depending more on native food producing plants. In fact, days may go by when a family will have nothing to eat but what can be gathered from the bush.

Native species provide not only food but fodder for livestock, effective medicines, and raw materials to meet the daily needs of urban, as well as rural, residents. Natural forest cannot be converted to plantation without a potentially devastating impact on the rural poor. Substitutes for bush products, most of them imported, will be sought elsewhere and

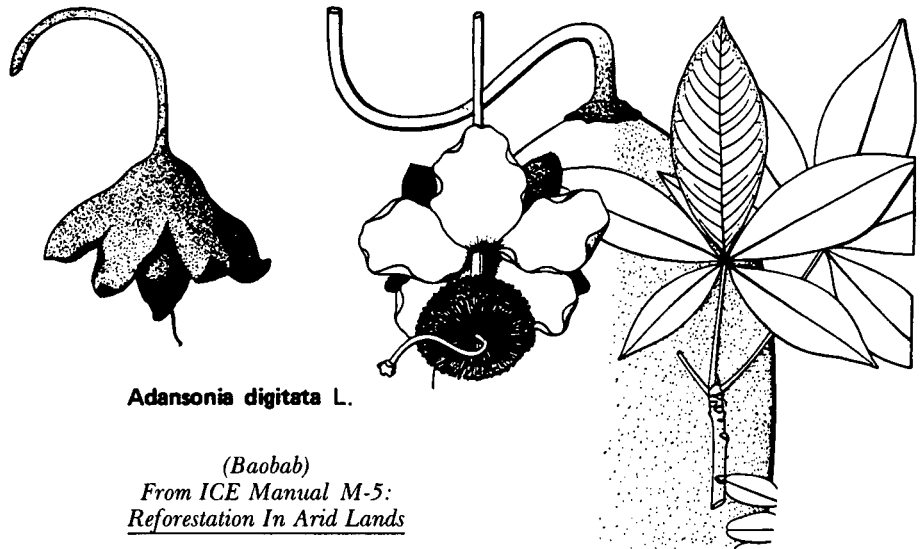
people with little or no cash income will have to pay for them or do without. Local markets and the rural economy will deteriorate.

As an alternative to exotic fuelwood plantations, the natural forest can be managed both to produce fuelwood and to maintain production of secondary forest products upon which people depend.

Secondary forest products from trees and shrubs documented include: medicine; forage; crafts; wood for tools, furniture and musical instruments; household products such as brooms, potscrubbers and kitchen utensils; alcoholic beverages; and miscellaneous odds and ends, such as toothpicks, glues, tannins and dyes. Those species providing primary products—construction wood, fire-

market and the Accartville market adjacent to the classified forest. Also included are the weekly markets at Bama and Valle de Kou where concentrations of Mossi people are found, and the weekly market at Bana which is frequented by Bobo and Sembla people.

Information was also gathered from villagers living in the vicinity of the Dinderesso forest. These villages are Dinderesso, Bana, and the Fulani camp located north of Dinderesso just outside the classified forest on the road from Diarradougou to Bobo. These villagers are mainly Bobo farmers and settled Fulani herdsmen. They provided information on secondary forest products that are not marketed, but are nonetheless important.



*Adansonia digitata* L.

(Baobab)

*From ICE Manual M-5:  
Reforestation In Arid Lands*

wood, and charcoal—are also discussed on a rudimentary basis in this report.

Little is known about traditional religion, but some information has been included about species which have religious value.

Much of the information comes from urban and rural markets where secondary forest products are found for sale. These markets include three daily markets in Bobo-Dioulasso: the main market, the five o'clock Faraken

## Market Survey Methodology

For the market surveys I developed a questionnaire to get information on each item found for sale. The questionnaire requested the following information about the product: local name, use, unit price, plant species of origin, plant part used and the geographic origin. I also made notes on the abundance of the product in the market and tried to find out who had

collected the produce and whether or not the seller was the original collector or if the product had been obtained through a middleman.

Not having a small, portable scale to weigh products sold in bulk it was necessary to calculate unit prices by volume. I carried with me a known volume (a tin cup). In West African markets consumable goods are sold by the pile or by a small dish measure. I calculated how many 5 CFA (local currency) piles of caterpillars or 25 CFA dishes it would take to fill the tin cup and extrapolated a price per 1000 ccs. The value of these volume metric measures is limited, but they do allow one to make a trans-market or trans-season comparison on a given product and will be useful for making price comparisons in years to come. I also carried a 45 cm ruler for calculating volumes of products that were not measurable in the tin cup, such as wads of bark or wooden mortars.

Work was complicated by market etiquette. For things like hoe handles, mortars, furniture and other durable goods one is expected to bargain. However, when bargaining leads to agreement on a fair price one is expected to buy. Rather than bargain to the real price and welsh on the deal and anger the merchant, I accepted the first price quoted. This way the merchant accepted me as "just looking". Over time this enabled me to establish a rapport with various merchants and find out much more about the products they sold. One should bear in mind then that the prices quoted on durable goods are probably 25 percent higher than the actual price.

I encountered other complications with the sellers of consumable goods. On these things prices are fixed and one generally does not touch the merchandise unless he is intending to buy it. In order to get measures of these products I had to handle them a good deal. This made me less than popular at first, but I found that by chatting with the seller a bit and explaining what I was up to and tipping her in the end with some peanuts or a piece of hard candy, peace could be kept and she would answer my other questions about her merchandise.

### Non-Market Survey Methodology

To gather information outside the marketplace, my techniques were more diverse. Rather than a one-time

interview with as many people as possible, I found it most productive to visit the same core of informants on a regular basis and build a relationship of friendliness and trust with them. I found that on these social visits the conversation could be more easily directed toward how they used bush plants. In this way I got information from all types of people young and old, men and women, people in their homes and craftspeople at work. As people grew more accustomed to me and my questioning, they were more willing to volunteer information which I might not have gotten without repeated contacts with the same people.

Sometimes on my way to visit informants I picked samples of trees and shrubs. During the visit I passed the samples around and asked people what they were called in the local language and what they were used for. My informants enjoyed these sessions as everyone in the courtyard got to put in their two-cents-worth. I then took the samples and referenced the local names to their corresponding scientific names.

I also accompanied my informants into the bush as they went about their daily tasks, such as washing clothes or collecting firewood or medicines. As we walked we discussed the plants we passed and their uses.

One of my informants was a medicine-seller in the Accartville market. One day she complained to me that it was difficult for her to go far enough into the bush to gather medicines to sell; I offered to take her on my motorcycle wherever she wanted to go. We spent several subsequent Sundays in the classified forest (her choice of location), she picking big sacks full of leaves and me taking samples and making notes as she told me what she was picking and what it was used to treat.

I gathered a surprising amount of information while enroute to other places. It became a habit to stop whenever I saw someone in the bush hacking or picking at plants or carrying a headload of shrubs or plants. We would exchange greetings and I would ask them what they were gathering and what they were going to do with it. No one ever took offense at this, since curiosity is often a form of politeness.

All of my interviews and surveys were conducted in Djula. This was a mixed blessing. I had the advantage of being able to talk with people di-

rectly and not risk the distortions of a translator; I think people were friendlier and more willing to open up to a foreigner that took an interest in speaking their language. On the other hand, I found quite a few people who spoke only Bobo, Sembla or Moore, and did not know the plant names in Djula.

The research was conducted over a five-month period from mid-March, 1984 through the end of August, 1984. Because secondary forest products are in many cases seasonal, the information in this paper cannot be presumed to be complete. Data is particularly lacking for *harmattan* season products.

### USES

● **Food**—Of the seventy-seven species documented, nearly half are valued to some degree as food plants. Fruits, seeds and leaves are consumed, some straight from the plant and others after elaborate preparation which can involve days of work. Women and children are the primary food gatherers and preparation of food is exclusively a woman's task.

I divided bush foods into four categories; snacks, acidifiers, sauce ingredients and prepared ingredients. Snacks are gathered and eaten by men, women and children alike, with children being the main consumers according to most people. These foods are mostly consumed when and where they are found, so many of them never make it home to the concession, much less to the marketplace. Since all of these snacks are fruits, they are highly seasonal.

Of the twenty-three snack fruits documented, the following are marketed: *Adansonia digitata* (baobab), *Borassus aethiopium* (ronier palm), *Cola cordifolia*, *Detarium microcarpum*, *Blighia sapida* (akee), *Lannea microcarpa*, *Parkia biglobosa* (nere), *Vitellaria paradoxa* (karite), and *Vitex doniana*.

Acidifiers are added to *to* (the carbohydrate diet staple with a consistency much like solidified cream of wheat) and porridges to give them a more interesting taste. These acidifiers are always leaves or fruits with a sour taste. The leaves and fruits themselves are not consumed, but an extract is made from them by pounding them and adding the pulp to water. This sour water is then strained and used to prepare the *to* or porridge. Acidifiers are seasonal, but can be dried and stored for year-round use. Except for *Bauhinia reticulata*

leaves, all of the acidifiers documented are marketed. These include the fruits of *Adansonia digitata*, *Landolphia heudelotii*, *Saba senegalensis*, and the fruit and leaves of *Tamarindus indica*. Lemon juice is also used and can be considered a substitute.

Sauce ingredients consist primarily of leaves, but can include seeds, flowers and fruits as well. These are gathered by women and incorporated into the sauce which always accompanies *to* or rice. Of the twelve ingredients documented only *Acacia macrostachya* seeds, *Blighia sapida* arils, *Adansonia digitata* leaves and *Bombax costatum* flower buds and calices are marketed, the latter two on a fairly large scale.

*Karite* butter and *sumbala* have been put in a category by themselves, both because of the complicated steps involved in preparing them and because of their importance in rural and household economies. *Karite* butter, used in sauces and for frying, is the staple oil in the bush. To make *karite* butter from the seed of *Vitellaria paradoxa* is a long and complex process, and a woman must work all day to prepare a sufficient amount.

*Sumbala*, a sauce seasoning made from fermented nere seeds (*Parkia biglobosa*) involves an even more elaborate effort requiring three days of preparation. Mossi people also make *sumbala* out of *Acacia macrostachya* seeds.

*Karite* butter and *sumbala* are prepared for home consumption as well as for sale in even the smallest bush markets. The standard market size ball is around 3 cm (plus or minus 1 cm) and sells for 5 CFA. Larger family-size balls, especially of *sumbala*, are also available. During periods of scarcity the price is sometimes raised to 10 CFA for the standard size, but a more common strategy is to make the balls smaller.

The substitute for *sumbala*, though nutritionally inferior, would be imported bouillon cubes or monosodium glutamate. The substitute for *karite* butter is any number of commercially available oils, the cheapest of which is cottonseed oil.

The caterpillar *Cirina butyrospermum* must not be omitted. It eats the leaves of the *karite* tree and is found in great numbers late in the rainy season. Although perhaps an acquired taste, caterpillars are a protein source and are enjoyed in sauces and as a snack.

● **Beverages**—A soft drink is made with the pulp of *Tamarindus indica*

fruit and crushed ginger. Palm wine is the sap of *Borassus aethiopicum*. This can be drunk as a soft drink or fermented. An alcoholic beverage is also made from the fruits of *Cordia myxa*. The bark of *Grewia bicolor* is added to every batch of millet beer in order to settle the debris and remove bitterness.

● **Medicines**—Virtually every plant in the bush has some medicinal use for treating people or livestock, and virtually all parts of the plant (roots, leaves, bark and fruits) are used for livestock. I frequently encountered men, women and children in the bush cutting medicinal leaves, but it seems that men are the primary collectors of bark and roots. The people I met gathering medicines were often gathering them in bulk quantities to sell to medicine-sellers in Bobo Dioulasso.

Every market in Bobo has at least a couple of traditional medicine-sellers, although they are conspicuously absent from the rural markets. The only traditional medicines which I found for sale in Bana market, apart from magic charms and amulets, were wholesaled to people who came by truck from Bobo. They in turn resold the medicines to medicine-sellers in the city. The reason for this seems to be that rural people can simply go out and gather medicines, whereas urban people have to buy them.

Everyone is familiar with a few common remedies for a few common ailments, but there are also people who "know medicines". Learning medicines can take years. Fatumata Keita, my most constant informant on traditional medicines, said that her father taught her, but that women and men both can know medicines. Fatumata sells plant medicines to urban dwellers from her stall in the Accartville market. I spent many hours chatting with her there in the shade, and I often saw people with plastic bags from the pharmacy stopping off to buy a bundle of leaves or a root on their way home. These traditional medicines work, and people have faith in them.

A bundle of leaves usually costs 10 or 15 CFA and pieces of root or bark usually sell for 25 CFA, regardless of the plant species or the disease it treats. Fatumata said, "I do not make any money selling these leaves at 10 CFA or 25 CFA. My real income comes when my medicines cure people. Then they come back and give me 500 CFA (for cola nuts)". Thus the market prices of medicines do not

reflect their true economic value. Obviously, the substitute for traditional medicines would be imported pharmaceuticals.

● **Craft Wood**—This is exclusively men's concern. They make the mortars and pestles, tool handles, kitchen utensils, musical instruments, stools and other objects of wood vital to daily life. Traditionally, woodworking has been work reserved for crafts' castes, especially blacksmiths.

Craft wood as a raw material is never found in the market. The craftsman himself cuts his own wood, choosing the species according to what he plans to make. Wood can be found to suit every need, from lightweight *Lannea acida* for animal yokes to dense *Prosopis africana* for making mortars that will withstand 10 years of pounding.

In addition to the physical qualities of the wood, religious beliefs can also play a role in the choice. *Azelia africana*, a tree known throughout West Africa for its ability to house spirits, is used to make "talking drums". *Diospyros mespiliformis* is said to have protective qualities for the person using it. This is one of the main reasons it is chosen for making looms, leatherworkers' tool handles and cutting boards, herders' staffs and hoe handles.

Other craft woods include *Bombax costatum* and *Ceiba petandra*, both soft, lightweight woods used for making kitchen utensils and stools. Preferred species for making mortars are *Khaya senegalensis*, *Prosopis africana*, *Vitellaria paradoxa* and *Parkia biglobosa*. Occasionally *Azelia africana*, *Isobertinia doka* and *Daniellia oliverii* are also used as a second choice. Hoe handles are made from *Pterocarpus erinaceus*, *Detarium microcarpum*, *Entada africana*, *Khaya senegalensis*, *Parkia biglobosa*, *Terminalia spp.*, *Vitellaria paradoxa* and *Prosopis africana*. For pestles, *Erythrophleum guineense*, *Khaya senegalensis*, *Terminalia spp.* and *Prosopis africana* are preferred. Balafon sound bars are made only from *Pterocarpus erinaceus*, and *Tamarindus indica* wood is used exclusively for the bentwood drum beaters. *Vitex doniana* wood is used to make the body of blacksmiths' bellows, which can last for twenty years. In general, the most sought-after hardwoods are *Khaya senegalensis*, *Prosopis africana*, *Pterocarpus erinaceus* and *Diospyros mespiliformis*.

● **Forage**—Forage is sold in Bobo to city dwellers who keep sheep and goats. The selection is more or less



limited to *Pterocarpus erinaceus*, *Azelia africana*, *Khaya senegalensis* and grasses. Men bring these in from the bush by the bicycle load to sell.

As grass disappears in the dry season, livestock in the bush become increasingly dependent on tree and shrub forage. The Fulani herders recognize many species as vital to the survival of their herds.

Nectar is an often overlooked resource. The flowers of many trees and shrubs provide nectar from which bees make honey.

Milk (high in protein) and honey (high in calories) are both forage-dependent foods which provide cash income and high quality food supplements to villagers and herdspeople. Honey sells for 800 CFA per liter in Bobo and milk for 200 CFA per liter. The prices on both these products vary according to season, because the forage upon which their production depends is seasonal.

● **Fuel**—The information gathered on firewood comes from women in their kitchens, observations of the types of wood they have stockpiled and interviews with wood dealers in Bobo Dioulasso. Firewood species are: *Afrormosia laxifolia*, *Blighia sapida*, *Canthium venosum*, *Combretum spp.*, *Daniella oliverii*, *Detarium spp.*, *Heeria insignis*, *Hymenocardia acida*, *Isobertinia doka*, *Parinari spp.*, *Ptelopsis suberosa*, *Strychnos spinosa*, *Stereospermum kunthianum*, *Terminalia spp.*, *Trichelia emetica*, *Vitellaria paradoxa* and *Vitex spp.*

*Prosopis africana* and *Burkea africana* are both known in Djula as "blacksmith's tree" because of the high quality charcoal they produce. Blacksmiths themselves told me they preferred charcoal made from these trees. Most of the cooking charcoal

sold is left over from *dolo* (millet beer) fires. I have not heard of any private enterprises which specifically make charcoal.

● **Construction Material**—This includes, for the most part, species chosen for their straight limbs and trunks. These are used as support poles and crosspieces for sunshades, and frameworks for thatch roofs. I was afforded the ideal opportunity to find out which species people preferred when the Bana marketplace was renovated and everyone had to build new sunshades. The most popular species seemed to be *Terminalia spp.*, *Burkea africana* and *Vitellaria paradoxa*.

Type fibers from trees and shrubs are also important as construction materials, notably *Saba senegalensis*, *Ptelopsis suberosa* and *Sterculia setigera*.

● **Religious**—According to Le Moal (1980), certain trees and shrubs play an important role in Bobo traditional religion. Leaves, roots and wood all have their place in masks, ceremonies and religious implements. Many Bobo masks are made entirely of leaves, and the choice of these leaves is not arbitrary. I got many evasive answers to my questions concerning the role of trees in religion, but I did learn that among the Bobo it is taboo to burn *Azelia africana* wood and that certain individuals are forbidden to cut certain tree species or eat their leaves. There are particular individual trees that are known to harbor spirits.

The following are listed by Le Moal as having some religious value to the Bobo as well as to a number of other ethnic groups: *Azelia africana*, *Vitellaria paradoxa*, *Borassus aethiopicum*, *Adansonia digitata*, *Ceiba petandra*, *Gueira senegalensis*, *Raphia sudanica*, *Dichrostachys glomerata*, *Diospyros mespiliformis*, *Lannea acida*, *Isobertinia doka*, *Bauhinia reticulata*, *Sterculia setigera*, *Khaya senegalensis* and *Cordia myxa*. Forest managers should proceed with sensitivity when involving villagers in planting or harvesting these species.

● **Other**—The shelves of a hardware store could be well stocked with the remaining variety of other products that come from the bush. Palm leaves (*Borassus aethiopicum*) alone are made into pigeon coops, chicken carriers, fish traps, utility baskets, drum tighteners, sleeping mats, potscrubbers, strainers and sifters. *Ceiba petandra* fruit fibers are used to stuff cushions. A number of bark fibers are used to tie mats, attach arrows to

shafts and secure cumbersome headloads. Saps and bark extracts are used as dyes (*Lannea acida*, *Terminalia spp.*, *Anogeissus leiocarpus*, *Cochlospermum tinctorium*), tannin (*Acacia nilotica*), oxidizers for pottery (*Acacia nilotica*, *Parkia biglobosa*) and glues (*Cordia myxa*, *Vitellaria paradoxa*). *Landolphia heudelotii* sap is used to repair punctured inner tubes, and fibers from *nere* fruit are used to sew up cracked calabashes. Different kinds of baskets are made from a number of species, as are tobacco boxes. People clean their teeth daily with toothsticks cut from *Blighia sapida*, *Burkea africana* (often called "toothpick tree" in Djula), *Combretum lamprocarpum*, *Parinari spp.*, *Prosopis africana*, *Securidaca longipedunculata*, and *Terminalia spp.* Some of these toothsticks are medicinal for toothache. Caterpillars dependent on *Tamarindus indica* spin cocoons which are spun and woven into a high priced silk-like waterproof cloth. These miscellaneous products are produced for home use, but are also found in markets. Their commercial substitutes are easily identified, but the prices of these substitutes are well beyond the means of most rural people.

The ICE ALMANAC features a variety of Volunteer ideas and technologies which can be adapted locally and highlights particular program areas with notes and recommendations from programming specialists in the Office of Training and Program Support.

Information Collection and Exchange (ICE) is Peace Corps' central technical information unit. As such ICE provides a means of collecting and sharing the best results of Volunteer programs in the field. Volunteers are encouraged to contribute information to the ICE ALMANAC or ICE Resource Center. Contributions, requests for technical information or correspondence concerning the ALMANAC should be sent to: ICE, Peace Corps, Rm. M-701, 806 Connecticut Ave, N.W., Washington, D.C. 20526.

Donna S. Frelick, RPCV/The Gambia and Coordinator of ICE, is ICE ALMANAC editor. Managing Editor is David Thomas. Special assistance for this issue was provided by Johnnie Prather and the marvelous OTAPS Support Staff.

#### GIVE!

We depend on contributions from PCVs and staff in the field to build our collection of appropriate technical materials. Volunteers contributions are frequently published as how-to manuals.

We are vitally interested in the results of your work. Take time to write up your fisheries project or your design for a better appropriate technology mousetrap and send it to ICE. Your fellow PCVs around the world will thank you for it!



# The Water/Sanitation Sector: Water for All

"People understand why water supplies in arid and semi-arid regions of the world have to be carefully managed," says Jim Bell, Water/Sanitation Specialist for the Peace Corps' Office of Training and Program Support (OTAPS). "It is less obvious that water management is also a vital concern in other climates. But that is the case. Abundant seasonal rainfall can create major problems such as soil erosion and flooding. Also, water is a great medium for spreading disease, and in the rainy season we see a dramatic increase in health problems."

According to Bell, managing water resources involves a wide variety of concerns—availability for a number of competing uses, quality of water for human consumption and conservation of both soil and water in erosion-prone areas.

In many areas of the developing world, availability of water may be the primary concern. Scarce water supplies are often located in inaccessible places that can be reached only on foot. In Kenya, for example, women and children who are responsible for getting water have to walk up to ten kilometers a day to complete their chores. In Sierra Leone, when the dry season comes to the arid north, water carriers may have to walk up to 20 kilometers to get water. Though the distances vary, the circumstances are similar in rural areas all over the world. The major sources of water are streams, springs, shallow wells and swamps that are found at the end of a long and tiring journey.

Other needs compete with human consumption for a share of these limited water resources. Increased crop production, a major priority throughout the developing world, often depends on the availability of water for irrigation. The success of development efforts in reforestation, fisheries, and livestock production also depend to a great extent on the availability of water.

George Scharffenberger, who heads the Peace Corps' Africa Food Systems Initiative, underlines this point. "In the vast majority of cases water is the vital question in the issue of increasing agricultural production. Providing water, either by controlling surface water or by tapping into sub-surface water, is vital to an agricultural project."

But the availability of water is only part of the problem. Water, even if readily available, can be a focus of concern if it is of poor quality. Water is a factor in the spread of diseases that rank among the major causes of death and illness in the world. A list of serious health problems in developing countries inevitably includes the water-related diseases of malaria, schistosomiasis, cholera, onchocerciasis, amoebic dysentery and diarrhea. It has been estimated that in Sierra Leone 95 percent of the water supplies that serve the rural population are unsafe for drinking. In Togo only 20 percent of the population has a safe water supply. In Thailand, one-third of the population suffers annually from water-borne diseases.

The destructive power of water, especially in the form of floods and soil erosion, is also a major concern in many areas of the developing world. Management of water resources to protect fragile environments and conserve both soil and water is fast becoming a priority in many countries.

Mindful of the importance of water and its connection to developing health, agricultural and conservation programs, host-country governments supply the Peace Corps with a steady stream of requests for Volunteers to serve in water and sanitation programs. Since the Peace Corps' inception, 4,000 Volunteers have been part of these projects in more than 50 countries. Water/Sanitation Volunteers serve as engineers, mechanics, construction workers, plumbers, masons, carpenters, hydrologists, surveyors, accountants, lab technicians and community development workers in a wide variety of programs.

Over the years these Volunteers have developed water sources for human consumption and for agricultural use where none had previously existed. They have worked in clean water programs, helped build sanitary latrines and educated nursing mothers about the relationship of water and diarrhea.

Through Volunteer projects, the incidence of malaria in Thailand has been reduced, sanitary toilets have

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*A woman in Mali carries water to a small garden plot. Irrigation water is supplied by a windmill-driven pump.*

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become commonplace in rural areas in the Philippines, and pipes bring water to remote villages in Kenya.

Carried out in isolated areas, often in terrain about which little is known, water and sanitation projects require strong support from the host country government, the community and the Peace Corps staff. In 1979, the Peace Corps established the Water/Sanitation sector in what is now the Office of Training and Program Support to strengthen its ability to provide this necessary program assistance.

According to Specialist Bell, the purpose of the sector is to "... promote the development and management of water resources and environmental sanitation activities at the village, regional and national levels through the efforts of Peace Corps Volunteers and Associate Peace Corps Directors."

To accomplish these goals the Sector Specialist:

- assists PC country staff in developing or improving programs
- provides technical assistance in the area of water/sanitation
- designs pre-service and in-service training programs (see accompanying article)
- collaborates with other development agencies
- collects and disseminates information in collaboration with Information Collection and Exchange (ICE).

In providing technical support to the field the Sector Specialist visits project sites, develops and gives in-service training workshops, identifies appropriate consultants for special tasks, recommends relevant publications that might interest Volunteers working in the field, and collaborates with skilled personnel of other development agencies to share human and material resources. (These may include other agencies of the United States government such as the Agency for International Development; international organizations like the World Bank, UNICEF and the World Health Organization; private volunteer organizations such as Catholic Relief Services and CARE; and volunteer agencies under the sponsorship of other countries.)

The specific technical assistance required by water and sanitation projects can vary widely, not only from one country to another, but even within a single country. Climate and geography often determine the particular technology a project may employ. Peace Corps projects are located

in some of the most varied environments in the world: the Himalayan mountains of Nepal; the high sierras of Ecuador; the rainforests of Central Africa; the fringes of the Sahara desert; and rich farming areas of Kenya. Projects are located near natural springs, above stagnant groundwater; on rocky, hard-to-penetrate strata; and in sandy, collapsible soils.

This variety of project environments, coupled with the variety of project concerns described earlier, demands knowledge of a wide range of different technologies. For example, one goal of Water/Sanitation programming, providing water sources, can involve any one or more of the following technologies: hand-dug or mechanically-drilled wells; spring boxes (devices to capture and channel spring water at its source); gravity-fed water supply systems; dams to create ponds for storing runoff; or ferro-cement water storage tanks. Knowledge of how to repair and maintain pumping devices such as windmills, fuel-driven pumps and hydraulic rams may also be required.

Not surprisingly both Volunteers and staff incountry may find it difficult to match the appropriate technology to the specific project need. The Sector Specialist can help by providing information, direct on-site assistance and insight drawn from similar projects in other countries.

Throughout most of the 1970's and early 1980's, Sector assistance was focused on the problem of providing safe drinking water and better environmental sanitation. In the future, however, Specialist Bell predicts that water-related technologies, skills and techniques (and thus Sector assistance) will be used increasingly in programs that are integrated with other Sector areas such as agriculture and conservation.

For example, developing water sources specifically for irrigation and livestock is becoming a major area of involvement for both the Water/Sanitation and Agriculture Sectors. OTAPS Agriculture Sector Specialist Phil Jones says, "Irrigation is a relatively costly and sophisticated technology in terms of Peace Corps' traditional activities, but it is becoming more and more important to us. The interrelation of soil and water conservation is another issue that concerns both Water/Sanitation and Agriculture."

A recent ICE publication, the *Peace Corps Water/Sanitation Case Studies and*

*Analysis* confirms this new direction, noting, "More and more Volunteers may be using water-related skills to develop livestock watering points or small-scale irrigation systems for crop production, including household gardens. These activities can increase food supplies and cash incomes as well as provide nutritional variation and water supplies for year-round domestic use."

Of course, Volunteers and staff will recognize that this is not an entirely new activity in the field. In fact, the Peace Corps has been involved in irrigation projects for several years.

RPCV Steve Evett describes the water project he worked on six years ago in the northern region of Burkina Faso (formerly Upper Volta): "I was involved in a project that had elements of soil and water conservation. We worked in an area where no irrigation facilities had previously existed; there were no streams or other sources of water, except runoff from seasonal rains. Our job was to motivate the villagers to build small earthen dams and dikes that would allow them to control the water and use it for irrigation.

"Our project materially affected those people's lives because it allowed them to manage water resources and increase their rice production. More importantly, it gave those villagers more control over their environment. The psychological benefits of that may be as important as any other.

"We've faced both technical and teaching frustrations in our village. If the dams and dikes were not well-constructed, the violent rainstorms characteristic of the desert rainy seasons would destroy them. Also we were teaching villagers to use construction methods they were completely unfamiliar with. That required a lot of patience."

Evett, who now works as a consultant in water management projects, sees Peace Corps participation in irrigation projects as having "a very large potential. The need is there and we know how to work with village people on small-scale projects."

Specialist Bell supports Evett's observation. "Judging by the requests for program assistance and training in irrigation projects that come across my desk, irrigation projects will continue to be an important thrust in developing water programs."

Two methods of supplying water for irrigation are gravity-flow systems and pumps. Irrigation pumps are the

focus of a Peace Corps water project that will begin this summer in Mauritania. There, six Volunteers will train host country counterparts to maintain and repair small pumping units located in Mauritania's oasis areas.

Both gravity-flow and pumping systems are utilized in a model irrigation project recently established in Lesotho. Located in southern Africa and completely surrounded by the Union of South Africa, Lesotho has two distinct topographical regions: an eastern highland dominated by elevations ranging from 8,000 to 11,000 feet, and a western tableland that is dry, rocky and heavily populated. Because of limited water supplies much of Lesotho's land is not fully cultivated.

Working with a consultant identified by the Water/Sanitation Sector, APCD Tom Osborn developed a program that directly addresses this problem. Working with farmers and village groups, Volunteers build earthen dams that catch surface runoff to create small ponds. These ponds, each having a capacity of about 1,500 cubic meters, provide farmers, schools and communities with water for irrigation. Gravity-fed

water systems and pump-driven sprinklers now deliver water from 15 such ponds to nearby gardens.

Having established this model, APCD Osborn suggests that a need may have been created for an agricultural extension program that could help answer such questions as: does increased vegetable production justify the high cost of fuel needed to run irrigation pumps; is enough known about soil conditions to assume that the water is being used in the right amounts to produce the best results; and is the irrigation system simple enough that local farmers can understand it and use it effectively?

Visits by the Sector Specialist to existing projects frequently result in such questions and subsequent insights for new programming and for fine-tuning existing programs. Such was the case in Nepal.

In 1981, the Peace Corps initiated an irrigation project in Nepal in cooperation with the Agency for International Development. Called the Minor Hill irrigation project, the goal of this program is to provide sources of water for irrigating approximately 6,000 acres. Specialist Bell explains, "Water rights and water distribution

are of vital interest to all Nepali agricultural communities and farmers. In many areas of the country, irrigated agriculture means the difference between producing only one harvest or producing two or more."

Because agricultural communities in Nepal have traditionally built local irrigation systems, Bell believes the role the Peace Corps currently has—instituting new irrigation systems—may eventually shift to a focus on maintaining those systems that have already been built. Irrigation systems, subject to flooding and other destructive forces, break down and, according to Bell, "...the PCV could provide a key link in assisting those projects that face water damage on a recurring basis."

In six short years of providing support and assistance for Peace Corps programs in water and sanitation, the Sector has shown a strong commitment to providing support for both traditional water supply and sanitation programs and new programs which integrate activities in forestry, fisheries, agriculture, public health and community development. "If we aren't doing that," Bell says, "we are missing the mark."

## Feature

# Training for Water/Sanitation Programs

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In the wide-ranging world of water supply and sanitation projects, completing almost any project successfully requires a host of skills. Knowledge is required in the areas of community needs assessment, surveying, hydrology, system design, training counterparts, operations and maintenance, health education, community organization and construction.

Rarely does a person possessing all these requisite skills volunteer for service in the Peace Corps. To compensate, the Water/Sanitation Sector in the Office of Training and Program Support designs and manages training programs that equip the men and women involved in supplying water and in working for sanitary living conditions with the technical skills to do their jobs.

Broadly speaking, the Peace Corps offers two types of training programs: pre-service training which provides a trainee with the technical, cultural and linguistic skills she needs to do a job, and in-service training, which upgrades a Volunteer's skills once she is at her post.

Stateside, pre-service training (SST) offers the most comprehensive means for a trainee to acquire the basic technical skills for water and sanitation projects. This year two eight-week training sessions will take place in Evergreen, Colorado under the direction of Denver Research Institute and Domestic Technologies International. Water/Sanitation Sector Specialist Jim Bell will oversee the management of the programs from the headquarters side. The 35 trainees in the first of these programs are headed for Togo, Morocco, Honduras, Ghana, Jamaica, Tonga and Western Samoa.

These training programs are designed to give each trainee the most complete specific technical knowledge possible in order to help him accomplish his assignment. The programs offer a "menu" of up to 15 (out of a possible 22) basic technologies for Appropriate Technology and Water/Sanitation. These sessions can be grouped into the categories of renewable energy, construction, environmental sanitation, water resource

management, water supply systems and food production storage and preservation. Based on a pre-training skills assessment, each individual participates intensively in those sessions that are directly relevant to his assignment and less intensively in other, related sessions.

After completing the Stateside phase of pre-service training trainees receive further instruction in the countries to which they are assigned. These incountry sessions are designed to equip Volunteers with country-specific cross-cultural and linguistic skills.

How are trainees selected to go through these stateside programs? Prudence Merton in the Office of Training and Program Support (OTAPS) explains that this decision is basically made through a negotiated process that starts when the host country government requests a Volunteer to perform a job that requires specific skills. If those skills are hard to come by, Merton says, agency recruiters may not be able to come up with anyone who fits all of the re-

quirements. In that case, the recruiting office can recommend that the PC country staff accept a person with good communications and other skills, but limited technical experience, to fill the position. That person would then be a candidate for skills training in an SST.

Merton explains that SST's are a cost-effective way to train Volunteers in technical skill areas, since many countries can take advantage of a combined program. Many countries ask for only one or two Volunteers with specific skills; to create a program for each such small group in each country would overtax Peace Corps training resources. Incountry programs are conducted for larger groups of Water/Sanitation Volunteers, drawing on local technical and training expertise.

To assist both stateside and incountry trainers, the Water/Sanitation Sector has helped to make available training manuals for both pre-service and in-service programs. These manuals are often developed in connection with actual training programs.

## A Training Manual

The training program designed by the Denver Research Institute has served as the inspiration for, and the basis of, a new pre-service training manual for water/sanitation skills. This manual is being written by Bradley Hanson, RPCV-Kenya, and a trainer in the Colorado program.

The completed manual, titled *A Training Manual in Water and Sanitation Technology*, will offer material for 220 hours of activities designed to equip a Volunteer with the basic skills necessary for water and sanitation projects. Reflecting the Peace Corps' emphasis on experiential learning, only 68 of these hours involve classroom activities. The remaining 152 hours stress the hands-on learning that the Peace Corps favors. Scheduled to be ready by fall, the manual consists of some core elements (those basic to appropriate technology and water/sanitation skills), and some optional chapters that trainers may use according to the specific programs they are developing.

A glimpse at the titles of the manual's more than 40 chapters reveals a curriculum concerned with developing community workers competent in basic technologies who can act as facilitators in village-level projects.

Awareness of the tasks a facilitator must perform is covered in sessions such as Facilitation Skills, Community Mobilization, and Project Documentation. The managerial role a Volunteer often performs is addressed in chapters on Project Planning and Management, Community Needs and Resource Assessment. Environmental Sanitation, Excreta Disposal Systems and Latrine Construction are chapters designed to teach the technical skills necessary for sanitation projects.

Chapters devoted to technical subjects for water projects have titles such as Pumps, Pipework and Plumbing; Hydrology; Hand-Dug Shallow Wells; Well Rehabilitation; Gravity Water Systems. Showing the Peace Corps' concern for basic skills, the manual also includes material for training in general construction: Concrete and Reinforcement; Framework and Pouring Concrete; Block Laying; Surveying and Measurement. Completing the manual are sessions devoted to social issues: Sanitation in the Developing World; Health Education; Communicable Diseases and Control; Women in Water; Construction Projects in the Community; and Water Resource Management.

Specialist Bell expects *A Training Manual in Water and Sanitation Technology* to provide a great boost to both stateside training programs and those taking place incountry.

Through such manuals and a trainer's expertise trainees gain the basic technical skills necessary to function as Water/Sanitation Volunteers. However, it may be necessary for PCVs to upgrade these skills in order to continue to be successful in specific projects. The refinement of skills is the purpose of in-service training programs (IST's).

In-service training programs, shorter and often less formal than pre-service sessions, are often organized by experienced Volunteers incountry. These Volunteers draw on their experience, the expertise of consultants hired through OTAPS, and a wealth of support materials to train less experienced fellow Volunteers.

Some of the support materials for these sessions have been developed by the Agency for International Development-supported Water and Sanitation for Health project. Each of the *WASH Training Guides* covers a specific aspect of rural water supply and sanitation. The subjects currently

available are: *Latrine Construction*, a 12-day workshop; *Rainwater Roof Catchment Systems*, an 11-day workshop; *Spring Capping*, a 12-day workshop; and *Handpumps Installation and Maintenance*, a 15-day workshop. The *WASH Training Guides* are available through Information Collection and Exchange (ICE).

## A Model In-Service Program

From January 7 to 27 this year a model in-service training session took place in Mali. Eight Volunteers, originally recruited to build woodstoves, learned methods of developing water supplies that are appropriate to local conditions. Four experienced Volunteers organized the training, demonstrating to recent arrivals the techniques of building hand-dug wells. The Office of Training and Program Support (OTAPS) made available the services of an experienced hydrologist, RPCV Mark Walker, who acted as the program evaluator.

According to Walker, four methods of developing hand-dug wells were under consideration. Three of the methods were designed to line the well and the fourth was designed to provide the deepest possible penetration into the aquifer, the permeable sub-surface layer where water is stored. "The methods demonstrated included a reinforced, concrete lining cast directly against earthen walls using steel molds; a reinforced plastering of earthen walls; a back-filled dove-tailed brick lining; and a mobile reinforced concrete caisson," Walker explained.

The Volunteer/trainers were well equipped to perform their duties as a result of their participation in a similar training program in November and December of 1983.

Conducted by consultant Steve Evett (RPCV-Burkina Faso) and Specialist Bell, the 1983 in-service program was based on pre-training research carried out by Evett several months prior to the training.

Bell is convinced that his model is an excellent one for developing in-service programs responsive to local conditions. Important elements of the model include pre-service research conducted incountry prior to the IST and an initial in-service train-

(Feature continued p. 22)

# Community Grain Banks

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*In the last issue of the ICE Almanac, this column was devoted to resources for food preservation, storage and marketing. The following article, contributed by PCV Daniel Mapel of Togo, provides an appropriate followup to that discussion. Mapel addresses the issue of community organization for improved food storage, providing a context in which improved technologies might be used. His idea of the community grain bank is an excellent example of a low-cost, locally adapted solution to the common post-harvest problem of "feast or famine" in rural villages.*

## Project Overview

One of the major problems facing the farmers of the Sahel and Soudan regions of Africa is the depletion of family grain stocks before the first harvest of the new farming season. Depending on the region and gravity of the situation, this depletion of grain stocks can cause widespread famine or, more frequently, a situation in which the nutritional needs of farmers and their families are not met.

A community grain bank project was initiated in the savannah region of northern Togo to combat the problem of annual food shortages with the introduction of an inexpensive and viable system of harvest management. Extensive research in the region showed that, surprisingly, harvests of grain are often sufficient to meet the families' needs through the six-month span between the final harvest of the last farming season and the first harvest of the coming season. But due to a lack of planning and management of the harvest, family grain reserves are often depleted before the first harvest.

Family grain stocks are depleted primarily, of course, by family consumption. However, research also showed that the sale of grain and the consumption of grain for local ceremonies contributed significantly to the depletion of granary stocks.

At harvest a farmer may want to raise some quick cash, so he may sell a portion of his grain at a market price which is depressed by an abun-

dant post-harvest supply in the local market. The farmer at this time is selling grain that may be needed in later months to feed his family, and he is only receiving a minimal price for his grain.

Weddings, funerals and other local ceremonies are numerous in rural villages during the dry season months, and significant quantities of grain are often taken from family granaries to prepare food and local drink for guests. "The ceremonies are what eat up all our millet," one village elder told me.

The problem is, therefore, that depending on the size and management of the grain harvest, months of difficulty can and do arise for a significant percentage of the population in certain years. One solution appears to be the establishment of village-based community grain banks which provide for a stock of grain to be held specifically for consumption during the difficult months preceding the first harvest of the new farming season.

The project implemented was geared towards significantly increasing local food security among the people involved with a minimal amount of capital investment. The project encouraged the establishment of community grain banks within the existing structure of small farmer agricultural cooperatives.

A small amount of funds (U.S. \$50.00) was received from the U.S. AID/PC Small Projects Assistance Fund for the construction of improved traditional mud granaries in men's and women's farming cooperatives. Five granaries were constructed by the coops involved, with project funds providing approximately one-half of the total cost of construction. The coops were responsible for supplying local materials for granary construction (soil, water, wood, straw). Cement plastering of the traditional mud granary was the improvement introduced to increase granary life and eliminate moisture.

Once the granaries were constructed, they were maintained through annual cycles of food abundance and scarcity. The grain banks were stocked with grain after the harvest.

Some of the grain stocked was harvested from a cooperative field which had been worked by members. Other contributions to the grain bank came from grain purchased with coop funds at the low, post-harvest market price and/or grain contributed by individual members for storage in the grain bank.

After the grain bank was stocked, the granary was sealed and the grain was stored until local family stocks had diminished to the point where coop members and their families were not meeting their needs. At this time the grain bank was opened and grain was loaned out to needy coop members. If grain was left over after the needs of all coop members had been met, then it was loaned out to other villagers. If, after all loans were made there was still grain left over, the remaining grain was sold at the elevated pre-harvest market price. The money earned from these grain sales was added to the cooperative cashbox for grain purchases after the following harvest.

At the end of the farming season, after the harvest, the grain loans were repaid at an interest rate fixed by coop members (10–20 percent for members, 20–30 percent for non-members. This interest rate may seem phenomenally high, but it is low for Togo, where loans of money and grain often carry an interest rate as high as 50 percent).

The project has been successful because the major concept involved—setting aside grain specifically for consumption during hard times—is concrete, straightforward, and easily understood. The farmers can see quick, almost immediate, results with these grain banks—most often the same year. For these reasons the grain bank idea has caught on in the region in which the project was implemented.

The establishment of the grain banks has served as a catalyst for the formation of new cooperative groups. During the dry seasons of 1983–1984 one grain bank was established with a small women's cooperative in a secluded rural village. One year later, three other grain banks sprang up in this village, independent of the proj-

ect. The women who established the new grain banks explained that they had seen the utility, basic simplicity, and low cost of the initial grain bank effort.

This project has been especially effective at encouraging an increased women's role in village development. Women traditionally have limited say as to how family grain is managed after harvest; women are often at the mercy of their husbands' grain management skills. Organizing a grain bank for women allows them to establish an independent sense of security and identity. By adapting to circumstances through the establishment of grain banks, the women can take an active step towards solving a significant annual problem.

## How To Do It

In order to make a project like this one work, one needs a highly motivated group of people who are willing to work together to solve the problem of annual food shortages in their village. Existing small farmer cooperatives provide an excellent starting point, although new groups of people can certainly be formed. But since the project takes an initial investment of capital for grain bank construction, it is likely to be easier to introduce the idea within the structure of an existing money-making organization like a cooperative.

It is important to make certain that group members understand the basic principles involved in the management of the grain bank. Certain decisions must be made by *all* members, not just by the leadership of the group. These basic decisions must be made from the start of the project (where the granary will be built, how it will get built, etc.) and full participation by all members should be encouraged.

Research must be done to evaluate local grain storage methods. In the dry, savannah country of northern Togo the traditional mud granaries are very efficient. In other regions conditions are undoubtedly different. Try to incorporate "improved" techniques into existing grain storage systems. There is a far greater chance of project success when improved techniques are used in traditional storage systems than when entirely new, and therefore foreign, storage techniques are introduced.

The farmers involved in the project should be responsible for contributing at least one half of the money needed to construct the grain bank. If a cooperative exists, this money could be drawn out of cooperative savings. If this is a new group, then a system of weekly or monthly contributions of money on the part of members, over a period of months, can allow a significant amount of capital to accumulate for project implementation.

Leaders must be chosen by the group and trained for their responsibilities. The Volunteer should discuss with the group the responsibilities that come along with each leadership role *before* leaders are chosen.

The lack of a literate member to act as secretary may be a problem that the Volunteer will encounter. In the cooperatives that were involved in the project there were no literate members, but the quantities of grain involved were small enough that they could be kept track of mentally by members. But as these groups evolve, the quantities of grain coming into and leaving the grain bank will grow, and soon it will be necessary for the coops to find a literate secretary to keep track of grain transactions. Simple bookkeeping skills can be introduced by the Volunteer. The most effective and necessary document is a "Grain Bank Storage Record", which uses a simple ledger format to record granary receipts and distribution.

There is a major difference between how grain is obtained and stocked in men's and women's groups. One of the most successful ways to stock a grain bank with men's groups is through the annual contribution of a certain quantity of grain (20 kilos or more) from members' own individual harvests. This establishes an assured annual stock. In regions where women farm individual fields of grain, this system of contributions can also work. But since in many regions of Africa women do not farm individual fields of grain and since they often have little access to their husbands' grain harvest, in-kind contributions from women are rare.

This obviously presents an obstacle to rapid grain bank development for women. One solution to this problem is the establishment of weekly or monthly contributions of money by individual members. The fund accumulates throughout the year and can be used to buy grain at the depressed market price after harvest in order to stock the grain bank.

The most positive thing about this grain bank project is that it can have *significant* effects in encouraging local self-sufficiency with *minimal* capital input from external sources; it is fully possible for well developed groups to implement these grain banks without *any* external funds. In this sense it is an appropriate development project. The solution does not come by pumping in big amounts of money and hoping for big results. It comes, rather, through the simple introduction of harvest management skills—a small, relatively inexpensive step that can help local people to become more self-sufficient.

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(Feature continued from p. 20)

ing program conducted by one or more experienced leaders. Later in-service training programs are then conducted by experienced Volunteers from the first IST, familiar with local conditions and working with the support of an expert consultant.

According to consultant Walker, there are numerous advantages to the kind of training that took place in Mali. "The trainees had been introduced to Mali and understood the working conditions and their implications for personal health. They had spent time at their posts and were familiar with the social and physical environments. With direction, the trainers could use their time at their posts to assess water resource problems.

"The attendance at the training was enthusiastic because both trainers and trainees were familiar with Mali, their posts and water resource problems at their posts."

## Training for APCDs

Peace Corps staff also benefit from opportunities to upgrade their skills during service. Using resource leveraging to provide these opportunities for Associate Peace Corps Directors (APCDs) to improve their skills in developing water resources figures importantly in the Water/Sanitation Sector's plans for 1985. Two APCDs from the Africa region and one from NANEAP will benefit from a cooperative arrangement between the Peace Corps and the Agency for International Development.

(Feature continued p. 23)



# Networking

## NETWORKS

Innovations at *Reseaux pour le Developpement (IRED)* supports a network of over 750 local groups working in development throughout the world, such as *KENGO*, a network of Kenyan associations involved in the protection of the environment. IRED acts as a facilitator between member groups, organizing activities to strengthen individual organizations and to encourage the exchange of information and expertise. Activities include study trips, meetings, and the development of publications. IRED also helps to create new local networks for groups involved in integrated and participatory development.

IRED performs research and referral services for its partners, such as suggesting appropriate funding sources. Its partners may also call on IRED to represent them in developed countries as an informed "ambassador."

The IRED FORUM serves as the communication tool for the Network; it is published regularly in French, Spanish and English. The FORUM includes information on IRED activities; upcoming workshops and meetings; new innovations; methodologies and tools; and organizations and publications of interest.

The groups involved in IRED can be powerful resources for Peace Corps Volunteers to utilize at the local level.

For more information and FORUM subscription details write to:

IRED/FORUM  
3, rue de Varembe  
Case 116  
1211 GENEVA 20  
SWITZERLAND

The Overseas Development Network (ODN) fills a different niche in the international development field. This network is a consortium of American colleges and universities involved in three areas of development activity:

- Partnership/Exchange
- Development Education
- Development Opportunities

• The Partnership/Exchange program links college students in the U.S. with projects in developing countries. The student groups affiliated with ODN raise some funds (\$2,000 to \$6,000) to sponsor a project in a developing country. Not only does the community involved in the project benefit, but ODN as a whole gains an understanding of development through correspondence with the project and perhaps a site visit.

The project must involve local initiative and benefit the very poor of the community. (The Peace Corps Partnership program is a similar activity.) ODN welcomes inquiries from Volunteers who may have identified an appropriate project for the Partnership/Exchange program.

• The Development Education program performs the same function as the third goal of the Peace Corps, i.e., "To promote a better understanding of other people on the part of the American people." Students research particular development topics and present their findings to the community in the form of exhibits, slide shows and other activities.

• The ODN Development Opportunities program is targeted at college students and others interested in internships and employment in the international development field. ODN publishes an Overseas Development Network Opportunities Catalog which lists organizations offering internships and employment in the development field. The Catalog may be purchased for \$5.00. ODN will soon automate its clearinghouse of development opportunities and will then have the capability of providing tailored searches for a modest fee. This service will be available to any requestor. For more information on ODN or to purchase the Catalog write to:

Overseas Development  
Network  
P.O. Box 1430  
Cambridge, Mass. 02238  
U.S.A.

*Trish Heady, ICE Resource Development Specialist and RPCV/Eastern Caribbean, prepares the Networking section.*

(Feature continued from p. 22)

ment (AID) who will share the cost of sending the three APCDs to an On-Farm Water Management course sponsored by the International Irrigation Center. The session will be held on the campus of Utah State University in Logan, Utah, from August 12 to September 15.

According to its organizers, this course "... aims to respond to a need frequently felt and stated, but not adequately met in the field of irrigation water management: the need to define a strategy for the direct application of technology to the ultimate user of water, the small farmer, to simplify methods and procedures for him; and to motivate him by demonstrating the importance of water in terms of increasing his production."

The program will include sessions on: soil-plant-water relationship; wa-

ter management; on-farm water measurement; irrigation methods and systems; irrigation system evaluation; farming systems approach to technology development; crop-water response functions; and the economics of water production functions.

Through its varied activities the Water/Sanitation Sector aims to provide technical and community-oriented training that enables Volunteers to conceptualize a workable program for a given situation, communicate with members of the local community to develop the system, and evaluate the results of their work. Specialist Bell says, "Development has to take into consideration technical conditions, cultural conditions and institutional priorities. Workers in development are most effective as facilitators, linking communities, re-

sources, ideas, and options. In doing that, we assist the community in its inherent ability to solve its own problems and to articulate its own desire to move in new directions."

Publications listed as "available through ICE" are free to PCVs and staff according to the distribution policy indicated for each title. For the benefit of our non-Peace Corps readers, complete ordering information has been provided for all titles.

PCVs and staff may order ICE publications by letter or cable from: Peace Corps Information Collection and Exchange, Rm M-701, 806 Connecticut Avenue N.W., Washington, D.C. 20526 USA.

# Sector Updates

## COMMUNITY DEVELOPMENT

**Evaluation Sourcebook for Private and Voluntary Organizations**, American Council of Voluntary Agencies for Foreign Service. 1983 (American Council of Voluntary Agencies for Foreign Service, 200 Park Avenue, New York, New York, 10003) 166 pp. \$6.00.

Intended to serve as a practical guide in selecting simple, appropriate methods of program evaluation. Focuses on increasing the efficiency of public service organizations. Treats evaluation as a step-by-step process and explains each step. Includes sections on: Preparation, Thinking Through an Evaluation Strategy, Primary Persuasions, Useful Tools and What to do When You Need Help. Contains charts, diagrams and a working bibliography.

**Available free through ICE to all PCV's and staff working in related projects.**

## ENERGY

**Water Pumping Windmill Book**, by Gary Hirshberg. 1982 (Brick House Publishing Company, Inc., 34 Essex Street, Andover, MA, 01810) 141 pp. \$8.95.

Describes the history of water pumping windmills and how they work. Gives guidelines for determining their potential usefulness individually. Instructions on installing, erecting and maintaining a water pumping windmill system. Specifically describes the New Alchemy "sailwing" design.

**Available free through ICE to all PCV's and staff working in related projects.**

**The Passive Solar Energy Book**, by Edward Mazria. 1979 (Rodale Press, Emmaus, PA) 417 pp. \$14.95.

Describes a way of building related to site, climate, local building materials and the sun. Contains most of the information necessary to successfully design a passive solar building. Ranges from basic solar theory to design and performance calculations.

Includes charts to calculate solar radiation, and a glossary for the beginner.

**Available free through ICE to Peace Corps offices/resource centers in-country only; two copies per country.**

## FISHERIES

**Home Curing Fish**, by Sue T. Murry, Federal Extension Service, USDA, Washington. 1967 (ICE Reprint, 1983) 180 pp. Free.

Based on the experience of extension workers in various countries. Explains in simple terms catching, handling, cleaning, salting, air-drying and smoking fish. Also includes a section on using cured fish. Gives step-by-step instructions for these processes as well as diagramming each step.

**Available free through ICE to all PCV's and staff.**

## FORESTRY

**Manual of Reforestation and Erosion Control for the Philippines**, by A. Agpaoa, D. Endangan, S. Festin, et al. German Agency for Technical Cooperation Ltd. 1975 (ICE Reprint, 1984) 533 pp. Free.

Based on the program of the Philippine-German Training Center for Reforestation and Erosion Control. Designed primarily as a refresher course for forestry extension workers with emphasis on the practical. Procedures described are useful in temperate as well as tropical countries. Includes chapters on: establishment, maintenance and protection of forest plantations; nursery techniques; erosion control; and sources of forest tree seed.

**Available free through ICE to all PCV's and staff working in related projects.**

## HEALTH

**Breastfeeding**, World Health Organization. 1979 (WHO, Maternal and Child Health Unit, Division of Family Health, Avenue Appia, 1211 Geneva 27, Switzerland) 40 pp. \$1.50.

Stresses the importance of breastfeeding in infant nutrition. Discusses

the superiority of breast milk to commercial substitutes. Discusses preparations needed during pregnancy to ensure successful breastfeeding after birth. Describes some special situations which may inhibit success. Geared to the health worker working with mothers.

**Available free through ICE to all PCV's and staff working in related projects.**

## WATER/SANITATION

**Guide to U.S. Based Organizations Involved in Water Supply and Sanitation in Developing Countries**. 1983 (National Council for International Health, 2100 Pennsylvania Avenue, N.W. Suite 740, Washington, D.C. 20037) 103 pp. \$4.50.

Supplement to the *NCIH Directory of U.S. Based Agencies Involved in International Health Assistance*. Gives a brief overview of current water and sanitation problems and efforts to alleviate them. Provides lists of U.S. based organizations involved in water supply and sanitation, resources for information and materials on water and sanitation, and a country listing of organizations involved in water and sanitation.

**Available free through ICE to all PCV's and staff working in related projects.**

## TRAINING

**Nutrition Improvement Through Mixed Gardening—A Training Manual**, prepared by Paul Sommers for U.S. Agency for International Development and U.S. Peace Corps, 1984 (Peace Corps/Information Collection and Exchange) 142 pp. Free.

Contains training schedule divided into 23 sessions. Includes information on soil management and land preparation, selection of crops and livestock, plant nutrition, and water, pest and weed management. Includes extensive appendix and list of references. Should be used with other texts for reference.

**Available free through ICE to Peace Corps staff and others involved in training PCV's.**