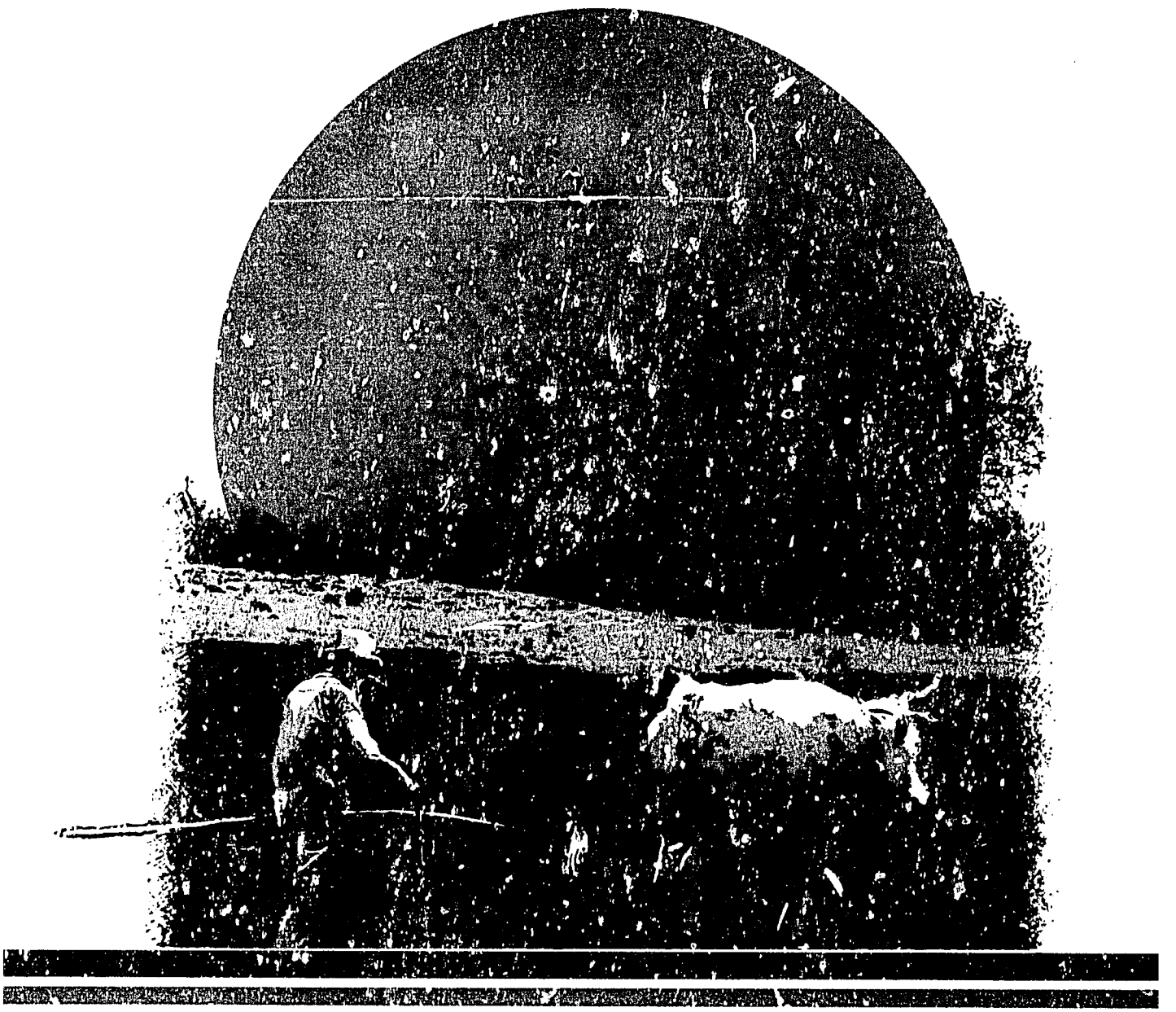


WINROCK
INTERNATIONAL

Annual Report/1983

Winrock International / 1983

Contents

President's Message

The World Bank estimates that over the next 10 years 876 million people will be added to the world's population. That will mean more than 87 million more each year to be fed, clothed, and housed. The demands on the agricultural sector will be more intense than ever, but at Winrock International we have studied the prospects for the future and we believe that agricultural production can keep pace with these demands.

There will be many difficulties. If distribution inequities are not corrected, many people will still go hungry, even in the face of adequate production. The dependence of more nations on food imports will mean more competitive and volatile world markets. The potential for trade wars and for economic disruption to U.S. farmers in times of surplus will increase.

Still, with sufficient yield increases, we could at least address such problems from a point of adequate supplies. Especially in developing countries, where yields are low relative to world averages, there is great opportunity to increase food production. But investment in research and development will continue to be needed if those increases are to be realized.

Winrock International's mission — to improve animal agriculture for the benefit of people — keeps us at the cutting edge of agricultural development, technology transfer, and policy analysis. We can look at the world food system as a whole and work for change by entering that system at a number of points.

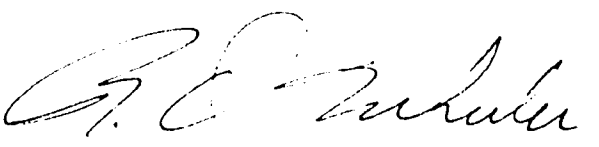
At Winrock, we are preparing for the challenges of the future by increasing the intensity of our activities. For example, this year we completed a comprehensive look at the global food production and trade system into the 1990s. This report will not only help us plan our course for the future but will also be of use to policymakers and planners in business, government, and development.

In Honduras, we began coordinating the implementation of recommendations made by the 1982 Presidential Agricultural Mission to that country, and we initiated a new public policy project to study ways in which individual developing countries might work toward food self-reliance.

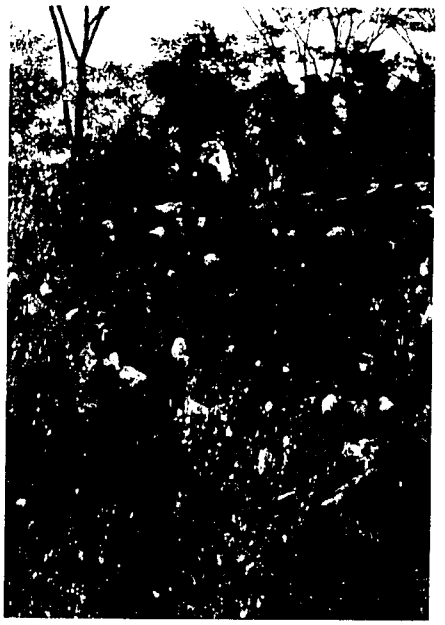
We were awarded a contract by the National Park Service of the U.S. Department of the Interior to develop materials for the Agency for International Development that will guide professionals stationed around the world in the design and implementation of environmentally sound range-related projects for tropical and semitropical areas. In this country, we were deeply involved in the creation of a national Grazing Lands Forum to bring together the diverse users of U.S. grazing resources.

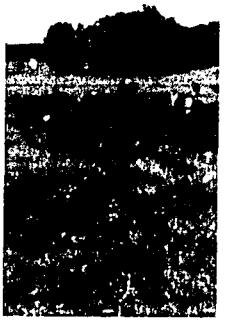
Our communications team produced a videotape on Arkansas' export livestock that is being shown at agricultural trade fairs overseas and to potential buyers visiting the state. A number of our field-level development projects have been extended or expanded.

These are only a few of our accomplishments in fiscal 1983. We remain committed to raising people's standard of living — improved nutrition, income, and employment opportunities — through animal agriculture.



R. O. Wheeler
President





Program Overview

Winrock International Livestock Research and Training Center, Inc., was created in 1975, two years after the death of Winthrop Rockefeller, a committed public servant and two-term governor of Arkansas. The institution is headquartered on Petit Jean Mountain in central Arkansas, where the Governor devoted 20 years to building his world-renowned livestock and crop operation, Winrock Farms. Winrock International has continued Rockefeller's commitment to agriculture and to improving the standard of living of rural people.

When Winrock International was created, livestock were under fire from some sectors as wasteful and a danger to limited world grain supplies. Convinced that livestock — and their relationship to agriculture in general — were not receiving research and investment attention in proportion to their potential for meeting human needs, Winrock International began its program by focusing on animal agriculture.

Animals are an integral part of the world agriculture system. In developing countries, crop residues and other feeds produced on crop/livestock farms are transformed into food, fiber, and traction power. (Over three-fourths of the total traction power is provided by draft animals.) And on grazing lands which account for over two-thirds of the agricultural land, ruminant livestock provide the only means to transform forages into products useful to man. In the United States, where livestock account for more than 50 percent of the total farm income, forages are the source of as much as 60 percent of livestock feed. Forages provide this high-quality feed while enhancing conservation on marginal lands.

Clearly, livestock are an important component in the food production system. But productivity from the livestock sector, especially in developing countries, is far below potential. For the potential to be realized, work needs to be done at all levels — from behind the farm gate to the halls of government.

The mission of Winrock International, a non-profit, publicly supported institution, is to advance animal agriculture for the benefit of people. Since Winrock's creation, the Winthrop Rockefeller Charitable Trust has provided extensive support to the institution. While that support continues, Winrock now receives more than 60 percent of its operating budget in the form of contracts, grants, and donations. The institution works in the United States, Latin America, Africa, and Asia to remove constraints at three levels — behind the farm gate in research and production; between the farm and the consumer in processing, marketing, and distribution; and at the level where policies are decided that affect the entire food system. Because Winrock believes that the private sector is best equipped to deal with the vital areas from processing to distribution, the institution seeks ways to involve that sector in the development process.

Winrock offers services — both long- and short-term — that fall into four general categories: farming systems research, institutional development, training and information, and policy research.

Farming Systems Research

It does little good to introduce livestock or improved livestock-management practices if a farmer's crop yields — often his mainstay — fall as a result. It is equally shortsighted for a farmer to implement management practices that, in the long run, deplete his natural resources. Farmers must have returns from their investments and the ecological balance must be preserved if the world is to be fed in the future. Through farming systems research, Winrock scientists look at the whole farming system, rather than at individual commodities, and study the interactions on the farm in order to develop management systems that make the best use of available resources, are profitable for producers, and are ecologically sustainable.

Institutional Development

Winrock provides a variety of institutional development services. In the United States where the agricultural research, education, and extension structures have been in place for more than a century, Winrock more often provides development services to smaller groups such as farmer cooperatives. In most developing countries, on the other hand, agricultural structures are not so firmly grounded. Winrock works with governments in efforts to establish research and extension programs and livestock multiplication and demonstration farms and assists private organizations and producer cooperatives in the development of their agriculture programs.

Training and Information

Building human resources through training and the extension of information is a key element in the development process. Winrock projects provide for academic and in-service training of indigenous project personnel to equip them with the skills and experience to develop and manage their own programs. Successful development programs also require that information be assembled and packaged for use by trainers and producers. Both producers and livestock specialists in the U.S. and overseas are given the opportunity to take part in Winrock-sponsored seminars and short-course training sessions. For both beginning and established farmers in the United States, Winrock has produced videotape series on livestock production and each year sponsors a week-long school at which livestock producers receive updates on the latest scientific and technological developments in production and management. In addition, Winrock provides information and technical services throughout the world to field workers with private voluntary agencies. In a number of Winrock projects, developing-country personnel are being supported in advanced-degree study in the U.S.

Policy Research

The value of development work is jeopardized if policies prevent farmers from obtaining production inputs, such as fertilizer or credit, or from selling or receiving a reasonable price for crops and livestock. Unsound policy attacks the very ability of nations to produce food for their people and threatens the economic health of individual farmers. Through Winrock International's policy activities, the institution seeks to document the effects of current policies on production and resources; to assess the potential effect of policy alternatives; and to inform the public and policymakers about issues of agriculture and development.

National Program

Through its National Program, Winrock works to help farmers produce high-quality food in ways that are efficient, economically viable, and ecologically sustainable. While the primary focus is on assisting family farmers in Arkansas and the South, a number of research and training projects encompass the entire United States. Services in the National Program are varied — including development of farming systems designed to increase income and protect natural resources, analyses of forestry and grazing-land resources, technical assistance to small producer cooperatives, and the training and transfer of technology to livestock producers.

Farming Systems/Agroforestry

Since early in Winrock's development, the institution has had interests in the relationship between livestock and the land base. One aspect of Winrock's work is agroforestry — the use of forested lands for the simultaneous production of food and wood products. Through agroforestry, farmers are provided the opportunity to diversify their operations, and to have an additional cash crop that encourages better management of forestlands. Another aspect is the analyses of the wider issues associated with the grazing lands in America. By making better use of the massive grazing land resource, producers can, among other things, reduce soil erosion on their marginal lands and reduce diseases through rotation schemes that include pastured livestock or raising forages.

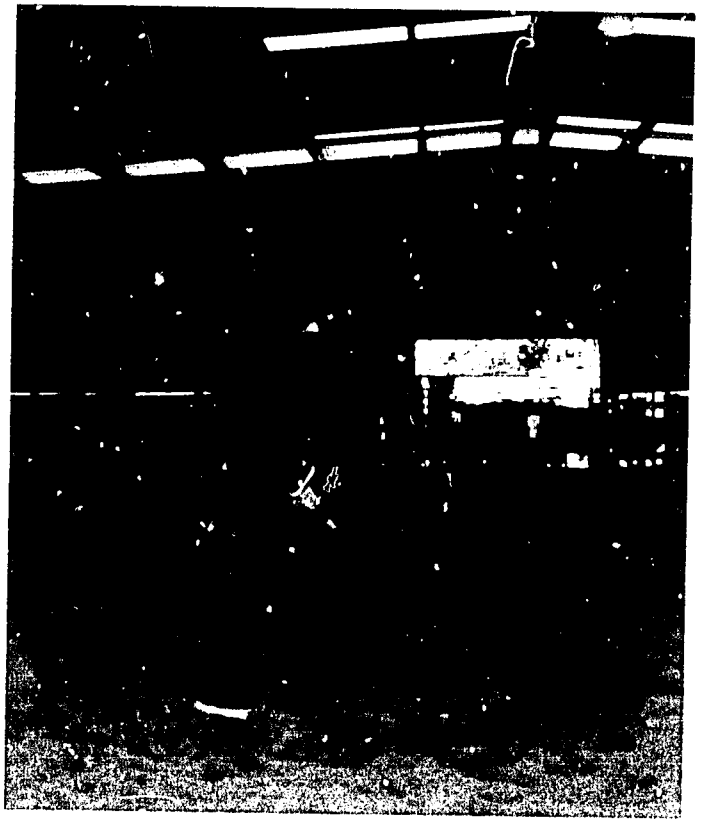
More than 800 million acres — one out of every three in the U.S. — are being managed as grazing lands. Another 400 million acres of forest, range, pasture, and cropland are grazed occasionally or could be grazed if the need should arise. Grazing lands occupy well over half of the total U.S. land area. Today, there is little chance of a shortage of grazing lands for U.S. producers, who rely on forage from these lands to supply well over 50 percent of the food for the ruminant livestock industry. But is there a plausible scenario in which the United States could experience major forage shortages in the next 25 years? And if there is, could anything be done to avert such a situation?

In a project initiated this year, Grazing Land Options, Winrock scientists (in cooperation with the U.S. Forest Service, the Soil Conservation Service, and the Economic Research Service of the U.S. Department of Agriculture) are surveying and analyzing the grazing-land resources in the United States and are asking those questions. If, for example, there were a world food shortage and U.S. farmers pulled out all stops to grain production, if gasohol production were to begin pulling more grain from the system, or if meat production were to increase dramatically, what would be the effect on the grazing-land resources? Of the 60 million acres now in pasture, for example, an estimated 60 million could be converted to crop production. And in the South, where the largest untapped grazing-land resources are found in the forestlands — along with the largest untapped wood-product resources — unpredicted shifts in grazing-land uses could put severe pressure on the land base.

In this project, scientists are studying, among other things, patterns and trends in land use and land capability to find out how much grazing land could realistically be converted to other uses. It would take many years to develop the potential of some of the U.S. grazing lands. Research into that potential, into management systems that allow multiple land use and into policies that protect or threaten current resource use, is essential if future needs are to be met.

Through another activity, the development of the Grazing Lands Forum, Winrock and others interested in U.S. grazing lands are seeking to bring together the diverse users of this vast resource. In 1983, representatives of 20 organizations and institutions interested in management and preservation of the resource met at Winrock International and formed the Grazing Lands Forum. The Forum is designed to lay the groundwork for a national organization to address issues affecting this country's one billion-acre grazing-land resource.

The Forum will operate for 18 months and during this time will establish a more permanent organization representing all concerned users of grazing lands. The permanent organization will focus on providing a reliable information base to educate the general public about the resource and to aid policymakers in making informed decisions on matters affecting grazing lands. Winrock has provided logistical and financial support in setting up the Grazing Lands Forum and serves as headquarters of the organization. A Winrock range ecologist currently serves as executive secretary of the Forum.



Marketing Livestock

When Winrock International began working with the Central States Dairy Goat Marketing Cooperative in 1979, the institution's focus was on providing technical assistance and training for production improvement and for strengthening the cooperative structure. The cooperative was composed of about 100 dairy goat producers in Arkansas, Missouri, Oklahoma, Louisiana, and Texas. As producers continued to upgrade their operations, Winrock's advisor and cooperative members began working together to develop markets for milk, meat, and live animals.

In 1983, the work with this cooperative began to take on a wider dimension. Cooperative members had begun selling live goats in the export market and, in an attempt to strengthen the export structure, met with other similarly concerned Arkansas livestock producers in January. Representatives of the dairy goat, beef cattle, dairy cattle, horse, swine, and rabbit industries met at Winrock to discuss options for organizing an export cooperative. One result of the meeting, sponsored in part by the Arkansas Industrial Development Commission (AIDC), was a decision to produce a videotape on Arkansas' export livestock that would be shown initially by the AIDC representative and a Winrock representative at the Colombian Agricultural Exposition in Bogotá last summer. That tape, produced by the Winrock video team, is a 20-minute review in Spanish of the high-quality livestock the state has available for export.

More than 500,000 people attended the Colombian exhibition and the Arkansas representatives passed out 15,000 brochures describing Arkansas livestock. The Council of Ozark Governors and several Arkansas livestock organizations joined Winrock and the AIDC in supporting development of the materials. Requests for copies of the videotape were received from individuals, vocational agriculture teachers, livestock producers, and university professors. The tape has been produced in English to show to Arkansas visitors.

Dairy goats from the cooperative have been sold in more than 20 countries in recent years. Thirty bucks from Arkansas were purchased to be used in the crossbreeding program in Winrock's Haiti Goat Production Project. Late in 1983, a group of Costa Rican producers and officials visited Winrock and finalized purchase of a shipment of dairy goats that will be used as the foundation for a goat-milk-cheese operation that is part of a diversification scheme in northern Costa Rica.

International Stockmen's School

As livestock production has become more competitive and as input costs have risen, producers have had to streamline their operations and integrate more technologically advanced equipment and methods. Winrock International, through annual sponsorship of the International Stockmen's School, has in recent years broadened its training services to include transfer of new information and technology to U.S. livestock producers.

Held each year in San Antonio, Texas, the International Stockmen's School gives producers of beef cattle, dairy cattle, sheep, goats, and horses the opportunity to hear about new developments from some of the world's leading scientists, agribusinessmen, and livestock producers. The School is the oldest of its type in America and in 1983 drew over 500 participants.

The School, like most of Winrock's activities, is a cooperative endeavor. A number of donors contribute to the operation of the school and support chairs and lectureships. Among the donors for the 1984 School are the Ewing Halsell Foundation, the Carl B. and Florence E. King Foundation, the American Breeders Service, and a number of individuals. Texas A&M University is providing assistance in planning and ranch tours; California State University at Fresno offers college credit for the course.

The four-day School features more than 200 lectures by 90 world-known producers, agribusinessmen, and scientists. Tours of area farm and ranch operations allow participants to see the latest technology put to work. In addition, the School offers horse-training clinics and demonstrations, a computer laboratory, and a video laboratory featuring Winrock International's tapes on the production of several species of livestock.

International Program

Through its International Program, Winrock works towards two primary ends. One is to help producers and their cooperatives improve their own well-being through better agricultural production. A second is to help establish and strengthen the national institutions through which developing-nation scientists and extension workers will serve farmers into the future. Winrock has project emphases in Latin America and the Caribbean, Africa, and Asia and is involved in projects with worldwide dimensions.

Winrock places a strong emphasis on crop-livestock systems, in which most of the world's livestock are raised, and on grazing systems. The institution has established special expertise in farming systems involving livestock in the tropics and semitropics. Activities in international projects are varied, with special attention to assisting local institutions in the development of their own agricultural programs and the training of staff to run these programs. Winrock is also involved in farming systems research and training of both field workers and farmers.

Technical and Informational Services

Most livestock in developing countries are kept on smallholder farms. Tens of thousands of representatives of private voluntary and development organizations and government institutions work at the field level with these smallholders on both agricultural and nonagricultural projects. Many of these workers do not have animal agriculture expertise, yet they are in daily contact with people who need assistance in maintaining the health and increasing the productivity of their livestock.

Two years ago, Winrock International received a matching grant from the U.S. Agency for International Development (USAID) Office of Private and Voluntary Cooperation to institute a project through which Winrock would offer a range of informational and technical services in animal agriculture to private voluntary organizations, government institutions, and small producer cooperatives. Through the project Winrock is becoming a clearinghouse for information on animals from cattle to honey bees -- and on three continents is offering training for workers and technical assistance in the planning, development, implementation, and review of projects with a livestock component. The aim of all project activities is to assist others in their efforts to develop the food production process and to enhance the earning capacity of rural communities through an improved animal agriculture component.

In 1983 Winrock released the first issues of "The Bulletin," a project newsletter designed to keep clients informed of services and abreast of technical information. A series of technical information fact sheets, known as "TechNotes," was developed. This series, published in English and in Spanish, features brief but in-depth discussions of topics related to livestock health and management. In the course of the three-year contract, Winrock will sponsor production workshops in Latin America, Africa, and Asia. The first, "Meat and Milk Production from Goats and Sheep in the Tropics," was held in Honduras in the autumn of 1983.

The information-services data bank developed as part of this project was expanded during the year to cover 57 countries with information on cattle, water buffalo, goats, sheep, swine, poultry, rabbits, and bees. Users of the data bank can be provided with country profiles that contain production data, research and development activities, lists of in-country or regional experts for consultancies, and a bibliography of production information.

Rangeland Management in Developing Countries

For many developing countries, rangelands represent important and productive resources that can play key roles in economic development. But despite substantial investment of both capital and human resources, many rangeland development efforts have been undermined by a lack of proper information and guidance. Crucial to the implementation of range projects that are ecologically sound and economically viable are the judgments of both USAID mission personnel and host-country counterparts who design or review development projects. But in the past there have been only limited numbers of agency and host-country personnel with specialties in environmental protection and natural resource management.

Winrock International, under contract from the Park Service of the U.S. Department of the Interior, began a project to assist USAID personnel and their counterparts in developing countries in designing and assessing development projects with a range component. The initial emphasis in the project will be on Africa. First in the series of materials that Winrock will prepare is a paper reviewing 1) range ecosystems; 2) traditional and nontraditional values and uses of the resources; 3) socioeconomic aspects of rangeland resource use; and 4) approaches to managing and improving the range resources to enhance a variety of natural, economic, and social values using existing scientific and management methods.

The project goal is to balance the long-term biological productivity of the resource with multiple uses such as food, fiber, and fuel production by providing to professionals tools with which to plan for resource protection and development.

Economics of Small Ruminant Production

Although biological research results often seem to hold great promise for improving smallholder welfare in many parts of the world, their potential adoption is often limited by economic constraints. Limited capital resources, perceived risks of the technologies, lack of critical inputs, government policy policies, and lack of markets or marked premiums for improved animals and animal products all serve to limit adoption of improved production systems.

A Winrock project that is part of the Title XII Small Ruminant Collaborative Research Support Program (SR-CRSP) addresses such problems. The Economics Project supports through economic research on small ruminant production and marketing systems the SR-CRSP efforts of nine U.S. universities working in four countries. In the process, the project is providing training for a cadre of researchers in Indonesia, Peru, Brazil, and Kenya. Winrock staff members and their families are posted full time at project sites in Brazil, Kenya, and Indonesia.

At all project locations, researchers have worked to characterize small-ruminant production systems to assist in the design and analysis of experiments that will help producers overcome constraints. On-farm experimentation has started at several sites in cooperation with researchers from other SR-CRSP disciplines.

The complexity of many of the issues being studied indicates that a strong training program to improve the research skills of cooperating scientists would pay off handsomely. In 1983 alone, nine people from four countries completed advanced degree work under the project. When the project is completed, participating countries will have a cadre of well-trained local scientists equipped to research a wide variety of economic problems in the production and marketing of small ruminants.

More details of the SR-CRSP economics project will be found in project descriptions that follow.

Latin America/Caribbean

Haiti: Goat Production

Haiti is one of the poorest countries in the Caribbean region. A majority of the country's population lives in rural areas, engaged in subsistence agriculture. Dual-purpose goats offer many benefits to producers, especially those with limited land and capital resources. Goats can provide protein-rich milk, especially needed by young children and nursing mothers, and can provide meat and supplemental income for the family. Currently, however, productivity from the goat sector in Haiti is below potential.

The low productivity in Haitian goat production can be attributed to many factors, among them the use of native goat stock that has low production potential, a lack of production-management systems that address farmers' needs and take optimum advantage of available resources, and a shortage of trained farmers and extension workers. Scientists working on Winrock's Haiti Goat Production Improvement Project, supported in part by the Arkansas Area United Methodist Church and in cooperation with the Haitian Ministry of Livestock Development, are in their second year of giving attention to these problems.

The project calls for development of an integrated management package that includes breeding, training, production systems, and marketing programs. This year the project imported 30 purebred bucks from the United States to breed with native goats. By mid-1984, the first crop of crossbred males will be distributed to area farmers, who will receive management supervision from Haitian advisors. The goal of the cross-breeding program is to introduce imported animals with traits for increased growth and milk production while retaining the hardiness and reproductive capacity of the local goats. Other aspects of the project are progressing on schedule — a survey of producers in the area has been completed; improved technologies are being identified and tested; and local project personnel and producers are being trained.

Trinidad/Tobago: Blenheim Sheep Station

Lamb and mutton are in great demand throughout the Caribbean, but as is the case with goats in the region, production is below demand and sheep meat must be imported. Hair sheep provide a good opportunity for producers in the area to increase their incomes, improve their nutrition, and at the same time contribute to national economic development by reducing dependence on imported mutton. These animals provide a low-investment, low-risk alternative food source that can use crop residues and other available feed resources.

Hair sheep have been on the islands of Trinidad and Tobago since the early days of colonization, but only in recent years has the government begun to place high priority on production. To address problems of low sheep productivity, the Government of Trinidad and Tobago several years ago established a sheep breeding, multiplication, and demonstration project.

In 1981, Winrock International, in cooperation with the Ministry of Agriculture, Lands, and Food Production, the Caribbean Agricultural Research and Development Institute, and the University of the West Indies, became involved in the project. The goals are to develop superior stocks of hair sheep for use in improvement of commercial sheep production on the islands and for export to other countries; to improve management and marketing systems; and to establish training programs to extend these practices to producers.

With the support of the Winrock advisor in Tobago, there have been many improvements in structures at the station and pastures have been rehabilitated. In addition, routine livestock management and record-keeping programs have been initiated. In 1981, the mortality rate of the station's January-February lamb crop exceeded 40 percent; by 1983 that rate had dropped below 10 percent. Existing local staff at the station have received extensive training and the station has aroused a great deal of interest in sheep production among the population of the island. A large number of visitors — including farmers, 4-H members, and Young Farmers Club members — have toured the station in the last year and many have taken part in one-day training courses on sheep production.

Technical Support in Program Planning

In addition to carrying out longer-term projects, Winrock International provided major technical assistance in 1983 in Latin America and the Caribbean in planning and evaluating agricultural projects. Work was carried out in Honduras for the U.S. Agency for International Development; in the Caribbean for the University of Florida, USAID, and the Caribbean Agricultural Research and Development Institute (CARDI); in Costa Rica for the Ministry of Agriculture; in Argentina for the Organization of American States; in Colombia for the World Bank and for Representaciones y Servicios Agropecuarios, S.A. (RESAGRO); and in Peru for the Title XII Collaborative Research Support Program.

Africa

Kenya: Dual-Purpose Goats

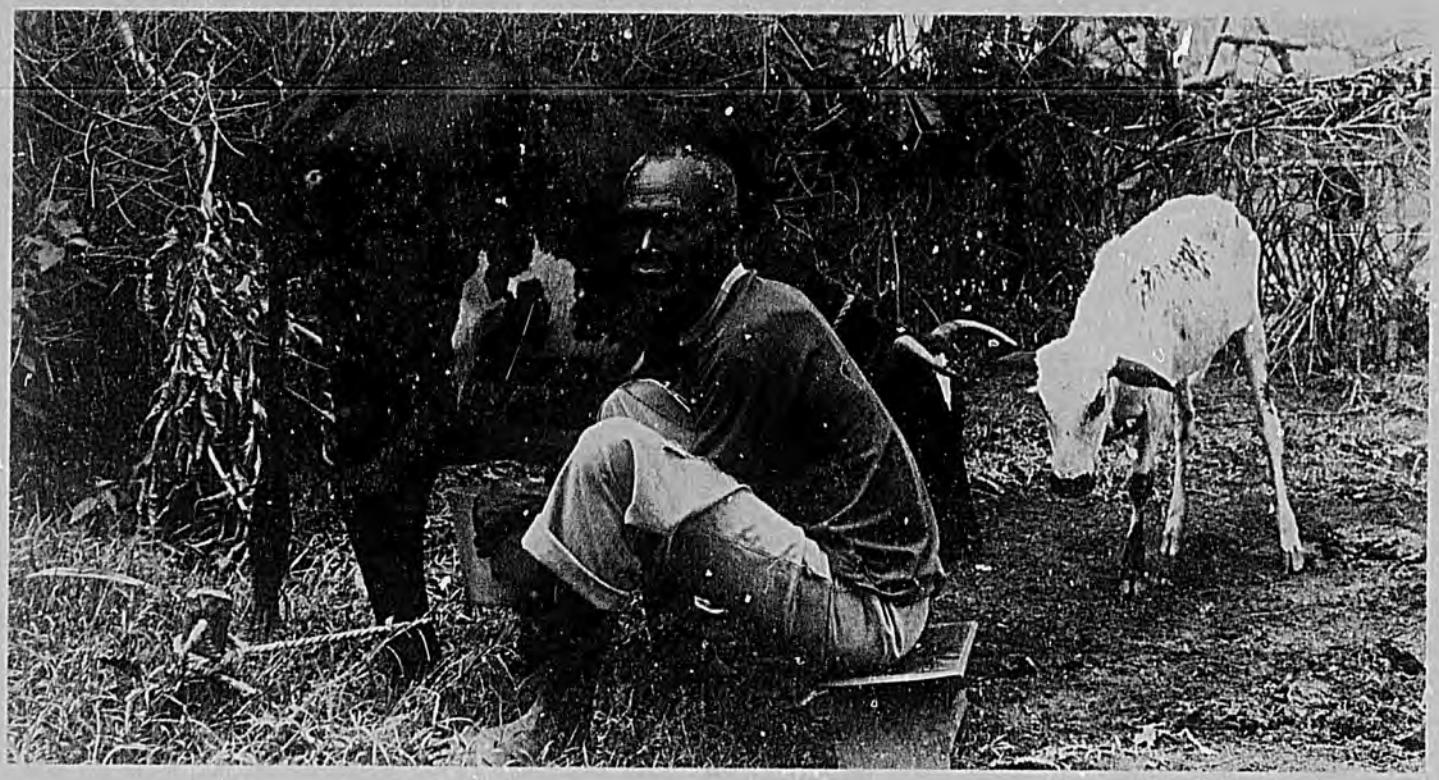
While 90 percent of the population of Kenya relies on agriculture for its livelihood, more than 75 percent of the country's land base is considered to have low agricultural potential. Much of the land with medium to high potential is in western Kenya where the average producer farms about four acres to support a family of eight. Population pressures and the accompanying stress on the land base are increasing, with more than half of the region's population under the age of 16; those pressures will continue.

In recent years the Government of Kenya, in its attempt to increase rural employment opportunities and food supplies, has strengthened its support of the small-ruminant sector. Farmers need low-investment, low-risk enterprises through which they can increase the protein available to their families and improve their incomes. Dual-purpose goats — raised for both meat and milk — offer such potential. Through the Title XII SR-CRSP, Winrock International, three U.S. universities, and the Ministry of Agriculture are collaborating to evaluate that potential through a dual-purpose goat project initiated in western Kenya three years ago. Winrock and the other institutions are developing and adapting production systems for farmers with limited capital and land resources. Research responsibilities include: University of Missouri, sociology; Texas A&M University, animal breeding and systems analysis; Washington State University, animal health; and Winrock International, economics, feed production, goat nutrition and management, and overall project integration.

Researchers have found that the principal constraint to goat production in western Kenya is inadequate feed production. To remove this constraint Winrock scientists are researching grazing and cropping systems to meet the nutritional needs of dual-purpose goats without reducing yields of food and cash crops. Results from research on all aspects of dual-purpose goat production in the region will be integrated into the design of alternative technology packages that will then be tested on farms of local cooperators. In one of the more encouraging studies completed during the year, researchers found that despite unfamiliarity with goat milk products and some religious strictures, consumers in the area were quite receptive to the products.

Kenya: Kiboko Range Research Program

Close to 80 percent of Kenya's land base is rural rangeland, unsuitable for cultivation or for intensive livestock production. Over 16 percent of Kenya's total population live on and derive their sustenance solely from these lands. In the past there has been no coordinated national program focused on range research and development, despite the fact that there is opportunity for increased productivity from these lands and a vital need to protect this vast resource.



Four years ago Winrock International, in cooperation with the Government of Kenya and USAID, undertook a project to establish a national range research station at the 75,000-acre Kiboko Research Station in southcentral Kenya. The overall goal is to develop range-livestock systems to protect and improve the rangelands and to increase the production of meat, milk, and fiber from livestock, goats, and wildlife. To meet this goal, the project calls for establishment of a viable national range research station staffed by highly trained Kenyan scientists and equipped to serve as guardian of the country's rangelands.

As the station's physical plant is being upgraded, the five Winrock scientists assigned to Kiboko are training personnel to man the station. A total of 18 Kenyans are being supported for advanced degree study in the United States (16 at Texas A&M University, and one each at New Mexico State University and Texas A&I University). As these trainees return, they are assuming responsibility for management of the station. While the trainees are in the United States, Kenyans with two-year or three-year agricultural degrees are receiving on-the-job training at Kiboko while serving as technical officers and assistants.

Thirty-seven research projects are under way at the station. The projects address problems of immediate and long-term concern to the people whose existence depends on the rangeland resource. Ranging from a duration of one year to 10 years, the projects cover various aspects of livestock and range management.

As station personnel gain experience and research is strengthened, vital linkages for the future are being established. Many institutions, organizations, and agencies are involved in research related to range management and range livestock production in Kenya. To assure a coordinated approach to solving the country's range problems and the transfer of technologies, a coordinating body known as the Range Research Coordinating Board has been established. The National Range Research Station at Kiboko was named as the coordinating institution. In addition, station personnel are initiating cooperative activities with other African and international organizations to bring even more resources to bear on these range problems.

In 1983, attention to pre-extension activities increased. The target audience of the station's work includes farmers and pastoralists of arid and semiarid rangelands, government agencies providing extension services, and policymakers in government dealing with livestock- and pastoral-related issues.

Technical Support in Program Planning

In fiscal 1983, Winrock provided short-term technical assistance to a number of African countries. For example, a four-person Winrock International team initiated a three-month study for the Government of Uganda and the World Bank to develop recommendations for the livestock component of an agricultural rehabilitation project. Another Winrock staff member developed a computer program and made recommendations for a fodder crop-production program for the Government of Kenya and the Food and Agriculture Organization of the United Nations.

Asia

Indonesia: Small Ruminant Research

Animals are an important component of the farming systems found in many regions of Indonesia. While the basic needs of most farmers and their families are met by food crops, animals often are the means by which the farmers accumulate cash, store capital, provide essential inputs such as traction power and manure, and provide high-quality food for the household. Small ruminants such as sheep and goats have many advantages in Indonesia: they are easy to raise and prolific, they can utilize marginal land and crop residues, maintenance costs are low, and there are ready markets. Despite these advantages, the small-ruminant population in Indonesia has not grown in the last 20 years.

Answers to questions such as why the small-ruminant population in Indonesia has remained stagnant are being sought by researchers with the Winrock SR-CRSP Economics Project. Bogor, Indonesia, is headquarters for the project, where the Winrock economist and local collaborators and technicians are working in conjunction with SR-CRSP projects in animal breeding, animal nutrition, and sociology.

Economics researchers have worked to characterize small-ruminant production systems to assist in the design and analysis of experiments that will help producers overcome constraints. Through weekly local meetings with producers, researchers in all disciplines have had the opportunity to test ideas and research results against the experience of farmers.

Among the objectives of the economics project are 1) characterization of small-ruminant production and marketing systems to assist in the identification of productivity levels and resource use; 2) development of appropriate economic methodologies for analysis of traditional and improved production systems; 3) development of institutional capacity within the Research Institute for Animal Production in Bogor through formal and on-the-job training, research planning, and professional meetings; and 4) completion of policy-oriented studies to identify pricing, marketing, and investment needs to spur technological change.

Work done in the first years of the project has helped in the identification of the important constraints to expanding small-ruminant numbers and productivity and has allowed subsequent fieldwork to focus on very specific types of problems, such as low reproduction rates. It is clear from studies done to date that small ruminant research will have the greatest impact on landless and subsistence farmers.

In the course of the economics project, two Indonesians have completed master's programs and one has completed a Ph.D. program. On-the-job training has been provided to the research associates working in Bogor as well as short-course and seminar training in language, writing, data analysis, survey design and analysis, and socioeconomic research techniques.

Technical Support in Program Planning

Winrock activities in Asia in 1983 included short-term technical assistance and consultancies and a collaborative effort in training middle-level professional social scientists. Technical assistance was provided to a joint USAID/World Bank project preparation mission — in cooperation with the Government of Indonesia — dealing with watershed improvement programs in that country. Winrock was also involved in World Bank livestock sector studies carried out in cooperation with the governments of Korea and Indonesia.

A major Winrock effort in Asia during the year was the joint sponsorship of a Training Workshop on Social Science Research for Livestock Production in Asia in which Winrock collaborated with the International Development Research Center, the Agricultural Development Council, and Kasetsart University in Bangkok, Thailand. Winrock's collaborative efforts with the Sichuan Provincial Bureau of Animal Husbandry in China moved ahead in 1983. A major report describing the livestock industries in the province was completed and sponsorship was secured for a visit to the United States in early 1984 for a team of Chinese agricultural scientists.

Public Policy Research Program

Because of the intimate connection between public policy and agricultural production, Winrock International maintains a strong Public Policy Research Program in the United States. Winrock has been involved in projects designed to help policymakers set priorities for research and development and to inform the public and policymakers about agricultural issues. Winrock is now working in developing countries to achieve the same ends. And the major studies of the world food system, Winrock has continued to provide reliable information to decisionmakers in government, agriculture, business, and development.

Global Food Situation

Monitoring the global food situation so that planners in government, business, and development may better understand what is happening in the present and what is likely to happen in the future is extremely important. In late 1983, Winrock released results of a massive two year study that examined the fundamental forces that drive the world food system and developed broad outlines of how that system might evolve over the next decade.

While researchers concluded that the world will be able to feed its much larger population in 1993 marginally better than at the end of the 1970s, they also pointed out a number of potential problems. Among the concerns:

- Food deficits will intensify in some regions and while most can be overcome by greater trade, two areas are "economic and social time bombs." Sub-Saharan Africa, with population growth rates climbing faster than food production rates, will need massive amounts of food aid in this decade. In Latin America, where many countries are heavily in debt, slower economic growth is forecast. With populations that have become used to relatively high standards of living, the austerity measures that may be required could increase social turmoil in the region.
- The gap between food-exporting and food-importing nations will continue to grow; greater volumes of trade will be necessary to feed the world population; and competition in the world food market environment will heighten.
- The world's resources are expected to be sufficient to enable production to meet growing demand, but more and more those increases in production will have to come from better yields — not expanded acreages. There is promise, especially in developing countries where yields are far below those of the developed nations, that research can provide some answers, but investments in research take years before there are returns.

Before release of the final report, Winrock and the Wye-Aspen Institute convened leading strategists and planners in business and finance, government, international trade, food and development assistance, technology development and transfer, and agricultural production to look at the findings and their implications. This Food, Water, and Climate Forum, underwritten by the ARCO Foundation, was the first of an annual forum that will focus on issues of world agriculture. The Winrock global report will be updated each year and will serve as a base for discussions at the forum.

Food Strategy for Developing Countries

Many developing countries are looking to national food and agriculture policies that will free them from dependence on foreign sources of food supplies. Designing such policies requires in-depth analyses of current and potential policies and their effects on agricultural production. It also requires that estimates be made of future supplies and demand for import and export products. Through Winrock's Food Strategy Project, funded by the Rural Institutions Division of USAID, researchers are determining the feasibility of developing a general framework for identifying and evaluating national food policies addressed to food self-reliance.

Honduras is the subject of the first case study being conducted in this project in cooperation with USAID and the Honduran public and private sector. Analysis thus far has included: 1) examination of the long-term global market outlook for food commodities presently and potentially important to Honduras; 2) identification and assessment of the current problems in Honduran food and agriculture and assessment of previous and current policies to determine their effectiveness; 3) establishment of criteria for and development of a short list of practical and politically feasible food policy options with emphasis on those that would concurrently enhance development of the private sector; and 4) identification of the major constraints to effective implementation of alternative policies.

Honduras: Agricultural Development

In 1982, Winrock President Richard Wheeler was named to head a Presidential Agricultural Mission to Honduras. At the request of Honduran president Suazo Cordova, the team reviewed that country's agricultural policies and the state of technology on small- and medium-sized farms and then recommended ways to improve the agricultural production and marketing system. A bilateral commission was later named to assist USAID in implementing some of the recommendations. In 1983, Winrock was awarded a two-year Indefinite Quantity Contract by USAID to assist Honduras in implementing the recommendations of the Presidential Mission.

In this project, Winrock is enlisting the aid of a number of U.S. institutions and corporations to address the specific areas emphasized in the mission report. Those areas include agricultural credit, forestry investment promotion and agricultural diversification, human resources, livestock, research and extension, public agricultural sector organization, natural resources, basic grains, and agrarian reform.

Communications Program

Winrock International's communications staff provides support services to the institution and serves as team members in the development and implementation of a wide array of Winrock projects. Institutional support includes design and preparation of training materials and preparation of slides, videotapes, computerized material, and technical and nontechnical publications. In addition, the staff designs and implements outside projects related to Winrock's mission.

Kerr Brucellosis Project

For decades, brucellosis, a reproductive disease of cattle, has plagued U.S. livestock producers and caused lower milk production, weight loss, and abortions in cattle. The Winrock International communications staff is collaborating with the Kerr Foundation to inform livestock producers and dealers about brucellosis related research being conducted at the Livestock Health Research Center in Hugo, Oklahoma. The Center was established in 1983 by the Kerr Foundation in cooperation with Oklahoma State University and the Agricultural Research Service of USDA. Researchers are studying vaccines and developing information that will further assist producers in Oklahoma and other states with their efforts to eradicate brucellosis. A videotape documentation of early research at the station and a variety of printed materials are being prepared by the Winrock staff.

Sheep and Dairy Goat Data Bases

When beginning livestock producers have specific questions on production matters, they are often hard pressed to find quick answers. The Control Data Corporation (CDC) has developed a computerized information system that addresses this problem through its capability of accessing specific subject matter. The system will be available to producers, extension agents, universities and similar groups. Several years ago CDC awarded a grant to Winrock International to research and develop materials for a sheep data base for this system.

The project, completed in 1983, involved the collection and distillation of sheep production data that was organized into essential, short pieces of information that could be called up individually to answer specific questions or studied in groups to provide background on different aspects of production. During 1983, Winrock was asked to develop similar materials for dairy goat producers. At the end of the year, the 1,000-unit dairy goat data base was near completion.

Meat Goat Project

Most goat producers in Central America and the Caribbean are limited-resource farmers with small land holdings. Management is often minimal and the result is low productivity. With improved goat husbandry practices, productivity could be increased, thereby increasing the amount of meat and milk available for home consumption by the farm family and providing additional income for the farmer.

Winrock International, under a grant from the Control Data Corporation, is designing and developing a training program intended to increase domestic meat goat production in the Central American and Caribbean tropics by improving goat husbandry and farm management skills of limited-resource producers. The training will be directed to two audiences, first, to livestock and extension officers and other agricultural trainers who work closely with small- and medium-scale farmers and, second, to the farmers themselves.

The training packages will include videotapes and printed text. For farmers, live demonstration and hands-on practice will be built into the design of the packages.

Conference Center

Bringing people together to exchange ideas is central to the communication process that supports development. Providing the impetus to meet and the environment in which ideas can become actions are the primary goals of the Winrock International Conference Center. Winrock's conference program was designed to continue Governor Rockefeller's commitment to open communication and cooperative development. By bringing together people who would not normally meet, Winrock builds bridges between institutions and individuals whose collaboration can strengthen agricultural and rural development.

In Conference Center programming, Winrock emphasizes such areas as agricultural development, transportation, industrial growth, natural resource use, technical training, and education. In fiscal 1983, the Center hosted 52 conferences involving 1120 participants and entertained hundreds of agricultural, scientific, and political leaders from around the world.

Winrock's determination to serve the people of Arkansas is reflected in the conference program. For example, one long-term effort is in developing a public-private transit model for six rural communities in central Arkansas. The program is designed to creatively address rural transportation needs of the area. In its continuing commitment to education and to agriculture, Winrock has begun a project in collaboration with the Office of the U.S. Secretary of Agriculture, the Arkansas State Council on Economic Education, and the Illinois Council on Economic Education. Arkansas and Illinois participants are taking the lead nationwide in designing a contemporary curriculum for grades K-12 on the economics of the national and international food and fiber system.

In fiscal 1983 the Winrock Conference Center was the site of conferences, festivals, workshops, and competitions touching many aspects of rural life, including a Winrock-Arkansas Industrial Development Commission livestock export conference; the Petit Jean Art Song Festival; Olympics of the Mind State Competition; an Arkansas Intergenerational Project meeting; and a series of retreats for trustees, chancellors, financial officers, and staff of components of the University of Arkansas system.

The Conference Center furthers Winrock's work in the national and international arena as well. The Food, Water, and Climate Forum, sponsored jointly by Winrock and the Wye-Aspen Institute and held in Washington, D.C., in the autumn of 1983 is just one example. The forum was held before the release of the Winrock report "World Agriculture: Review and Prospects into the 1990s." In the spirit of collaboration and discussion on which the Center is based, this forum convened public and private-sector strategists and planners to consider implications of the report's findings.

Meetings of national significance hosted by Winrock on Petit Jean Mountain during the year included conferences of the World Hunger Task Force and the Grazing Lands Forum; workshops on the Ozark-St. Francis National Forest and on the economics of the food and fiber system; and meetings of such organizations as the National Association of Gifted and Talented Children. In addition to hosting a large number of international scientists, agricultural producers, and government officials, Winrock was the site for Title XII Small Ruminant-Collaborative Support Program workshops and evaluation panels.

Partners

Winrock International seldom works alone in its programs. Instead it works collaboratively with a great many institutions around the world: universities and federal agencies, regional and international research centers, host countries and their institutions, and the donor agencies that provide major support for program activities.

Winrock International now has collaborative working agreements with ten universities and four consortia in the United States to utilize their agricultural staff and undergraduate and graduate schools in the planning and implementation of field projects and to train local personnel to staff these programs. In turn, these universities utilize the full-time staff and organizational resources of Winrock International in the development and implementation of field projects. Winrock also collaborates with U.S. government agencies on research and assessment of forest and grazing lands and other agricultural projects.

The international and regional research centers are vital partners in developing country projects. Winrock collaborates with the Centro Internacional de Agricultura Tropical (CIAT), Centro Internacional de Mejoramiento de Maiz y Trigo (CIMMYT), International Livestock Centre for Africa (ILCA), and other international agricultural research centers. Winrock works closely with the Caribbean Agricultural Research and Development Institution (CARDI) and the Centro Agronómico Tropical de Investigación y Enseñanza (CATIE) in the development of farming-systems research.

Host countries and their institutions are vitally important partners. They are the providers of the major resources required for projects, and they are the direct recipients of Winrock technical assistance. Winrock now has field projects in ten host countries.

Many public and private agencies provide the external support to implement projects in host countries and the United States. The USAID continues to provide major funding for projects in developing countries. Other support is provided by the World Bank, the Organization of American States, and by the host governments involved.

U.S. foundations and religious organizations also have been steady partners with Winrock International in development. The Winthrop Rockefeller Foundation in Arkansas, the Kerr Foundation in Oklahoma, and the King and Halsell Foundations in Texas have supported Winrock's training, production, and public-awareness projects in this country. Through support of the Haiti Goat Production Improvement Project, members of the Arkansas United Methodist Church have become personally involved with agricultural development while contributing to a project that is helping to relieve hunger in that country. The location of the Heifer Project International livestock farm in central Arkansas and its focus on providing quality animals for distribution to small-scale producers have made for a natural partnership with Winrock on many projects.

In 1983, Winrock International staff members authored or edited numerous journal articles, proceedings, reports, and books related to animal agriculture. The publications described below are only a sample of Winrock's releases during the year. A full list of Winrock International publications is available on request.

World Agriculture: Review and Prospects into the 1990s

A review of the current global food and agriculture situation and a look into the decade ahead, this publication analyzes consumption, production, and trade patterns for 12 regions of the world. The focus is on basic foods, particularly grains, consumed directly through food grains or indirectly through livestock products.

Beef Cattle Science Handbook, Vol. 20
Dairy Science Handbook, Vol. 16
Stud Manager's Handbook, Vol. 19
Sheep and Goat Handbook, Vol. 4

These handbooks, edited by Frank Baker, contain texts of all the papers presented at the 1984 International Stockmen's School. Each volume contains material on the latest developments in research and management, presented by leading researchers and producers in the fields specified.

Management of Southern U.S. Farms for Livestock Grazing and Timber Production on Forested Farmlands and Associated Pasture and Range Lands

This study of the interrelationships between forestry and agriculture in the southern United States, written by E. K. Bjyington et al., is one product of a cooperative agreement between Winrock and three services of the U.S. Department of Agriculture.

Goat Health Handbook

A field guide, written by veterinarian Thomas R. Thedford, for livestock producers with limited veterinary services, this handbook was produced as part of a technical services project in cooperation with the USAID Office of Private and Voluntary Cooperation.

Ovejas de Pelo del Africa Occidental y de las Americas — Resumen Descriptivo

A summary in Spanish of the Winrock publication *Hair Sheep of Western Africa and the Americas: A Genetic Resource for the Tropics*, published in 1982 and edited by H. A. Fitzhugh and G. E. Bradford.

Sheep Pens for Ewe and Me

This handbook on design of sheep-handling facilities was written by Dick Newton for producers with limited resources and or limited experience.

Bibliography of International Literature on Goats

Coordinated by Beth Henderson and H. A. Fitzhugh and produced with support from the Title XII Small Ruminant-Collaborative Research Support Program, this bibliography contains over 3900 references, indexed by breed, agroeconomic region, country, and topic.

Winrock International Staff

The following staff list includes all program personnel at Winrock International during 1983. Not included are the names of program support staff who provide secretarial, word processing, accounting, conference coordination and library services and the institutional support staff who provide meals and maintain the Winrock facilities and grounds. Their quality work enables the program personnel to focus their full attention on technical matters.

Richard O. Wheeler, Ph.D.
President

Ned S. Raun, Ph.D.
Vice President, Programs

Frank H. Baker, Ph.D.
Director, International Livestock Center

Melissa D. Beck, B.S.
Communications Specialist

Richard H. Bernsten, Ph.D.
Agricultural Economist

Dan Brown, Ph.D.
Regional Coordinator

Donald Burzlaff, Ph.D.
Chief of Party, Forestry Research

Evert K. Byington, Ph.D.
Regional Director

R. Dennis Child, Ph.D.
Research Specialist

John De Boer, Ph.D.
Program Officer, Asia

Henry A. Fitzhugh, Ph.D.
Program Officer
Latin America and Caribbean

Edwin Geers, M.S.
Financial Planning Officer

Will Getz, Ph.D.
Agronomist

Gary M. Greene, M.B.A.
Controller

Sara K. Guthrie, M.B.A.
Agricultural Economist

Nestor Gutierrez, Ph.D.
Agricultural Economist

Richard M. Hansen, Ph.D.
Range Management Specialist

Robert D. Hart, Ph.D.
Agronomist

Wayne Hinerman, B.S.
Computer Specialist

R. Katherine Jones, B.S.
Publications Editor

Hendrik C. Knipscheer, Ph.D.
Agricultural Economist

Clarence H. Mannasmith, D.V.M.
Veterinarian

Andres Martinez, Ph.D.
Animal Scientist

Mason E. Miller, Ph.D.
Communications Officer

Adrian W. Mukhebi, Ph.D.
Agricultural Economist

Richard Newton
Livestock Specialist

Joan Newton
Librarian

William A. Polk, AIA
Coordinating Architect

J. F. Moses Onim, Ph.D.
Agronomist

Jo Ann Pryor, B.A.
Communications Specialist

Sandra L. Russo, Ph.D.
Agronomist

Paul W. Schumacher, B.S.
Training Specialist

Jerry E. Scott, B.S.
Operations Officer

Susan A. Sechler, B.A.
Assistant to the President

Ahmed E. Sidahmed, Ph.D.
Animal Scientist

Jon M. Skovlin, M.S.
Range Water and Vegetation Specialist

Randall H. Smith
Communications Specialist

David L. Whittington, Ph.D.
Range Livestock Specialist

Edward L. Williams, M.B.A.
Development Officer

Preston Woodruff, B.A.
Finance & Administration Officer

Jim A. Yazman, Ph.D.
Animal Scientist

Kenneth B. Young, Ph.D.
Agricultural Economist

Research Associates

John R. Abruzzese, M.S.
Forester

Sherieda Bender, B.S.
Data Base Specialist

Richard Sellers, M.S.
Animal Scientist

Research Assistants

Paula Gerstmann, B.S.
Animal Scientist

Beth Henderson, B.A.
Research Specialist

James A. Peden, B.S.
Computer Programming Technician

General Services Administration

Patty Allison
Secretarial Services Coordinator

Hazel LaCook
Senior Guest Administrator

George Turner
Physical Plant Supervisor

Winrock International Board of Directors

Winrock International is governed by a board of distinguished leaders in the private and public sectors, the international development, public service, livestock production, academic, and corporate communities. Four members completed their appointments and rotated off the board in fiscal 1983: Harry W. Knight, President of Hillsboro Associates, Inc., New York; Salvador Mayorga Carneros of Mexico; Gerald Thomas, President of New Mexico State University, and Carl H. Tiedemann of Tiedemann Kaiser Partners, New York.

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President
Rockefeller Brothers Fund
New York, New York

Vice-Chairman
Marion B. Burton
Little Rock, Arkansas

Vice-Chairman
John A. Pino
Agricultural & Forestry Development Division
Inter-American Development Bank
Washington, D.C.

Henry L. Bellmon
Redrock, Oklahoma

Norman E. Borlaug
Centro Internacional de Mejoramiento de Maiz y Trigo
Londres 40, Mexico

William Brown
Chairman of the Board
Pioneer Hi-Bred International, Inc.
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Newport, Arkansas

Max Milam
Little Rock, Arkansas

William K. Reilly
President
The Conservation Foundation
Washington, D.C.

Winthrop P. Rockefeller
Little Rock, Arkansas

W. J. (Dub) Waldrip
General Manager
Spade Ranches
Lubbock, Texas

Walter Orr Roberts
University Corporation for Atmospheric Research
Boulder, Colorado

Richard O. Wheeler
President
Winrock International
Morrilton, Arkansas

Legal Counsel
Fred H. Harrison
Little Rock, Arkansas

Edward J. P. Zimmerman
New York, New York

Report of Independent Accountants

To the Board of Directors of
Winrock International Livestock Research and Training Center, Inc.

In our opinion, the accompanying balance sheet and the related statements of revenues and expenses and capital additions (deductions), of changes in fund balance, of changes in financial position and of functional expenses present fairly the financial position of Winrock International Livestock Research and Training Center, Inc. at September 30, 1983 and 1982, and the results of its operations and the changes in its financial position for the periods then ended, in conformity with generally accepted accounting principles consistently applied. Our examinations of these statements were made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

Little Rock, Arkansas
November 26, 1983, except as to Note 6,
which is as of February 1, 1984

Price Waterhouse

Winrock International
Balance Sheet

	September 30, 1983	September 30, 1982
ASSETS		
Current assets:		
Cash, including time deposits	$ 169,300	$ 112,200
Accounts receivable	374,000	404,100
Interest and dividends receivable	166,100	162,000
Prepaid expenses	1,000	8,600
Total current assets	710,400	686,900
Investments, at market (Note 2)	17,936,000	14,807,700
Property and equipment, net (Notes 3, 4, 5 and 6)	2,177,800	1,537,500
	$20,824,200	$17,032,100
LIABILITIES AND FUND BALANCE		
Current liabilities:		
Current portion of long-term debt (Note 3)	$ 53,900	$ 46,100
Accounts payable	70,900	93,600
Accrued liabilities	165,200	157,400
Deferred revenue (Note 4)	286,900	78,400
Total current liabilities	576,900	375,500
Long-term debt (Note 3)	125,000	163,200
Fund balance:		
Unrestricted	839,200	1,230,100
Restricted	19,283,100	15,213,300
	20,122,300	16,493,400
	$20,824,200	$17,032,100

The accompanying notes are an integral part of these financial statements.

Winrock International
Statement of Revenues and Expenses
And Capital Additions (Deductions)

	Year ended September 30, 1983	Ten months ended September 30, 1982
Revenues: —		
Contributions (Note 5)	$1,682,300	$ 926,200
Program service		
National	150,700	297,700
International	1,688,400	1,542,500
Public policy	19,100	55,500
Investment income:		
Dividends	312,500	309,300
Interest	1,032,200	787,700
Other	138,800	190,700
Total revenues	5,024,000	4,109,600
Expenses: —		
Program services:		
National	568,400	550,800
International	3,378,300	2,406,300
Public policy	432,000	384,000
Supporting services:		
Administrative	304,300	269,900
General support	781,900	396,500
Total expenses	5,464,900	4,007,500
Excess (deficiency) of revenues over expenses before capital additions (deductions)	(440,900)	102,100
Capital additions (deductions):		
Distribution from Winthrop Rockefeller Charitable Trust (Note 2)	1,000,000	2,500,000
Increase (decrease) in carrying value of investments, net	2,649,100	(101,200)
Gain (loss) on sale of investments, net (Note 5)	420,700	(810,400)
Net capital additions	4,069,800	1,588,400
Excess (deficiency) of revenue over expenses after capital additions (deductions)	$3,628,900	$1,690,500

Statement of Changes in Fund Balance

	Components of Fund Balance		
	Unrestricted	Restricted	Total
Balance at November 30, 1981	$1,178,000	$13,624,900	$14,802,900
Excess (deficiency) of revenue over expenses after capital additions (deductions)	102,100	1,588,400	1,690,500
Balance at September 30, 1982	1,280,100	15,213,300	16,493,400
Excess (deficiency) of revenue over expenses after capital additions (deductions)	(440,900)	4,069,800	3,628,900
Balance at September 30, 1983	$ 839,200	$19,283,100	$20,122,300

The accompanying notes are an integral part of these financial statements.

Winrock International
Statement of Changes in Financial Position

	Year ended September 30, 1983	Ten months ended September 30, 1982
Cash was provided by:		
Excess deficiency of revenue over expenses before capital additions (deductions)	$(440,900)	$ 102,100
Capital additions, net	4,069,800	1,588,400
Excess (deficiency) of revenue over expenses after capital additions (deductions)	3,628,900	1,690,500
Add (deduct) items not affecting cash:		
(Increase) decrease in market value of investments	(2,649,100)	101,200
Depreciation	165,000	108,300
Gain on sale of assets	(9,500)	
(Increase) decrease in accounts receivable	30,100	(75,800)
(increase) decrease in interest and dividends receivable	(4,100)	6,800
(Increase) decrease in prepaid expenses	7,600	31,600
Increase (decrease) in accounts payable	(22,700)	20,600
Increase in accrued liabilities	7,800	17,000
Increase (decrease) in deferred revenues	208,500	(42,800)
Cash provided from operations	1,362,500	1,857,400
Proceeds from sale of assets	57,400	
Proceeds from borrowings	37,500	144,100
Total	1,457,400	2,001,500
Cash was used for:		
Increase in investments, at cost	479,200	1,447,800
Acquisition of property and equipment	853,200	487,200
Reduction of long-term debt	67,900	22,800
Total	1,400,300	1,957,800
Increase in cash	57,100	43,700
Cash at beginning of year	112,200	68,500
Cash at end of year	$ 169,300	$ 112,200

The accompanying notes are an integral part of these financial statements.

Winrock International
Statement of Functional Expenses

	Program Services			Supporting Services			
	National	International	Public Policy	Administrative	General Support	Year ended Sept. 30, 1983	Ten months ended Sept. 30, 1982*
Direct salaries	$196,300	$1,066,700	$ 58,200	$196,100	$648,100	$2,165,400	$1,682,100
Fringe benefits and allowances	35,000	251,000	10,500	34,500	113,500	444,500	325,400
Professional services	57,600	262,300	191,300	108,500	106,100	725,800	532,000
Travel	31,400	301,900	16,000	63,000	3,400	415,700	318,100
Office expense and supplies	11,000	71,700	30,100	11,500	49,500	173,800	98,300
Education and training	9,500	282,100	1,100	4,200	1,000	297,900	266,300
Leases, rents and utilities	4,600	28,400	4,100	1,500	211,000	249,600	225,200
Maintenance and repair	7,000	92,900	3,900	1,900	144,800	250,500	229,800
Schools and institutes	—	289,500	—	—	—	289,500	—
Administrative expense	2,700	4,100	400	26,600	27,800	61,600	33,200
Miscellaneous	15,300	18,200	4,200	5,900	68,000	111,600	148,500
Reimbursed capital expenditures	19,000	82,700	—	7,200	5,100	114,000	40,300
Depreciation	—	—	—	—	165,000	165,000	108,300
Interdepartment charge	66,900	34,600	1,700	24,500	(127,700)	—	—
Sub-total	456,300	2,786,100	321,500	485,400	1,415,600	5,464,900	—
Allocation of supporting services	112,100	592,200	110,500	(181,100)	(633,700)	—	—
Total, year ended September 30, 1983	$568,400	$3,378,300	$432,000	$304,300	$781,900	$5,464,900	
Total, ten months ended September 30, 1982	$550,800	$2,406,300	$384,000	$269,900	$396,500		$4,007,500

Reclassified for comparative purposes.

The accompanying notes are an integral part of these financial statements.

Winrock International Notes to Financial Statements

NOTE 1 — Organization and summary of significant accounting policies:

Organization

Winrock International Livestock Research and Training Center, Inc. (Winrock International) was incorporated under the Arkansas Nonprofit Corporation Act on May 15, 1975. During 1982, Winrock International changed its fiscal year-end from November 30 to September 30.

The primary objective of Winrock International is to conduct national, international, and public policy programs which encompass agricultural research and training activities. These programs are supported by Winrock International's administrative offices and staff and by other general supporting services. Programs and supporting services are funded primarily by investment income on endowments received from the Winthrop Rockefeller Charitable Trust.

Investments

Investment assets are recorded at fair market value based upon last reported sales prices on or about the last business day of the fiscal year. Changes in unrealized appreciation (depreciation) of investment assets are reflected currently in capital additions (deductions.)

Investment transactions are recorded on trade date (date purchased or sold), gains and losses are reflected currently as capital additions (deductions).

Property and equipment

Significant property and equipment purchases are capitalized and recorded at cost. Depreciation is computed using the straight-line method, based upon estimated useful lives (40 years for depreciable real property, 3-10 years for other property and equipment).

Capital contributions

Winrock international is funded primarily by endowments of cash and marketable securities from the Winthrop Rockefeller Charitable Trust. Winrock International has full rights to any investment income and may market and reinvest the securities; however, it must maintain, available for refund, the cash and securities received or obtained through reinvestment. Trustees of the Charitable Trust have retained this right of refund, on demand, until such time as the trustees are discharged of any further responsibility with respect to the Estate of the late Mr. Winthrop Rockefeller. Management does not anticipate being required to return endowments; accordingly, distributions from the estate have been recognized as capital contributions.

Revenues

Contributions are considered to be available for general use unless specifically restricted by the donor. Contributions restricted to use for specific purposes are recorded as revenue when the related expenditures are made in accordance with restrictions.

Revenues from program services are recorded when earned. Advance payments for program services are recorded as deferred revenue until the applicable expenses are incurred.

Investment income earned from endowments which is available for unrestricted use is recorded as revenue when earned.

Expenses

The costs of providing program and supporting services have been summarized on a functional basis in the statement of revenues and expenses. Certain costs, including maintenance of Winrock International's headquarters and conference center, have been allocated to respective program services and administration of operations and summarized in the statement of functional expenses.

Income taxes

Winrock International is a publicly supported organization exempt from income taxation under Section 501(c)(3) of the Internal Revenue Code; accordingly, there is no provision for income taxes in the accompanying financial statements.

Donated services

Donated services having measurable value are included in other income and salary expense. Services having a measurable value of $56,300 were donated during the ten months ended September 30, 1982.

NOTE 2 — Investments:

Investments at market value are comprised of the following:

	September 30, 1983	September 30, 1982
Cash equivalents	$ 3,555,900	$ 1,960,100
U.S. government obligations	1,669,700	3,143,400
Corporate bonds	1,144,300	3,339,700
Corporate stocks	8,675,900	4,456,800
Investments in limited partnerships (Note 5)	2,890,200	1,907,700
	$17,936,000	$14,807,700

The market value at date of receipt of contributed securities and the cost of purchased securities at September 30, 1983, and September 30, 1982, total $15,614,300 and $15,135,100, respectively.

Since November, 1977, Winrock International has received six partial distributions of its $16.0 million aggregate endowment from the Winthrop Rockefeller Charitable Trust. Distributions received in the 1983 and 1982 fiscal periods consisted of cash and marketable securities which aggregated $1,000,000 and $2,500,000, respectively. Based on consultation with the trustees of the Charitable Trust, management expects to receive additional endowment grants of cash, marketable securities and real and personal property (Notes 4 and 6). These future endowments will be recognized as capital contributions when received and, accordingly, have not been reflected in the accompanying financial statements.

NOTE 3 — Debt:

Long-term debt is comprised of the following:

	September 30, 1983	September 30, 1982
8.75% bank loan, payable at $167 monthly, including interest, through September, 1991, secured by land and dwelling at Petit Jean Mountain, Arkansas	$ 11,400	$ 12,300
8.75% bank loan, payable at $240 monthly, including interest, through January, 2005, secured by land and dwelling at Greenbrier,		

Arkansas, assumed by a third party in 1983		28,200
17% equipment vendor loan, payable at $3,166 monthly, including interest, through July, 1987, secured by equipment purchased	106,500	122,800
10%-16% loans from various equipment vendors, payable in monthly installments, including interest, with varying maturity dates through July, 1985, secured by equipment purchased	61,000	46,000
	178,900	209,300
Less portion due within one year	53,900	46,100
	$125,000	$163,200

NOTE 4 — Property and equipment:

Property and equipment is comprised of the following:

	September 30,	
	1983	1982
Land	$ 10,000	$ 16,500
Buildings	1,488,200	926,900
Equipment	656,300	544,100
Furniture and fixtures	453,500	355,500
	2,608,000	1,843,000
Less accumulated depreciation	430,200	305,500
	$2,177,800	$1,537,500

During fiscal 1983, Winrock International received grants totalling $960,000 from the Winthrop Rockefeller Charitable Trust for restoring, renovating and remodeling the facilities of Winrock International. Revenue related to these grants is recognized in the fiscal periods when the related expenditures are incurred (Note 1). During fiscal 1983, Winrock International made expenditures of $750,000 from these grants to improve its facilities, accordingly, $750,000 has been recognized as revenue and the recognition of $210,000 of the grant has been deferred.

Winrock International is permitted to use and is charged with maintaining certain real and personal property on Petit Jean Mountain near Morrilton, Arkansas, owned by the Estate of Winthrop Rockefeller (Note 5). During fiscal 1983, the Estate conveyed property and equipment valued at $32,300 to Winrock International. These property transfers are included in 1983 revenues. Management anticipates that title to the real properties will be conveyed to Winrock International which will record them as assets at that time (Note 6).

NOTE 5 — Related party transactions:

Winrock International maintains business relationships with other entities directly or indirectly related to Winrock International. Transactions with such related parties consist primarily of investment management and advisory services.

During fiscal 1982, Winrock International invested $2,000,000 in a limited partnership in which a director of Winrock International, whose term expired in fiscal 1983, is a general partner. Winrock International's investment in the limited partnership is summarized as follows:

Original investment	$2,000,000
Net realized losses on investments	(613,500)
Adjusted cost at September 30, 1982	1,386,500
Net realized losses on investments	(421,700)
Adjusted cost at September 30, 1983	$ 964,800

The fair market value of Winrock International's partnership interest at September 30, 1983 and 1982, was $2,241,000 and $1,486,100, respectively. Realized losses and the changes in fair market value of the partnership interest have been reflected as capital contributions or deductions (Note 1).

Investment advisory services are provided to Winrock International by an organization related to the Estate of the late Mr. Winthrop Rockefeller and the Winthrop Rockefeller Charitable Trust. Transactions with this party, in the opinion of management, are in the ordinary course of business of executing investment decisions made by the Board of Directors through its Investment Committee. At September 30, 1983 and 1982, Winrock International maintained an investment of approximately $500,000 in a limited partnership sponsored by the Rockefeller-related Company.

In addition to capital contributions and other grants from its benefactor, the Winthrop Rockefeller Charitable Trust (Notes 2 and 4), Winrock International received revenue from the Charitable Trust aggregating $782,200 and $750,000 during the periods ended September 30, 1983 and 1932, respectively. During the period ended September 30, 1983 and 1982, Winrock International received contributions aggregating $56,500 and $42,000, respectively, from other organizations related to the late Mr. Winthrop Rockefeller and his estate which have been recorded as revenue.

Winrock International is permitted to use certain properties owned by the Estate of Winthrop Rockefeller (Notes 4 and 6). No objective determination can be made on the value of such services and no amounts are included in the accompanying financial statements for Winrock International's use of the properties.

NOTE 6 — Subsequent events:

Since inception, Winrock International has been permitted to use and has been charged with maintaining certain real and personal property owned by the Estate of Winthrop Rockefeller. During fiscal 1983, certain personal property was conveyed from the Estate to Winrock International (Note 4). Subsequent to the end of Winrock International's fiscal year, the Estate conveyed title to certain real property from the Estate to Winrock International. The real property consists of approximately 217 acres of land, various conference and office facilities, dwellings and improvements. Management has estimated the total value of the property at approximately $5.6 million; however, some of these improvements were constructed by Winrock International over the past several years. During fiscal 1984, the fair value of the assets conveyed will be determined and recorded as revenues. The assets will be depreciated over their estimated useful lives (approximately 30-40 years) where appropriate.

In addition to receiving the real property, Winrock International plans to acquire, improve and operate the existing water system for use by Winrock International and the other current users. Acquisition costs and capital improvements are expected to aggregate approximately $750,000. The cost of the system and its operation will be charged to its users on the basis of water consumption.

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