CROSS-POLLINATION:

INTER-ORGANIZATIONAL LEARNING

IN KENYAN TREE-PLANTING PROGRAMS

by

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ABSTRACT

Development assistance organizations working on the same problems in the same region have much to learn from each other's experiences. This preliminary analysis examines inter-organizational learning, as part of a larger study of organizational learning in development assistance. A comparative analysis of tree-planting programs in Kenya found that most formal mechanisms to foster inter-organizational learning achieved only limited success. It is argued that the failures of these mechanisms can be ascribed to their reliance on the participation of program managers, who lack the time, resources, or incentives to participate beyond a superficial level. However, the analysis also reveals that a great deal of information and expertise is shared among these organizations in informal ways, through collegial networks and cooperation among extension staffs. It is recommended that formal mechanisms for inter-organizational learning be adjusted to reflect their limitations, and that informal mechanisms be recognized and encouraged.

INTRODUCTION

The literature is full of admonitions that development assistance[1] organizations should work together, share information, and learn from each other's experiences. In practice this is rarely achieved. Some organizations reinvent defective wheels, repeating the mistakes that defeated their predecessors. Others end up working in relative isolation, either unaware or uninterested in the parallel activities of others. Why? What interferes with the ability of development assistance organizations working on the same problem, in the same region, to learn from each other?

To gain a better understanding of the process of organizational learning, I conducted a comparative analysis of the experiences of five community-level tree-planting programs in Kenya.[2] Part of this study has been an attempt to identify the problems and possibilities of inter-organizational learning. This paper offers some preliminary findings from that investigation.

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[1] The term "development assistance organization" is used to refer to any public or private, international, national, or local organization concerned with promoting development.

[2] Community level forestry refers to any effort involving tree-planting outside gazetted forests, on communal, public, or private land, for individual, community, or commercial use. Trees can be planted in the marginal lands surrounding churches, schools, and homesteads, or along public roadsides or in a farm management system known as agroforestry in which woody vegetation is integrated with food and livestock production.

I. PROJECT OVERVIEW

In recent years, many development assistance organizations have tried to focus their efforts on "participatory" development[3] -- small-scale, decentralized, integrated programs that rely on participation by diverse members of a community in program design and implementation[4] and emphasize equity, empowerment, capacity and sustainability. Participatory development has proved extremely difficult to implement.[5] Traditional institutions and program procedures were not well suited to this new kind of development, and virtually every program encounters a host of unforeseen institutional, economic, political, and social obstacles that are difficult to diagnose, and even more difficult to overcome.

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[3] See Coralie Bryant and Louise White, Managing Rural Development: Peasant Participation in Rural Development (Boulder: Westview Press, 1981); Guy Gran, Development by People (New York: Praeger Publishers, 1983); David C. Korten and Rudi Klauss, ed., People-Centered Development (Hartford: Kumarian Press, 1984).

[4] Uphoff, Cohen and Goldsmith, Feasibility and Application of Rural Development Participation. (Ithaca: Cornell University Press, 1979); John Cohen and Norman Uphoff, "Participations Place in Rural Development: Seeking Clarity through Specificity." World Development Vol. 8 1980 (p. 213-35); _____, "Rural Development Participation: Concepts and Measures for Project Design, Implementation and Evaluation." Rural Development Monograph No. 2. Center for International Studies, Cornell University, Ithaca 1977; David Korten and Norman Uphoff, "Bureaucratic Reorientation for Participatory Rural Development," NASPAA Working Papers, National Association of Schools of Public Affairs and Administration, Washington 1981; Alan Fowler, "Rural Development Participation: Rationale and Application," CARE Workshop (Kisumu, February 1986).

[5] See Robert Chambers, Managing Rural Development: Ideas and Experiences from East Africa. (Uppsala: Scandinavian Institute of African Studies, 1974; Dennis A. Rondinelli (ed.) Planning Development Projects (Dowden, Huchinson and Ross, 1977); Uma Lele, "Designing Rural Development Programs: Lessons from Past Experience in Kenya," Discussion Paper No. 213, Institute for Development Studies, University of Nairobi (December 1974).

It is now apparent that participatory development will be successful only if organizations can develop a capacity to learn from their experiences and from the experiences of others, both predecessors and contemporaries.[6] As Clark and Johnston have concluded: "Development strategy should include an explicit emphasis on 'learning how to learn' from the actual experiences of development and thereby how to contribute more effectively to a continuing process of adaptive implementation and policy redesign."[7] The goal of this study is to identify the mechanisms of organizational learning, and the factors in program design and implementation that facilitate, or hinder, the learning process.

A. Background

To analyze how organizations actually learn, I have undertaken a comparative study of several tree-planting programs in Kenya. The problems of participatory development have proven to be especially persistent in tree-planting efforts. Tree-planting offers many benefits -- rehabilitating the environment, reducing labor demands, and ensuring a renewable supply of

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[6] David Korten, "Community Organization and Rural Development: A Learning Process Approach," Public Administration Review, 1980; Lane Holdcroft, "The Rise and Fall of Community Development in Developing Countries 1950-1965: A Critical Analysis and an Annotated Bibliography." MSU Rural Development Paper No. 2 (Department of Agricultural Economics, MSU)(1978); Albert Waterston, Development Planning: Lessons of Experience (Baltimore: Johns Hopkins University Press, 1965); Robert Chambers, "Planning for Rural Areas in East Africa: Experience and Prescriptions," in Leonard Rural Administration in Kenya. (Nairobi: East Africa Literature Bureau, 1973) 14-38; Vernon Ruttan, "Assistance to Expand Agricultural Production," World Development Vol. 14, No. 1, p. 57.

[7] Bruce Johnston and William Clark, Redesigning Rural Development: A Strategic Perspective (Baltimore: Johns Hopkins University Press, 1982) p. 4.

readily accessible biomass resources for multiple commercial and domestic uses. Yet programmes to encourage tree-planting are beset by a broad range of obstacles, including traditional beliefs about land and tree tenure, the transition of forest products from free resources to commodities in the commercial economy, and historical rivalries among government ministries.[8]

Kenya faces a critical loss of biomass resources.[9] The fuelwood demand in Kenya is expected to increase 3.6 percent per year until 2000, charcoal demand by 4.7 percent. Total wood supplies will have to increase by

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[8] For a complete review of the obstacles to successful community-level forestry projects, see: Sara Hoagland, "Organizational Learning in Development Assistance: A Comparative Analysis of Six Tree-Planting Projects in Kenya: A Research Proposal," Institute for Development Studies Working Paper No. 439 (Nairobi: June 1986) pp. 8-15; Dennis Wood, et al., "The Socioeconomic Context of Fuelwood Use in Small Rural Communities," USAID Special Evaluation Study No. 1, Bureau for Program and Policy Coordination (Washington, D.C. 1980); Ben Wisner, "Social Factors Affecting Fuelwood Planning in Kenya: Basic Needs in Conflict, Preliminary Field Report," Beijer Institute, Ministry of Energy Fuelwood Project (Nairobi: November 1981); Lori Ann Thrupp, "Women, Wood and Work, the Imperative for Equity in Overcoming a Deeper Energy Crisis," Institute for Development Studies (Draft, 1983); Diane Rocheleau, "Women, Trees and Tenure: Implications for Agroforestry Research and Development," International Council for Research in Agroforestry (Nairobi: May 1985); Marilyn Hoskins, "Women in Forestry for Local Community Development: A Programming Guide," in B.C. Lewis, ed., Invisible Farmers: Women and the Crisis in Agriculture (Washington, D.C: USAID, April 1981); Margaret Skutch, "Why People Don't Plant Trees," (1983 mimeo); J. Burley, "Obstacles to Tree Planting in Arid and Semi-Arid Lands: Comparative Studies from India and Kenya.' United Nations University (Tokyo: 1982); M. Cernea, ed., Putting People First: Sociological Variables in Development Projects (United Kingdom: Oxford University Press, 1984).

[9] Energy and Development in Kenya: Opportunities and Constraints Royal Swedish Academy of Sciences, The Scandinavian Institute of African Studies 1984 (Report contains the summary findings of the Beijer Institute's Kenya Fuelwood Cycle Study, which catalogues the dimensions of the problem).

75 percent to meet this demand.[10] In order to preserve present standards of living, and especially to meet future development objectives, Kenyans must now plant the trees they will need to supply their fuel, fruits and fodder, building poles, medicines and dyes. In response, scores of international, national, and local organizations have begun sponsoring community-level tree-planting programs.[11] Kenya thus offers a wealth of experience in tree-planting efforts. It is the site of several innovative programs that demonstrate progress towards successful participatory development.

B. Thesis Methodology

To identify and analyze the mechanisms of organizational learning, I have selected the comparative case study methodology. Through the study and description of program experiences, case studies afford the best means of discovering the dynamics and complexity of processes such as organizational learning.[12] For this reason, there is a growing recognition of the value of

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[10] Rutger Engelhard, "The Origins and Development of the Kenya Woodfuel Development Programme," Working Paper No. 1, The Beijer Institute, Nairobi (October 1984) p. 1.

[11] Winston Mathu, "A Directory of Organizations Working on Tree Planting and Woodfuel Conservation in Kenya," Kenya Renewable Energy Development Project/Ministry of Energy (1985).

[12] I. Lakotos, "History of Science and Rational Reconstruction," Boston Studies in the Philosophy of Science, Vol. 8, R. Buele and R. Cohen eds. Dordrecht Holland D. Rudel Publishing Co. 1971 (cited in Johnston and Clark, 1982, p. 29).

case studies, particularly in analysis of development assistance.[13] Through a comparative analysis, it should be possible to make broader generalizations.

The research was divided into five phases: library research in the United States and Kenya; selection of Kenyan case studies; reconstruction of program evolutions through an analysis of program documents supplemented by extensive interviews of program staffs; program site obervations; and, finally, data analysis.

Because community-level tree-planting presents problems in both the natural and the social sciences, a multidisciplinary approach is required.[14] A broad-ranging literature review was undertaken to identify the problems encountered by tree-planting programs and other participatory development efforts, with particular reference to the dynamics of these

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[13] David J. Murray, "The Importance of the Case Study Method," in Adebayo Adedeji and Goran Hyden, Developing Research in African Administration: Some Methodological Issues. Management and Administration Series, No. 4, (Nairobi: East African Literature Bureau, 1974) p. 21. For examples of other research in this area relying on case studies, see: Duncan Miller (ed.) Studies on Rural Development, Vol. 1, Studies in Project Design, Implementation and Evaluation, Development Center of the Organization for Economic Cooperation and Development (Paris 1980); Kenneth Ruddle and Dennis Rondinelli, Transforming Natural Resources for Human Development: A Resource Systems Framework for Development Policy (United Nations University, 1983) (calls for case studies of development projects); Bruce Greenshields and Margot A. Bellamy (eds.), Rural Development: Growth and Inequity, International Association of Agricultural Economists (Gower Publishing Co., 1983) (collection of case studies on agricultural innovation, equity, and energy); Louis J. Goodman and Ralph Ngalata Love (eds.), Management of Development Projects: An International Case Study Approach (Pergamon Press, 1979).

[14] For a full account of why community-level forestry requires multi-disciplinary research see International Development Research Centre, "Importance of Social Forestry in the African Environment: An IDRC View," presented at World Commission on Environment and Development Hearing, Ottawa (May 27, 1986).

factors in Kenya, and to determine what was known about organizational learning, and project design, implementation, and evaluation. After reviewing the community-level forestry[15] programs in Kenya, I found that several promising programs, representing a range of national, international and non-governmental organizations (NGO's) were operating in Nyanza Province, one of the areas most severely affected by the loss of biomass resources.[16] I selected five of these programs for my case studies: the Beijer Institute's Kenya Fuelwood Development Programme (KWDP);[17] the USAID/Ministry of Energy and Regional Planning's Kenya Renewable Energy Development Project (KREDP); the CARE Agroforestry Extension Project; the Green Belt Movement, sponsored by the National Council of Women in Kenya; and the Rural Afforestation Extension Scheme (RAES) of the Ministry of Environment and Natural Resources.

I studied the history of each program from its initial conceptualization through program design, implementation, and, where appropriate, evaluation. My analysis began with the program literature, such as proposals, interim reports, evaluations, extension staff reports, research findings, training manuals, and workshop proceedings. Supplementing this information with interviews of program staffs, I sought to assemble a complete account of the

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[15] There is no consensus on a proper term for this new kind of forestry. As explained in note 2, I will use the term community-level forestry, but others have used social forestry, community forestry, rural forestry, and forestry for local community development.

[16] Phil O'Keefe and Don Sharakow, "Fuelwood in Kenya: The Possibility for Agroforestry Centers," Beijer 1980 p. 12 (States that Kakamega, Siaya, and South Nyanza are the districts with the worst fuelwood scarcity).

[17] Data are still being collected on the KWDP; therefore, it will not be included in this preliminary analysis.

program's creation and implementation to discover how the program was developed, the efforts made to address the problems that had plagued previous programs, and the process by which new problems were confronted or ignored.

To gain some perspective on the information obtained from program documents and staff interviews, and to gain an understanding of the dynamics of the working relationships among the program managers, their field staffs, government officials, and program participants, I visited several sites for each program. I accompanied field workers on their visits to participating schools, women's groups, and individual farms to witness their extension strategies in practice.

By analyzing all this information, I will assess the evolution of program design and implementation strategies, the successes and setbacks of each program, and the process by which each organization identified, diagnosed, and responded to the obstacles it encountered. From this analysis, I hope to be able to offer policy recommendations about how organizations can learn to design and implement more effective community-level tree planting.

C. Methodological Note

While collecting my data, three methodological constraints emerged. First, I discovered that, while the obstacles each organization encountered could be readily ascertained through a combination of written documentation and interviews, discovering how the problems were identified, and how they were diagnosed, proved far more elusive. The institutional recollection of these processes was generally weak. For implementing agencies, the mandate is to deliver a service, or a new technology. One finds in the documentation discussions of problems and the solutions adopted, with little mention of the

process by which the solutions were devised. These processes had to be reconstructed and often the collective memory of several staff people was required to create a complete picture of the decision.

The second problem was the disparity in documentation among the selected programs. While KREDP had hundreds of relevant documents, providing a record of virtually every transaction, communication, and decision, the Green Belt Movement had only a few formal documents, with most communications from the field as yet unprocessed. Here again I had to rely on interviews with program personnel to fill in the gaps.

A third and related problem was uneven access to program documents and personnel. Trying to get inside an organization to see how it works, or doesn't work, understandably makes some managers uneasy and, in any case, requires valuable staff time. Moreover, even when management had given their full support, some staff members were reluctant to reveal problems with their program. And lastly, some implementers are skeptical of yet another academic whom they perceive as second-guessing their work. Despite these factors, most of the organizations were very open. All cooperated and most gave freely of their time. Two allowed me complete access to their files, including letters, budgets, internal memoranda, and minutes of staff meetings.

II. INTER-ORGANIZATIONAL LEARNING

A. Paper Rationale

Theoretically, development assistance organizations should be able to work together, sharing responsibilities and expertise. The literature is full of calls for inter-organizational collaboration: "Institutions can help each other in many ways: by exchanging information and training materials, organizing common research, course design and staff training programs, establishing joint service for special purposes, and consulting each other regularly on matters of common interest. If such cooperation exists, expertise built up in one institution can quickly be passed on to other partners."[18] In practice, however, the realities of program administration often frustrate attempts to foster inter-organizational collaboration.

Despite the importance of the problem, there is little relevant literature. While there is frequent mention of the need to coordinate and numerous description of the havoc created when organizations fail to do so,[19] I found little discussion of the constraints to their

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[18] ILO, Effective Managers for Development, The Management Development Programme of the ILO (Geneva, N.D.) p. 7.

[19] Robert Merton, "Bureaucratic Structure and Personality," in Robert Merton, et al, Reader in Bureaucracy (Glenco: The Free Press, 1952) pp. 361-371; Milton Esman, Administration and Development in Malaysia (Ithaca: Cornell University Press, 1972) p. 291; Charles Taylor, "Management of the Project Environment," in Radoserich, Raymond, and Taylor, Project Management: An Integrated Approach to Project Planning and Implementation (Vanderbilt University, February 1974); C. Gertzel, "Administrative Reform in Kenya and Zambia" and A. Bbdel Hamid, "Delegation," in Anthony Riveyemanu and Goran Hyden, A Decade of Public Administration in Africa, (Nairobi: Kenya Literature

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collaboration,[20] and nothing that analyzed how organizations learn from each other. It is hoped that this research will help to fill that void.

Through an examination of four tree-planting programs, several patterns emerge from which tentative conclusions can be made about the nature of inter-organizational learning and the most promising opportunities for collaboration.

B. Methodological Note for this Paper

The primary problem in any investigation of inter-organizational learning is that so much is undocumented. Phone calls, friendships, random site visits -- all informal means of communication between groups are elusive and yet play a central role in how organizations learn from each other. Consequently, workshop proceedings, extension reports, and committee meeting minutes had to be supplemented with interviews and site visits.

(continued from previous page)

Bureau, 1975); Alan Fowler, "Managing the Project Actors," CARE Workshop (February 1986) (p. 3); Tom Penfold and Glen Norcliffe (eds.) Development Planning in Kenya: Essays on the Planning Process and Policy Issues, Geographical Monograph No. 9, York University, Alkinson College, 1980; Goran Hyden, No Shortcuts to Progress: African Development Management in Perspective (Nairobi: Heineman, 1983).

[20] Op cit., Chambers, 1973, 1983.

C. Program Descriptions

All of the programs studied here have similar goals and use extension services as the basic means of promoting tree-planting.[21] They have all undergone significant evolution in their strategies, which will be analysed in the broader study. Describing these programs in only a few pages does none of them justice.

1. Rural Afforestation Extension Scheme (RAES)

The Rural Afforestation Extension Scheme (RAES) is a branch of the Forest Department, under the Ministry of Environment and Natural Resources. It was launched in 1971, to complement the Department's Industrial Plantations Programme.

The primary focus of RAES is to promote tree planting outside gazetted forest reserves. At the national level, RAES is responsible for the direction and coordination of extension services and the procurement and distribution of nursery materials to both RAES nurseries and NGO nurseries. The RAES

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21 For a discussion of the Diagnostic and Design Strategy used by CARE, see John Raintree, "An Introduction to Agroforestry Diagnosis and Design," ICRAF, (Nairobi: September 1986); Diane Rocheleau, "Land Use Planning with Rural Farm Households and Communities: Participatory Agroforestry Research," presented to the Workshop on the Role of Sociologists and Anthropologists in Farming Systems Research (Lusaka, 1984); Remko Vonk, "CARE-Kenya Agroforestry Extension Project," Presented at ICRAF, July 30, 1985 (p. 2). For a discussion of the Training and Visit Strategy, see "Extension," Rural Forestry, No. 3, 1985 (p. 3); "The Training and Visit System of Extension," Rural Forestry, No. 6, April 1986 (p. 6); D. Bower et al., "1984 Agricultural Extension: The Training and Visit System." (Washington, D.C: World Bank, 1984). For a discussion of the strategy used by the Green Belt Movement, see Wangari Maathai, The Green Belt Movement (Nairobi: General Printers Ltd.) pp. 25-59.

extension service now has District Forest Extension Officers placed in all 41 districts. The District Forest Extension Officers are supposed to:[22]

1. Help local Kenyan groups and institutions to establish and maintain small nurseries to raise seedlings for member farms;
2. Provide technical assistance in the selection of appropriate species for multiple uses in particular agro-climatic zones;
3. Raise seedlings for sale or occasionally for free distribution;
4. Demonstrate agroforestry systems;
5. Serve as an information exchange and referral center.

There is a plan to extend the scheme by appointing Divisional Extension Forest Officers (123 now placed) and, eventually, to employ Forest Extension Workers at the location and sublocation levels.

In the past 15 years, RAES has established 167 nurseries with an annual production of 54 million seedlings. It currently employs 2,964 people. Due to severe budgetary constraints, however, RAES has been unable to meet many of its objectives. A $7 million grant from the Swiss government and the World Bank is designed to strengthen RAES capabilities through a four-year institution-building program. It is hoped that this grant will help improve management and technical training, information management, headquarters facilities, extension housing, nursery supplies, public education, curriculum development, and staff mobility, a crippling problem now.[23]

Historically, RAES has learned little from other tree-planting programs. In recent years, however, RAES has initiated some efforts to increase collaboration and information with other organizations. For example, in 1985, it started a newsletter, Rural Forestry, as a forum for information exchange. And, in 1986, it sponsored its first "Field Day," at its Kitale

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[22] RAES, "Rural Afforestation Extension Service," Forestry Department, Ministry of Environment and Natural Resources, 1986.

[23] RAES, "Kenya Third Forestry Project: Technical Assistance for Rural Tree Development by the Government of Switzerland."

nursery, to foster cooperation among the several programs working in that area.[24]

2. CARE/Kenya Agroforestry Extension Project (CARE)

CARE is an international relief and development agency operating in 40 countries.[25] Its Kenya Agroforestry Extension Project was launched in July 1983, with a 3-year $900,000 grant from the Canadian Government.[26] The program operates in Siaya and South Nyanza Districts with plans to expand, dependent upon the activities of other tree-planting groups in the Province and the approval of its counterpart agency, the Ministry of Environment and Natural Resources.[27] The program's primary objectives are:[28]

1. To establish an effective team of CARE-Kenya employed agroforestry development facilitators;
2. To establish an effective working relationship with government field agents, especially the Forest Department's RAES;
3. To establish a system of local participation through local nurseries to supply tree products for household needs;
4. To develop skills and awareness among the farming community to enable them to propagate appropriate agroforestry species independently;
5. To ensure local seed supplies;
6. To develop with farmers appropriate agroforestry farm management plans through both direct contact and off-farm group contacts;
7. To create awareness about the linkages between environmental preservation, renewable energy and agroforestry.(52)

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[24] A.H. Chavangi, "Kitale RAES Field Day, A Rural Afforestation Promotion Activity," Prepared for first RAES-organized Field Day at Kitale RAES Nursery, 5 April 1986 (Nairobi: March 1986).

[25] Op. cit., Mathu, p. 52.

[26] Louise Buck, "Agroforestry Extension Project Proposal, FY 1984-1986," CARE-Kenya, Nairobi 1983 (p. 1).

[27] Remko Vonk, Project Manager, CARE-Kenya Agroforestry Extension Project. Interview, April 28, 1986, Kisumu.

[28] Op. Cit., Buck (1983) (p. 6).

CARE's strategy involves the training of a team of Field Officers who are posted throughout a district. Each field officer is given a vehicle, and is in charge of training and supervising 3-10 extension workers, selected from the local area, who operate on bicycles (weather permitting). The current staff includes 7 Field Officers and 45 Extension Workers who help local community groups and schools to establish nurseries.[29] Their extension strategy has proven extremely successful and is now used as a model for other development efforts. The initial target of 150 nurseries by 1986 has been far surpassed; 449 nurseries had been established by the end of the long rains this year, and hundreds of farmers have begun experimenting with agroforestry.[30]

One of CARE's initial goals was to foster "the increased capability of CARE-Kenya to meaningfully and effectively participate with other concerned organizations in the implementation of programs designed to provide assistance in the areas of agroforestry or renewable natural resources."[31] Although CARE works closely with the MENR, its formal collaboration with other NGO's has been limited,in part because its offices are in Kisumu (most of the other programmes are headquartered in Nairobi). Nevertheless, CARE is sharing a great deal of its experience with other groups through more informal channels -- participating in staff training programs and cooperating in the field.

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[29] Remko Vonk, Project Manager, CARE-Kenya Agroforestry Extension Project. Interview, May 2, 1986, Kisumu.

[30] KENGO, Minutes of July 11, 1986, Technical Committee on Agroforestry Meeting, held at KREDP.

[31] Remko Vonk, "Multi-Year Plan, FY 1987-89, Agroforestry Extension Project," CARE-Kenya (January 1986) (p. 5).

3. The Greenbelt Movement

The Green Belt Movement evolved from an urban beautification campaign in the 1970's to a nationwide tree-planting program in the 1980's, founded by the National Council of Women in Kenya, with the primary aim of raising public awareness of the importance of environmental rehabilitation to Kenya's development goals. The group's activities now concentrate on the establishment of community woodlands of at least 1,000 trees. The Movement is funded by multiple local and foreign donors, including Mobil Oil, the Danish Voluntary Fund, the Environmental Liaison Center, the Canadian and West German Embassies, NORAD, the Spirit of Stockholm Foundation, and countless individuals.

The Movement's objectives are broad, including goals of improving the status of women and curbing rural-to-urban migration. Specific goals include:[32]

1. To promote agroforestry;
2. To generate income for women;
3. To promote self-sufficiency in woodfuel;
4. To halt the deforestation of catchment areas;
5. To promote effective management of crop and grazing lands.

The Movement is administered by a small staff, mostly volunteers, headquartered in Nairobi. Local women's groups, church groups, schools, and individual farmers are assisted in efforts to provide the seedlings necessary to establish greenbelts. Women raise seedlings that are then distributed to nearby institutions free of charge. Later, the women are paid 10 cents for each surviving exotic seedling, and 50 cents for each surviving indigenous seedling. The Movement has employed over 200 people in rural areas to assist

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[32] Wangari Maathai, The Green Belt Movement (Nairobi: 1985).

groups and report to headquarters so that nursery materials can be distributed and payments made.[33]

The Green Belt Movement is widely recognized for its success in promoting national awareness of the need to rehabilitate the environment through the planting of trees. The Movement's tree-planting efforts, however, have been plagued by an inability effectively to monitor and manage the field operations from Nairobi. As Professor Wangari Maathai, the leader of the Green Belt Movement, has argued that: "The management problems can be traced to both a lack of funds which restricts staff, transportation, office equipment, and the lack of a sense of honesty and accountability on the part of the participants."[34] The lack of resources has also limited the Movement's opportunities for participation in inter-organizational activities.

4. Kenya Renewable Energy Development Project (KREDP)

The Kenya Renewable Energy Development Project was instituted as an outgrowth of the Beijer Insitute/Ministry of Energy National Woodfuel Cycle Study. KREDP began in 1931 as a bilateral technical assistance program funded by USAID. With an initial budget of 6.5 million dollars, KREDP sought to address Kenya's woodfuel energy crisis through the promotion of renewable energy technologies, agroforestry, energy conservation, and institution building within the newly created Ministry of Energy.[35]

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[33] The Green Belt Movement, "The Danish Children's Tree Planting Project," the Final Report (1 October 1982 - 30 June 1986) (Draft).

[34] Op. Cit., Maathai, pp. 61, 72.

[35] USAID, Renewable Energy Development Project -- Project Paper No. 615-0205 (USAID, August 1980).

The program is housed in the Ministry of Energy and implemented by Energy Development International (EDI). Currently, EDI's role is being phased out as the Ministry gradually assumes full responsibility for the program in December 1986.

KREDP is a multi-faceted, nationwide program. Tree-planting is a central though not exclusive objective. Tree-planting activities are coordinated by the six Regional Agroforestry/Renewable Energy Centers. These centers are located on Ministry of Agriculture lands near Farmer Training Colleges. Each center has agroforestry research and demonstration plots, seed orchards, tree nurseries, jiko construction and demonstration facilities and, at some centers, biogas, solar, and wind technology demonstrations. Each year, the centers sponsor 54 one-week training courses for Ministry of Agriculture extension officers, farmers, and teachers, and 14 field days to introduce the technologies to farmers, teachers, and schoolchildren.

While the regional centers perform valuable functions, it was soon recognized that KREDP needed to establish an agroforestry extension program in order to be truly effective. Peace Corps Volunteers were recruited, at the request of the Ministry of Energy,[36] to act as counterparts to the Ministry of Agriculture extension staff. The Volunteers teach courses at the Farmer Training Colleges, assist local institutions and women's groups to establish nurseries and demonstration plots, and help interested farmers design agroforestry sytems for their farms.

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[36] David Swanson, "Report of U.S. Peace Corps Involvement in the Kenya Renewable Energy Development Project," (Nairobi: July 1984).

The following chart outlines the program's accomplishments as of June 1986:[37]

Subject/Activity	Target	Accomplishment
1. Center establishment	6	6
2. Sub-centers	30	4
3. Decentralized Nurseries	60	286
4. On-farm demonstrations	--	400
5. Seedling Production/year	1.2 m.	1.9 m.
6. Seed collection/year	3,000 kg.	3,700 kg.
7. Farmers trained	1,200	18,000
8. Government technical officers trained	--	1,269
9. Students trained	--	2,300
10. Field day participants	--	6,300

KREDP, as a nationwide program and the core of the new Ministry of Energy, has placed high priority on developing collaborative relationships.[38] Although many of these efforts have been impeded by bureaucratic politics, some have been implemented. Its Agroforestry Centers have hosted field days and staff training sessions for other programs. KREDP provided the seed grant for KENGO, established to coordinate and facilitate information exchange among the many organizations working on tree planting and fuelwood conservation. And KREDP has helped prepare new curricula for the colleges that train extension workers for RAES.

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[37] KREDP, Project Brief, "The Agroforestry Program," prepared by EDI (Nairobi: July 1986) p. iv.

[38] Because the Ministry of Energy was new, with no experience or capacity to handle extension, it was vitally important that it develop a capacity to learn from other ministries as well as other NGO's (Jim Seylor, USAID, Interview, April 8, 1986, Nairobi).

D. Inter-Organizational Learning
Among Tree-Planting Projects in Kenya

All of the program managers expressed regret at the lack of collaboration among tree-planting programs in Kenya. Each described instances in which collaborative efforts were tried but failed. They admitted their substantive knowledge of other program strategies was weak. As one manager lamented, "we recognize the need to get together, but headquarters red tape and politics often prevent the collaboration. Time passes, and it just never gets organized. We have not learned much from the experiences of the other groups, although we now feel it is vitally important to harmonize our efforts."[39] While it is true that efforts to collaborate at the headquarters level have encountered numerous obstacles, it is also evident that substantial inter-organizational learning takes place both among managers and among their field staffs.

Inter-organizational learning occurs through both formal mechanisms, meaning institutionalized forums, such as committees, workshops, and newsletters, established for the purpose of promoting the exchange of information; and informal mechanisms -- irregular, unplanned communications and interactions that occur through staff migrations, collegial networks, and impromptu site visits.

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[39] Confidential communication.

1. Formal Channels

a. Conferences and workshops

Conferences and workshops provide one of the best opportunities for program representatives to learn from each other and establish collegial networks to promote further collaboration.

In the last decade, Nairobi has hosted fifteen major international and national conferences related to tree-planting, addressing topics ranging from global desertification to land tenure. In the 1970's and early 1980's, most of these conferences were devoted to the identification of environmental problems, emphasizing their inter-relatedness, and ending with calls to action.[40] Participants tended to be top governmemt policy-makers and academics. Subsequent conferences began to focus more on the technical options for addressing the problems: presentations of research findings, and theoretical discussions of technical options.[41] Participants typically were technical experts and development planners. The latest round of conferences are issue-specific, addressing the obstacles encountered in implementation of development programs.[42]

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[40] Examples include the 1977 United Nations Conference on Desertification, to the Kenya National Seminars on Agroforestry in 1980, to the UNEP Conference on New and Renewable Sources of Energy in 1981.

[41] Examples include three National Workshops on Soil and Water Conservation the 1983 Workshop on Strengthening Forestry Research in Kenya, and Agroforestry Systems for Small-Scale Farmers Workshop (September 1982).

[42] Representative conferences from this last category include: Land, Trees and Tenure: International Workshop on Tenure Issues in Agroforestry (May 1985); Afforestation in Rural Development in Eastern Africa (November 1982); and the Ford Foundation Meeting on Social Forestry and Agroforestry (March 1985).

In addition to these conferences, scores of smaller workshops have been sponsored by individual organizations, drawing participants from many organizations and providing fora for discussion of diverse problems in design and implementation of tree-planting programs. The Kenya Energy Non-Governmental Organization Association (KENGO) has played a central role in this endeavor by sponsoring numerous workshops in which representatives from all the tree-planting programs studied here have participated.[43] These workshops have focussed on specific problems of common interest, such as "The Value of Indigenous Vegetation" (July 1985); a "Seed Collector's Workshop" (August 1985); and "Tree Planting and Agroforestry in Semi-Arid Zones of Kenya" (October 1982) (followed by similar workshops in other ecological zones).[44] These workshops afford a unique opportunity for practitioners to become familiar with each other's work and for government officials to be introduced to the various programs. And yet, participation at workshops and conferences is uneven among the groups. While some programs have representatives at virtually every event, others, especially the Green Belt Movement and RAES are frequently unable to attend.[45]

It is difficult to measure the effect of these conferences and workshops on individual programs. Nonetheless, it is clear that program representatives who attend often gain valuable information, particularly from the small,

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[43] The workshops have included an innovative travelling workshop in November 1985, in which 44 participants from business, government, and NGO's toured 20 Kenyan environmental development programs in 12 districts, for 2 weeks.

[44] For full details on KENGO activities, see KENGO NEWS, a newsletter started in October 1984. Copies of Workshop proceedings can be read in their Nairobi office library.

[45] Professor Maathai, Chairman of the Green Belt Movement, attends numerous international conferences around the world as a feature speaker.

focussed workshops that provide insights and advice directly applicable to their efforts. These meetings have also helped to lay the foundation for a collegial network that can function as an informal means for information sharing, discussed below.

b. Staff training

Training sessions for both new and existing staff have become an important mechanism for information-sharing among the programs studied here. In most staff training exercises, other programs are now routinely visited and their staff members used as resources.[46]

The Green Belt Movement, CARE, and KREDP all sponsor staff-training workshops which use resource people from the other groups, including RAES. CARE and KREDP have established reciprocal arrangements -- using each other's staff experts or physical facilities to enhance training. KREDP has also assisted in the revision of the curriculum and the establishment of agroforestry plots to be used in the training of new staff for RAES.

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[46] The idea of capitalizing on the expertise represented in the various groups was outlined by Achoka Aworry, the director of KENGO in a January 9, 1984 "Proposal for Agroforestry Training." He envisioned a national system whereby the 30 Farmer Training Colleges served as a training base with the experts from the Forest Department, KENGO, EDI/MOERD, MOALD, University of Nairobi Department of Sociology, CARE, and the Green Belt Movement contributing to the training. ICRAF and USAID have sponsored two Agroforestry Courses in which people from all over Africa congregate to share experiences. Representatives from KREDP and the instructor for agroforestry for RAES at Edgerton both attended the November 1985 course. During the October 1984 Agroforestry Training for District Soil Conservation Officers and U.S. Peace Corps Volunteers, the trainees heard presentations from KREDP, RAES, KENGO, and MOA, and visited field operations of KWDP, CARE, RAES, MOERD, and KREDP (KREDP memorandum dated 21 September 1984).

The sharing of resource people during staff training has great potential as a mechanism for different organizations to capitalize on their cohort's expertise. To benefit, however, each organization must undertake a staff training program. Staff training has gained increasing prominence in all the programs. While CARE started with training as a top priority, all the organizations now embrace at least the concept of training as deserving preeminence. RAES, however, has not yet been able to launch an in-service training program.[47]

The value of this cooperation in staff training also depends upon the quality of the information shared. Initially, collaboration in staff training programs consisted largely of show-and-tell sessions where model nurseries and demo plots were toured. Recently, however, several programs have begun using experts from other organizations to come and train, not merely describe. And, increasingly, the trainers are implementation personnel, who know the problems of field work and who may be more willing to discuss the difficulties they have faced.

c. Field days

Field days are sponsored by RAES, KREDP, and the Green Belt Movement. On April 5, 1986, RAES organized its first Field Day in Kitale. The objectives of the exercise were many, though of primary importance was the desire to create a forum in which various organizations working in the district could get together, learn about each other's experiences and share

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[47] Kenya Woodfuel Development Programme, "Proposal for the Training of Forest Department Location Extension Workers," (Nairobi: March 26, 1985).

information.[48] The Green Belt Movement has a field day of sorts every time they officially launch a new greenbelt. Each KREDP agroforestry/energy center sponsors two field days a year.

These field days are primarily opportunities for the organization to spread the word about its programme. School children, local businesspeople, and government officals are introduced to new technologies, such as biogas and improved cookstoves, or new land management systems such as agroforestry and greenbelts. Ceremonial trees are planted and government officials reiterate the importance of caring for the environment. Amidst all the pageantry, it is an opportunity for staff from other tree-planting programs to get acquainted with the work of the host organization. Yet because the presentations are largely introductory, field days do not provide a forum for much critical debate or substantive experience sharing.

d. Newsletter

RAES started a newsletter, Rural Forestry, in May 1985.[49] The objective was to establish an information clearinghouse. Tree planting had become so popular in Kenya, with so many organizations sponsoring programs, that it had become impossible for any one person or organization to keep track. The hope was that the newsletter could provide a forum for groups to report on their activities, and thereby promote coordination. In addition, Rural Forestry hoped to provide a means of sharing research results and field experiences. As the editor noted in the first issue, "the only mistakes are

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[48] Op. cit., Chavangi, 1986.

[49] Mandeleo Wa Wanawake and KENGO have also started newsletters.

those from which we fail to learn."[50] In subsequent issues, the newsletter carried technical features, editorials, lists of relevant publications, and notices of staff changes. Many organizations wrote the editor praising his initiative and welcoming the forum. But in the first anniversary issue, the editor conceded "we have not exchanged as much information as we would like . . because we never received (the) readers' contributions on which the concept of a clearinghouse rests."[51]

e. Project publications

KREDP is the only organization, of those studied here, that has concentrated on publishing. It has produced 104 reports that are now available for public distribution.[52] All the organizations have produced booklets or papers describing their programs.[53] These provide a quick and easy way to become familiar with the various organizations, their goals, and achievements to date. Yet these brochures do not appear to be well-disseminated among the various organizations, and their discussions are largely general.

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[50] Rural Forestry: Trees in Our Life, RAES No. 1 (Nairobi: May 1985)(p. 2).

[51] Rural Forestry: Trees in Our Life, RAES No. 6 (Nairobi: June 1986)(p. 2).

[52] See KREDP Technical Reports, Appendix 3, available in KREDP Library (Utali House, 8th floor).

[53] See Kenya Renewable Energy Development Project, Ministry of Energy and Regional Development; Wangari Maathai, The Green Belt Movement; The Rural Afforestation Extension Scheme, Ministry of Environment and Natural Resources; Remko Vonk, "CARE-Kenya Agroforestry Extension Project," Paper Presented at ICRAF (Nairobi: 30 July 1985).

Publication of research results is an important source of information for all the organizations because community-level tree-planting is a relatively new endeavour and the state-of-the-art is continually revised. It is especially important for RAES and the Green Belt Movement, as neither has its own research capability. KREDP has produced 31 technical reports, on topics ranging from "Casuarina for the Kenya Coast," to "Fuelwood Supply in High Potential Zones of Kenya," to "Agroforestry Tree Seeds Collection."[54] CARE has been conducting agroforestry research in collaboration with KARI (Kenya Agricultural Research Institute) and with students from the Netherlands. They are in the process of documenting the findings now. All of the groups rely on the research of a fifth program, the Kenya Woodfuel Development Programme of the Beijer Institute.

More theoretical papers on energy policy, the role of extension, and the socio-economic context of tree-planting programs have also been prepared by CARE and KREDP, usually in conjunction with in-service training.[55] These issues are also a common theme in Professor Maathai's presentations at international conferences, although her papers are never distributed in Kenya, and rarely reach the organizations working here.

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[54] Amare Getuhan, et al.., "Casuarina for the Kenya Coast," Mtwapa Technical Bulletin, KREDP, January 1986; C.M. Ndegwa and Amare Getuhan, "Fuelwood Supply in High Potential Zones of Kenya," KREDP 1983; Alice Kaudia and Amare Getuhan, "Agroforestry Tree Seed Collection," KREDP June 1986; David Brokensha, "Baseline Survey of Agroforestry Potential in Semi-Arid Regions of Kenya," KREDP 1982; KREDP's library (Utali House, 8th floor) holds copies of all research reports.

[55] For example, see Bill Macklin, "Tree-Planting and Woodfuel Conservation Policies in Kenya," (KREDP, 1984); Remko Vonk, "CARE's Approach to Community Participation in Agroforestry," (January 18, 1985); CARE-International, East Africa Region, Agroforestry Training and Planning Workshop (Kisumu, February 2-12, 1986).

Much has been written, and yet there is no means to systematically share these reports. All organizations have libraries, varying from personal libraries collected by program managers to growing collections in a formal library, as with KREDP. No one has a full set of papers from all the organizations. When papers are prepared, there is no automatic distribution to other tree-planting programs. Alliances form among some groups who share reports, but the system is haphazard.

f. The Technical Committee on Agroforestry

The Technical Committee on Agroforestry (TCAC) was established by KENGO in January 1984, as an outgrowth of the KENGO Committee on Woodfuel Conservation. The Committee's objectives were to promote cooperation and coordination, exchange of technical skills and information, and the production of educational and training materials.[56] The Committee is open to all institutions concerned with agroforestry and operates as an informal consultation forum.[57]

The first meeting was held on March 28, 1984, at the Mazingira Institute. Each subsequent meeting has been hosted by a different member organization at their headquarters. The Committee met once in 1984, once in 1985, and has met twice so far in 1986, with a third meeting planned for this fall.

Again, most tree-planting organizations endorsed the initiative, and appeared eager to participate, yet the committee has failed to achieve many of

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[56] KENGO, Letter to all prospective members of the Technical Committee on Agroforestry (January 10, 1984).

[57] KENGO, Letter to Technical Committee on Agroforestry members (March 26, 1985).

its objectives. Most of the meetings consist of each attending group outlining its recent accomplishments. Each meeting attracts a different combination of organizational representatives, so there is little continuity or opportunity to expand the agenda beyond these program descriptions. Some member organizations have never attended a meeting, and others have attended only once or twice. Minutes have been produced for only two of the meetings, limiting the network to those present.

The last meeting (July 11, 1986) appeared to make some progress. The Group made three resolutions: (1) Dr. Zimmerman, the advisor for the RAES, will convene a group to produce standardized technical packages for agroforestry extension workers; (2) KREDP will send copies of research results to committee members; and (3) CARE will send copies of its extension training packages to all committee participants.[58] If these three resolutions for the last meeting materialize, the technical Committee will have served a very useful purpose for the participating groups.

2. Informal Channels

Conferences, workshops, newsletters, and other "formal" mechanisms are the most obvious channels for information sharing among organizations. Yet the programs studied here exchange a great deal of information through informal, and largely unrecognized, channels. Such channels are limited at the management level. But virtually every field staff member works with, and shares information with, counterparts in other programs. While the extent of

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[58] KENGO, Minutes, Technical Committee on Agroforestry Meeting (July 11, 1986) (KREDP, Nairobi).

such exchanges is difficult to measure, it is clear that these informal alliances and contacts are an invaluable source of information and experience.

a. Management level

At the management level, each of the programs studied has gained some information from the others through staff migrations, collegial networks, and impromptu site visits. Many of the project managers came to their jobs from other programs, thus bringing knowledge of those programs' strategies and experiences.[59] Collegial networks have developed among the programs, both from staff migrations, and from attendance at the conferences and workshops described above. And, occasionally, when managers venture into the field, they visit the sites operated by other programs and meet with their field staffs, which provides an opportunity to gain some insight into other operations.[60]

While project managers do gather some information about other programs through these channels, it is at best haphazard. Their experience with previous employers gradually becomes outdated. Although they may have friends in other programs, none of the project managers communicates with his or her colleagues on a regular basis, and some are outside the networks altogether. And, by all accounts, management contacts with the field staffs of other programs are random and few.

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[59] Some project managers have worked for several other tree-planting organizations.

[60] I accompanied a KREDP manager on a trip to survey the accomplishments of a Peace Corps Volunteer extension worker during which the local RAES forester travelled with us for three days. This provided an opportunity for much useful exchange about the experiences of each program.

b. Field level

While informal information sharing is limited among the headquarters staff, an entirely different situation exists in the field. Extension workers are eager to share because they need each other. They are trying to do the best they can with available resources, relying on others to fill in the gaps, whether they be nursery supplies, technical knowledge, or tips on extension strategies.

To illustrate the informal channels by which extension workers from various organizations work and learn together, I have selected Homa Bay, in South Nyanza District. The alliances that developed in Homa Bay may be unique, yet the similar collaboration is found throughout Kenya. Interviews, extension reports, and site visits in other locations reveal that while the patterns of affiliation may differ,[61] virtually all extension workers cooperate with counterparts in other programs.

In Homa Bay, the extension staffs of CARE, KREDP, RAES, and to a lesser extent Green Belt Movement, all work together and learn from each other. KREDP has one Peace Corps Volunteer extension agent in Homa Bay. RAES has a District Forest Extension Officer, with 2 assistants. CARE has a team of 3 field officers and 15 extension workers in the district. The Green Belt Movement has nurseries and greenbelts throughout the area.

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[61] For example, in one location, alliances have formed among a nursery attendant for Green Belt Movement, the District Soil Conservation Officer, Partners for Productivity, and a PCV extension worker. In another, the District Forest Officer has allied with the CARE team, Red Barna, and the Ministry of Agriculture Technical Assistants. Depending on the scope of activity in a district, and the compatibility of the extension strategies, these alliances may be only two people, or a few alliances may form in the same location.

Each of these programs has been helped by the others. All of the extension workers rely on the other programs for seeds. Greenbelt nursery attendants get their seeds from RAES, and RAES, CARE, and KREDP are all involved in a continuous seed exchange. This spring, when the KREDP agent could not get poly bags from his headquarters, he got them from RAES. In return, he gave the RAES forester fuel for his vehicle.

This cooperation is the foundation for a strong collegial network among the extension staffs. Agents visit each other's nurseries, discuss their problems, and exchange technical advice and tips on extension strategies. For example, the KREDP agent discovered a Luo botanical dictionary, which is now widely used by the other programs. The KREDP agent also helped orient the CARE team, when they first arrived in Homa Bay in 1985. The CARE staff helped him refine his extension strategy. When the RAES forester was stranded for lack of fuel, he accompanied KREDP staff on their rounds, learning about their nurseries, and their extension experiences.

For RAES and the Green Belt Movement, lack of transport often hinders cooperation. Green Belt field personnel have no vehicles; RAES rarely has the money to fuel its trucks, or to repair them. Without transportation, their contact with other program staffs may be limited.

In addition, conflicting extension strategies have sometimes pitted programs against each other. With so many development organizations sponsoring tree-planting, many local groups have their choice of who to work with. Some groups may play the development organizations off each other, collecting the goodies each distributes, whether they be money, seeds, watering cans, or donkey carts, without letting the other groups know they are being helped by several.

For example, the KREDP agent in Homa Bay found the calling card of another NGO at several of his nurseries. One day, he found such a card at the Kanyogira Women's Group, whom he had assisted since October 1984 with watering cans, seeds, and poly bags. He discovered that the other NGO had given this group a check for 20,000 Kenyan shillings. KREDP's strategy is based on an incentive system, whereby good work is rewarded with material inputs. A 20,000 shilling windfall defeats the strategy.

To address this problem, the KREDP agent organized a meeting for the extension workers of all the organizations operating in South Nyanza. The conflict was resolved, and in the process, "a lot of good field experiences were shared."[62] The group has now agreed to meet every six months, and formed a District Afforestation Committee, chaired by the District Commissioner.

D. Analysis

The successes and failures of the several information-sharing mechanisms described above can be usefully considered in terms of their perceived costs and benefits. Certainly there are other factors -- every one of the programs studied here has, at some point, done something that infuriated one or all of the others -- hiring away a valued employee, coopting a women's group, or reneging on a promise -- which has disrupted or even ended communication at the headquarters level. Nonetheless, each program's participation in the

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62 Robert East, Peace Corps Volunteer for KREDP. Interview, August 3, 1986, Homa Bay.

various fora for information sharing can be explained largely as a function of the time and resources required, and the value of the information gained.

All information-sharing involves some costs. Attendance at workshops, technical meetings, and field days, and preparation of conference papers, newsletter articles, and research reports, all require commitments of time. Time is a scarce commodity among project managers, and such demands must compete with other pressing responsibilities -- preparing budgets, reporting to donors, finding seeds, visiting extension staff. For some organizations, the resources required to attend a meeting or publish a paper may also be a problem. One RAES official, for example, was unable to attend a workshop in which he was to present a paper, because he could not get a fuel allotment for the trip to Central Kenya. Thus, for information sharing mechanisms to succeed, they must offer programs benefits that justify their costs.

Sorting out the benefits of participation in information sharing exercises is sometimes difficult. Many of the formal mechanisms for inter-organizational learning reviewed here have fallen short on substance. Field days, some workshops, and most of the TCAC meetings, have been largely confined to project descriptions and show-and-tells, and thus have had only limited value as mechanisms for inter-organizational learning.

To some extent, these mechanisms also suffer from the problems associated with public goods.[63] A program may choose to be a "free rider," by, for example, subscribing to Rural Forestry, and thereby benefitting from the experiences reported by other programs, but never submitting articles to share experiences of its own. And the public interests of development in

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[63] See generally, Mancur Olson, The Logic of Collective Action (Cambridge: Harvard University Press, 1965).

general may often diverge from the private interests of individual organizations. Although all tree-planting programs can be thought of as partners in promoting rural development, they are also competitors -- competing for funding, for recognition, and even, sometimes, for the farmers and community groups they help. Moreover, although it has often been assumed that inter-organizational collaboration translates into mutual benefit, that is often not the case. Each organization is at a different phase in its program evolution. An organization that is ahead of the others in its research, the completion of its infrastructure, and the training of its staff, may have a lot of information to share, but little to gain from the others, and hence little incentive to participate.

These factors help to explain the failure of Rural Forestry to generate the substantive information exchange it had hoped for, and the shortcomings of the TCAC. But they may also help to explain some of the successes in information sharing among the programs studied here.

Many of the workshops, sponsored by KENGO and others, have been highly successful -- attracting participants from many programs, and providing valuable information exchange. These successes have come in workshops devoted to a single problem of common concern, such as seed collection or species selection. They thus promise an opportunity for an in-depth substantive discussion, trading strategies and experiences, from which all the organizations can benefit.

Participation in the staff training programs of other organizations has also been an important means of information sharing. Often costs of participation are reduced -- expenses may be covered by the training organization. The benefits are mutual -- every organization has areas of expertise, whether they be technical knowledge or field experiences, that are

valuable to the others. And increasingly, these exchanges draw on staff from the field level -- personality conflicts and competition that hinder cooperation among the management staffs, seem to be less important obstacles among the field workers.

Finally, it is clear that a great deal of information is exchanged through ad hoc alliances among the extension staffs. Here again, the constraints that inhibit management collaboration seem to dissipate. And often extension workers need help from each other to do their jobs. Costs may be minimal, and shared. And benefits are often substantial -- advice to solve an immediate and pressing problem.

CONCLUSION

There have been many efforts to foster cooperation and information sharing among the tree-planting programs studied here. Most of these efforts have fallen short of their objectives. Analysis suggests that some of these failings may be remedied through more careful attention to the benefits offered to participants, and the costs imposed. Thus, for example, the Technical Committee on Agroforestry might draw better attendance if it moved its agenda beyond project descriptions, and offered the opportunity for participants to exchange information and ideas on selected topics of common concern, such as staff training techniques, and seed availability. Similarly, to achieve its objectives, Rural Forestry may have to abandon its reliance on program staffs to report their activities, and hire forestry students as interns to report on program developments and research results.

But while improving these formal mechanisms for inter-organizational learning is important, it is equally important that programs recognize the extensive exchange of information already taking place among their field staffs. While such cooperation may not solve many of the technical and strategic questions that programs must address, it does bring collective experience to bear on the specific, concrete problems unique to each location. This cooperation could be strengthened by the establishment of district agroforestry committees throughout Kenya similar to the one created in South Nyanza, as now proposed by RAES.[64] In any event, these collaboration are immensely valuable and should be encouraged.

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[64] RAES, Briefing Document on District Master Operational Planning for Rural Afforestation (Nairobi: RAES, 1986)

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