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Agricultural Missions Play an Important Role

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Abstract

There is a growing need for qualified agriculturalists to fill numerous positions available with church-related and humanitarian organizations in many of the developing countries. The primary emphasis of agricultural missions is to help small subsistence farmers improve their agricultural production and standard of living through practical extension programs. There is no greater challenge today than to become actively involved in helping to solve present world food problems.

Introduction

Members of NACTA have an excellent opportunity to play an important role in agricultural missions by helping to prepare agriculturalists with skills and abilities needed by small farmers in Nigeria as well as many other developing countries. Hundreds of dedicated agriculturalists are needed to fill positions available under various private and church-related mission boards. To cite an example, one church-related organization recruits and supports approximately 140 agriculturalists for two-year assignments in nearly 40 countries around the world. In most cases these agriculturalists must be college or university graduates, preferably with a plant or animal science background and some practical farm experience. Assignments may be of an advisory nature, but most often include full-time extension work with local farmers. Proficiency in a local language may be necessary to communicate effectively with the people.

Several agricultural majors currently enrolled in international agricultural classes at California State University, Fresno, are preparing for future assignments with private and church-related organizations. One recent graduate accepted a career position as the agricultural development specialist assigned to work with a four-man team in West Africa.

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The Agricultural Situation

Nigeria is a rapidly developing country, rich with natural resources, where an estimated 85 percent of the people are directly dependent upon the land for their livelihood. In the past, agriculture has often been a symbol of poverty and a backward life style offering only a subsistence standard of living. During recent years vast numbers of people have migrated from the rural areas to cities in search of jobs and a better life. The youth especially have left the farms to escape the drudgery of manual labor and a subsistence level of income. The resulting growth of cities has caused congested transportation systems, scarcity of basic food supplies, and rising inflation. Concerned government officials are presently trying to convince the people that farming, if done properly, is a respectable and profitable occupation. This renewed interest and emphasis on improved farming and food production holds many far-reaching implications for the agricultural missionary in Nigeria.

The economic welfare of most developing countries still depends greatly on the pace of improvement in agriculture. Industrial advance and the employment of surplus labor from rural areas is likewise dependent upon an efficient and productive agriculture. How to slow the population migration to cities and increase agricultural production in rural areas remain two serious problems for national development planners.

As the work of agricultural missions expands in a country, efforts are made to interest farmers in local cooperative associations. Farmers, young and old, need

Figure 1 Gottfried Scholm examining seed heads of Guinea corn (milo) with son.

Figure 2 Louis Haveman consulting with local community volunteer agricultural agent.

Figure 3 Hector Ottermiller visiting with friend at government rice development project.

to be conditioned through the schools and adult extension programs to accept innovation in agriculture. When higher yielding strains of grains, proper application of fertilizers, better breeds of poultry, and good management practices are successfully adapted to local conditions, the small farmer begins to understand the meaning of this new system of agriculture. The agricultural missionary strives to increase agricultural production and improve standards of living. And he also hopes to see growth in terms of common concern for one another, the bearing of each other's burdens, and a cooperative effort of the people for the welfare of the total community.

Simple, practical projects that help meet the basic needs of the small farmer are the key to acceptance of outside expertise and technology. People must be helped in ways they can appreciate, understand, and participate in. Well prepared agriculturalists with practical farm backgrounds and experience are needed to work with community improvement projects as well as to advise farmers about farming problems.

Agricultural Mission Projects

Some extension projects that challenge agricultural missionaries today include introducing better strains of crops, planting fruit trees, applying fertilizers and insecticides, rotating crops, storing grain, marketing crops, constructing earth dams, conserving water, digging wells, improving farm tools, building fish ponds, raising poultry, improving animal husbandry, introducing new management practices, and organizing farmer cooperatives.

Under the leadership of Louis Haveman, a Michigan State University agricultural graduate working in Eastern Nigeria, over 1000 day-old chicks were delivered to the mission agricultural center every month for distribution to individual small farmers. Now improved poultry breeds may be found in nearly every village, and local community volunteer agents continue to be an important way of serving the people. These agents are provided with a limited supply of agricultural chemicals that may be reordered from the central storehouse as needed. Each agent operates on a cash basis and is allowed a 15 percent sales commission on all agricultural chemicals. The number of volunteer agents increased from 52 in 1973 to approximately 65 in 1975 and is expected to level off somewhere around 100 by 1980.

Agricultural missionary Harvey Ratzlaff recently reported his experiences with the use of fertilizers in Northern Nigeria. One farmer planted 5 acres of peanuts using 250 pounds of seed and one 100-pound bag of super phosphate per acre. He harvested 117 bags of peanuts in the shell. A neighbor planted 6½ acres using 335 pounds of seed without any application of fertilizer. He harvested only 57 bags of peanuts. The advantage of the proper use of fertilizers was clearly demonstrated; however, many farmers have difficulty securing needed fertilizer at the proper time.

German-born agriculturalist Gottfied Scholm was instrumental in improving the community where he was assigned in Central Nigeria. With the cooperation of the people a small concrete dam was constructed just below a spring at a cost of approximately $1500. With the water supply securely fenced, village women no longer compete with the pigs and cows for their domestic water.

To help alleviate the effects of past drought and to improve and expand food production in Nigeria, a community development department was recently established by the Sudan Interior Mission. This new church-oriented ministry, under the supervision of Ken Kastner, has emphasized agricultural extension work with small farmers.

A number of British agriculturalist with the Sudan United Missions have developed agricultural programs allowing students to live at the school with their wives and families. Two acres are assigned each student for growing vegetable and other food crops for their domestic use. Both husband and wife receive instruction which includes improved farming methods, nutrition, sanitation, and village improvement.

Another interesting agricultural project located in East Central State is operated by Norwegian Chuch Relief, an organization supported by Christian churches in Norway and the Norwegian government. The purpose of this project is to educate and train young school dropouts to become better farmers and leaders of the rural communities. The project building complex consists of classrooms, farm structures, tractors and machinery, rice mill, water system, health clinic, student farmer housing, and staff homes. Several hundred young men have successfully completed training programs at the center with a majority now engaged in farming or agricultural related work. This church-related project differs from most agricultural mission programs due to the extensive amount of capital outlay in land, buildings, equipment, and technician salaries needed to operate a large demonstrational training farm.

Peter Bachelor, a British rural development consultant for Christian churches in Africa, has emphasized that the primary effort in agricultural missions must be to reach people by extension methods rather than expect farmers to come to an elaborate research center for highly technical instruction. He believes that a meaningful rural development program can be operated effectively through a centrally located facility such as a house with an office and storeroom. The agricultural missionary simply acts as a catalyst in bringing useful information to the local agent or to the people he is training.

According to Bruce Bond of New Zealand, the agricultural missionary must not undermine the local system of agriculture, but rather build on existing foundations. The local farmer generally has a wealth of knowledge of his area. The agriculturalist, therefore, must work directly with the local farmer and act as a liaison between governmental agencies and research centers. He must be willing to listen to and learn from local people. Bond believes that the primary need is practical, well-prepared agriculturalists willing to do very "humble" jobs with the small farmer, helping improve his standard of living.

Dr. Raymond Davis, former general director of the Sudan Interior Mission states that the world food shortage is a fact of life which will affect all phases of church and mission activity far into the future. He believes that agricultural missions are as appropriate a Christian service to mankind as medicine or education and may well be number one in a list of priorities for today.

Conclusion

Certainly the question of how to assist the small subsistence farmer increase food production and raise his standard of living will continue to be the number one challenge facing the agricultural missionary. Professional agriculturalists in North American colleges and universities have an opportunity to play an increasing role in preparing young agriculturalists for private and church-sponsored positions to increase food production in Nigeria and many other developing countries.

References

Bo, Sigmund, Annual Report of the Norwegian Church Agricultural Project, Ezzikwo Division, East Central State, Nigeria, 1974.

Bond, Bruce H., Discussion Paper on S.I.M. Strategy as Presented to General Council Re Agriculture-Rural Development, Cedar Grove, New Jersey, June 10, 1975.

Davis, Raymond J., Good Works and the Good News, Africa Now, January-February, 1976, pages 6-7.

Haveman, Louis J., Reassessing Current Activities and Future Possibilities in Rural Development by Christian Reform World Relief Committee, Takum, Nigeria, 1975.

Kastner, Kenneth, Duties and Responsibilities of the Rural Development Worker, Sudan Interior Mission, Jos, Nigeria, January, 1976.

BOOK REVIEWS

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T. R. G. Gray and S. T. Williams. **Soil Micro-organisms.** The University of Liverpool. Longman Group Limited, 1975. 240 pp. Paperbound. $11.00.

The authors of **Soil Micro-organisms** state in the preface that "the study of soil microflora is complicated because soil is an heterogeneous environment" and that, because it is impossible to cover all aspects of such a system in any book of reasonable length, "many interesting and important topics have been omitted." For this reason, I will list the contents of this book by chapter title: The Soil Population; Soil as an Environment for Microorganisms; Methods of Studying the Ecology of Soil Micro-organisms; Soil Microflora and the Decompositions of Dead Organic Matter; Breakdown of Organic Chemicals in Soil; Effects of Living Plants on the Soil Microflora; Effect of Micro-organisms on Plant Growth; Autotrophic Micro-organisms in Soil; Interactions Between Soil Micro-organisms and Micro-organisms in the Soil-Plant Ecosystem. As indicated by the chapter headings this book stresses the interaction of microflora in nature rather than the more classical approach of studying specific classes of micro-organisms (bacteria, actinomycetes, etc.), specific cycles (e.g. carbon cycle, nitrogen cycle) or mineral transformations. For example, the first chapter gives general characteristics of all major groups of soil microflora such as size and form, methods of reproduction, and nutrition in tabular form. The authors then discuss growth patterns, resistance to environmental conditions, and other topics for all classes of soil micro-organisms combined, but do not discuss the five major groups of micro-organisms (bacteria, actinomycetes, fungi, algae and protozoa) individually.