

Piv. Hani 889

**An Experiment
in Integrated Rural
Development:
The Mampong Valley
Social Laboratory
in Ghana**

International Institute of Rural Reconstruction
and Ghana Rural Reconstruction Movement

932000098121

PNAAM 889
ISN = 29393

**AN EXPERIMENT IN INTEGRATED
RURAL DEVELOPMENT:
THE MAMPONG VALLEY
SOCIAL LABORATORY IN GHANA**

The International Institute of Rural Reconstruction is a private, non-profit educational institution registered and incorporated in the United States of America. It conducts programs in operational research in its social laboratory in Cavite province, the Philippines, international leadership training seminars, and international extension of national rural reconstruction movements. There are five national affiliated movements, in Ghana, Guatemala, Colombia, the Philippines, and Thailand.

The publication of these papers was made possible through the cooperation of the United States Agency for International Development, Washington, D.C.

2

**AN EXPERIMENT IN INTEGRATED
RURAL DEVELOPMENT:
THE MAMPONG VALLEY
SOCIAL LABORATORY IN GHANA**

Papers Presented at a Seminar Sponsored by the
Ghana Rural Reconstruction Movement, June 30-July 3, 1977

AI OI PIA -G-1167

Edited with an Introduction by
John R. Schott

International Institute of Rural Reconstruction
and Ghana Rural Reconstruction Movement
1978

Copyright 1978 by the International Institute of Rural
Reconstruction

All rights reserved.

Library of Congress catalog card number: #78-57198

Published in 1978 by the International Institute of Rural
Reconstruction, 1775 Broadway, New York, New York
10019.

Printed in the Philippines.

4

List of Contributors

- N. O. ADDO** *Professor, Institute of Statistical, Social, and Economic Research, Legon; Chairman, Ghana Rural Reconstruction Movement Research Committee.*
- S. TWUMASI AFRIYIE** *Yensi Centre Staff, Ghana Rural Reconstruction Movement.*
- D. A. AMPOFO** *Professor, University of Ghana Medical School, Accra; First Vice President and Trustee, Ghana Rural Reconstruction Movement.*
- K. OHENE-AMPOFO** *Executive Director, Ghana Rural Reconstruction Movement.*
- I. K. APPIAH** *Centre Director, Yensi Centre, Ghana Rural Reconstruction Movement.*
- I. K. BOATENG** *Director, Department of Social Welfare and Community Development, Ghana.*
- C. K. BROWN** *Research Fellow, Institute of Statistical, Social, and Economic Research, Legon.*
- E. A. GYASI** *Lecturer in Geography, University of Ghana, Legon.*
- KEFI AMANING-KWARTENG** *Former Research Fellow — Livestock, Yensi Centre, Ghana Rural Reconstruction Movement.*
- D. N. A. NORTEY** *Senior Lecturer, Department of Sociology, University of Ghana, Legon.*
- V. K. NYANTENG** *Research Fellow, Institute of Statistical, Social, and Economic Research, Legon.*
- K. DUA-OPARE** *Lecturer, Department of Agricultural Extension, University of Ghana, Legon.*
- E. A. QUARCOO** *Field Coordinator, Yensi Centre, Ghana Rural Reconstruction Movement.*
- NATHAN M. N. YEBUAH** *Research Fellow — Livestock, Yensi Centre, Ghana Rural Reconstruction Movement.*

Contents

Foreword <i>Y. C. James Yen</i>	ix
Introduction <i>John R. Schott</i>	xi
Keynote Address <i>Juan M. Flavier</i>	3
Section I. Rural Development: Concepts, Theories, and Strategies	
The Essence of Rural Reconstruction <i>D. A. Ampofo</i>	13
The Theoretical Basis of Integrated Rural Development <i>N. O. Addo and C. K. Brown</i>	19
Rural Development Strategies with Special Reference to Ghana <i>C. K. Brown</i>	33
Roads to Rural Development <i>I. K. Boateng</i>	48
Health Inputs in Rural Reconstruction <i>D. A. Ampofo</i>	54
Section II. The Mampong Valley Social Laboratory	
History and Rationale of the Experiment in the MVSL <i>K. Ohene-Ampofo</i>	61
The Environment of the MVSL <i>E. A. Gyasi and B. A. Quarcoo</i>	69
Organizational Structure of the MVSL <i>I. K. Appiah</i>	77
Labour Force Structure and Economic Activities in the MVSL <i>N. O. Addo and V. K. Nyanteng</i>	81
Socio-Cultural and Political Conditions in the MVSL <i>D. N. A. Nortey</i>	97
Section III. Field Operations and Research in the MVSL	
Field Operations: Livelihood <i>B. A. Quarcoo</i>	123
Field Operations: Education and Health <i>I. K. Appiah</i>	132
Health Conditions in the MVSL <i>D. A. Ampofo</i>	138

6

CONTENTS

Local Government and Civic Responsibility <i>K. Ohene-Ampofo</i>	145
A Method for Determining the Economics of Compounding Poultry Feed Locally (Phase I) <i>K. Amaning-Kwarteng</i>	150
A Method for Determining the Economics of Compounding Poultry Feed Locally (Phase II) <i>N. M. N. Yebuah</i>	156
Vegetable Farming Using Farmyard Manure <i>S. Twumasi Afriyie</i>	161
Section IV. Problems of Implementation	
Problems of Implementation: The Macro-Level <i>V. K. Nyanteng</i>	171
Utilization of Research Results <i>K. Dua-Opare</i>	178
Implementation Problems in the MVSL <i>I. K. Appiah</i> and <i>B. A. Quarcoo</i>	182
Problems in the Health Programme <i>D. A. Ampofo</i>	191
Section V. The GhRRM's Performance in the MVSL	
An Evaluation Survey Report <i>N. O. Addo, D. A. Ampofo,</i> <i>D. N. A. Nortey, C. K. Brown and E. A. Gyasi</i>	197
Section VI. Workshop Reports	
1. Integrated Rural Development	243
2. Strategies of Rural Development	245
3. Problems of Rural Development Programmes in Ghana	247
Map of the Mampong Valley Social Laboratory	251

Foreword

The papers which constitute this volume serve as an important new statement on rural reconstruction. They are important primarily for three reasons.

They are written by persons with differing backgrounds — civic leaders and scholars as well as practical field men — all of whom have personal knowledge of the experiment in rural reconstruction taking place in Ghana's Mampong Valley. In varying ways, the authors have lived among the Mampong Valley's rural people, learned from them, and together with them have planned ways to attack the causes of their poverty, illiteracy, disease, and civic inertia.

Secondly, these papers are written exclusively by Ghanaians, all associated with the first Rural Reconstruction Movement begun on the continent of Africa. This extraordinary documentation of their work over a three-year period should enable the Ghana Rural Reconstruction Movement to take great pride in its accomplishments as a private but truly national effort, initiated, organized, and administered entirely by Ghanaians.

Finally, these papers together demonstrate a uniquely comprehensive understanding of the problems of rural reconstruction and the profound commitment of its leaders and staff to their role as catalysts for rural uplift. The development of rural areas takes more than good inten-

tions, as these papers show. It takes more than technical expertise and financial resources. It requires — as clearly understood by the Ghana Movement — a partnership between the educated few and the peasant masses within a geographically-defined social laboratory. Within such a laboratory, specialists and villagers can effectively interact and work together, so that the know-how of the few is translated into the do-how of the many. In these papers, that process is thoroughly described.

I commend this volume to the attention of those for whom integrated rural development is more than a current fad. As these papers indicate, it is a long-established and constantly-evolving process of helping peasant peoples throughout the world achieve the goals which they alone have chosen for themselves.

—Y. C. James Yen

Introduction

The International Institute of Rural Reconstruction has exhibited an impressive record of accomplishment. Long before the notion of "integrated rural development" became popularly espoused and its practical application widely attempted, the IIRR was helping agencies in developing countries to implement multi-faceted programs in rural reconstruction through its various programs of international extension, leadership training, and operational research.

Although the IIRR was not established until 1960, its origins are found in the teachings of Dr. Y. C. James Yen, who was the founder of the Mass Education Movement in China during the 1920s and who was the moving force behind the Sino-American Joint Commission on Rural Reconstruction. JCRR wrote one of the most successful chapters in the history of U.S. foreign aid.* From Taiwan the ideas of Dr. Yen spread to the Philippines where, since 1952, the private, national organization known as the Philippine Rural Reconstruction Movement has been demons-

*The China Aid Act of 1948 included a provision to establish the JCRR. This provision was known in the Congressional Records as the "Jimmy Yen Provision," because it was Dr. Yen who recommended the idea of JCRR to President Harry Truman, General George C. Marshall and members of U.S. Congress. The five members on the Commission were appointed respectively by the Presidents of the U.S. and China. Dr. Yen was one of the members.

trating the concepts governing truly integrated programs in rural development as initially formulated by Dr. Yen in the rural districts of Ting Hsien in North China.

The encouraging results of these experiments in China, and later in Taiwan and the Philippines, led eventually to the organization of the International Institute in order to spread to other countries a way in which indigenous, private, national organizations, locally financed and administered, can conduct a fourfold program of rural reconstruction designed to attack, in an integrated manner, the problems of rural poverty, illiteracy, disease, and civic inertia. In brief, the process involves focusing developmental efforts in the four fields of livelihood, literacy education, rudimentary health, and civic organization by bringing about a dynamic interaction between the expertise of the educated with the down-to-earth practicality of the rural peasantry. This is accomplished within what is called a "social laboratory" — a geographically-defined rural area where this interaction can occur and rural peoples can voluntarily participate in programs upon which they have themselves decided or which, by choice, they seek to avail themselves of. From such "centers of excellence" ideas can subsequently spread and programs elsewhere replicated.

The papers which constitute this volume describe the initial stages of this process from various perspectives—starting with the organization's inception among public-spirited, indigenous civic leaders, to the involvement of scholars and technical experts, and finally the recruitment of educated youths who choose to live and work among the rural peasantry. The story which these papers recount is that of the newest of the IIRR's national Rural Reconstruction Movements, the first organized on the continent of Africa—its "social laboratory" being the Mampong Valley of Ghana, some 35 miles north of Accra.

These papers thus describe the three years' experience of the Ghana Rural Reconstruction Movement (GhRRM)

11

as it has sought to stimulate local change—explaining what it discovered about the region and its people, how its staff began to live and work among the people of the area, and the means they used to appraise the results of their efforts. With financial assistance from the government of Ghana and the U.S. Agency for International Development (USAID), which saw in the GhRRM's work a tested model for possible nation-wide replication, the papers describing this rural reconstruction effort were presented at a seminar held between June 30 and July 3, 1977, at the Institute of Statistical, Social and Economic Research (ISSER) at the University of Ghana.

In attendance at this seminar were government officials and representatives of foreign assistance agencies and international private voluntary organizations, together with members of the GhRRM staff and faculty members of the University of Ghana and the University of Science and Technology at Kumasi (Ghana). Chaired by Professor K. Twum Barima, Director of the ISSER, its several plenary sessions were presided over by senior officials of the Government of Ghana, the University of Ghana, as well as the USAID Director.

Many of the papers and workshop discussions were based upon two social surveys taken by the GhRRM to determine conditions in the Mampong Valley—a Baseline Survey conducted by the GhRRM before development activities were commenced, and an Evaluation Survey, undertaken in anticipation of the seminar and designed to identify whatever changes the GhRRM had effected in the Valley during the short three-year period of its operations.

The resulting papers, however, went far beyond the dry-as-dust statistical disquisitions which the explication of survey results suggest. Indeed, contrary to expectations, these writers produced a remarkable—if not unique—document reflecting the variety of perspectives which can be expected from those offering necessary but very different inputs to any rural development scheme. These in-

clude the academic, spinning out his conceptual theories, the administrator, wondering where the money's coming from, the outside expert, focusing narrowly upon his speciality, the young university graduate, complaining about his accommodations in the field.

The substantive range of this collection is quite astonishing. Some authors paint with broad brushes a picture of the Mampong Valley or the historical background and theoretical underpinnings of rural reconstruction; others sketch an outline of rural Ghanaian life with its *agoru* groups of drummers and week-end soccer matches; still others portray, with abundant statistical detail, the number of persons who own ten or more goats (before *versus* after the arrival of the GhRRM), the methodology employed in an experiment to determine the cheapest poultry feed producing the greatest weight-gain per week, or the incidence of local peasants who have responded to the GhRRM's frustrating efforts to teach the rudiments of personal hygiene.

Another provides a memorable tableau of matronly nurses in their broad-brimmed hats picking their way through the drizzling rain over a rough bush path to hold clinic in the early morning hours in a neighboring village; another describes the inevitable conflict between traditional and modern authorities resounding through a village as one group is summoned to meet by a gong-gong, while the other is being called by the clanging of a bell. Still another recounts a story—complete with priceless dialogue—about a group of villagers learning to their bewilderment that the crystal-clear spring water they had been drinking is in fact more polluted (owing to a nearby latrine) than the local stream water, which appears and tastes far less appetizing. Others describe, sometimes quite inadvertently, the frustrations of doing research in rural areas when a crucial experiment is abruptly cut off by the lack of basic supplies while others express their intense frustration when local respondents, so exasperatingly, answer survey questions in perniciously ridiculous (i.e., unexpected) ways.

There are also the gems. The irate field man, annoyed by his living conditions, frustrated by the inertia of the peasants, wanting his monthly salary cheque paid on time, and demanding at least rain boots to protect "his dear life" endangered as it is by snakes—"or wild animals, for that matter," or another, confounded by "armchair critics" in their air-conditioned rooms in Accra, who theoretize about his work while seeming to be oblivious to the harsh realities of life in the field.

Although initially written for an audience of Ghanaians and other specialists involved in the rural development of Ghana, these papers have a far wider appeal. They have therefore been edited for the international audience which deserves to read them. For they describe a process of stimulating rural development through a sensitive understanding of the oft-misconstrued complexity of the lives of rural peoples and by offering them a variety of simple, visibly-demonstrable processes which they can understand and in which they can participate if and to the extent they choose.

New schools are not built nor feeder roads constructed; neither are solar pumps introduced nor massive irrigation schemes devised. Rather, a subtle process of teaching and learning is entered into equally by specialists and peasants alike. Problems are identified and suggestions made, priorities recognized and options offered, ideas introduced and preconceptions altered by expressions of local interest. Through an evolving process of mutual understanding come instances of incremental change: a homeowner installs wooden-louvered windows; an acceptable, locally-manufacturable toilet is devised; a locally-compounded, inexpensive brand of poultry feed is concocted and tested; poultry coops are designed and constructed from locally-abundant bamboo; village soccer teams are formed which encourage enthusiastic young people to travel from village to village within the valley to follow their own teams play instead of trooping off on week-ends to the city for their entertainment; cala-

bashes, laid on the ground before being dipped into drinking-water containers, are shown to be a major cause of diarrhoeal diseases, so the Yensi water jar (with cover and spigot on the lower side) is designed and locally-produced.

Thus does change take place, slow and incremental, seldom dramatic, yet, as one of these authors writes, based upon the wisdom of starting in simple, small, practical, and economic ways; not, as he avers, by building "white elephants."

The literature of development is now replete with references to participation, to appropriate technology, to bottom-up planning, to the non-economic factors of development; indeed, to integrated rural development. In the pages which follow these concepts are given life and meaning in a particular geographical context where they are being put into practice and clearly working. That few agencies in the development business pay more than lip-service to these new imperatives is well-known. They remain too content with building white elephants—seeking the dramatic and visible—believing that only they know best and making light of the uncanny wisdom of the peasant. Their constituents would not have it otherwise.

When, however, the constituents of a development program are not the providers of external resources, but the beneficiaries of the effort, and when those beneficiaries are the people of one's own country (as with the Ghana Rural Reconstruction Movement), the methods employed and results achieved tend to be different. Patience is possible, undramatic change is tolerable, reconstruction can be slow, incremental, and gradually effected over a long period of time. It is something which we all can learn from these papers.

The contents of this book have therefore been edited with a broad audience in mind. To cater to this audience, exhaustive tabulated data, bibliographies, and diagrammatic and other graphic displays have largely been deleted. Syn-

tactical editing has been done for purposes of clarification and consistency as well as to enhance the book's overall readability; in several cases minor rewriting has been done to eliminate redundancy. Every effort has nevertheless been made to preserve the special individual quality of each paper without burdening the reader with too much that is repetitious or irrelevant.*

What remains may occasionally appear to be of limited interest to non-Ghanaians; for the perceptive reader, however, the papers should prove illuminating. For they suggest the several ways in which any rural development program can be perceived by the variety of people who necessarily come to be associated with it; additionally, they enable those involved in an experiment in rural development to achieve an enhanced understanding of the types of questions which they should ask themselves as well as the proposed beneficiaries of their work before and during any venture which seeks to transform other people's lives. Administrators, outside experts, and field men can all learn from these pages what it is they should be about, and (most importantly) how they might well go about it.

Not only do these papers comprise a fascinating account of the origins and early efforts of an integrated rural development effort, they may also therefore serve as an instructional guide, providing a useful frame of reference for other development agencies—including the national movements which have already been inspired by the ideas of Dr. Yen—as they document and evaluate their own reconstruction programs. It may not be by chance that the Mampong Valley lies astride the River Yensi, symbolically linking the name of the founder of the concept of integrated rural development—Yen—with the suffix *si* which, in the local Twi language, means “to build.”

*Copies of the unedited versions of these papers are available from the Ghana Rural Reconstruction Movement, P.O. Box 2338, Accra, Ghana.

**AN EXPERIMENT IN INTEGRATED
RURAL DEVELOPMENT:
THE MAMPONG VALLEY
SOCIAL LABORATORY IN GHANA**

Keynote Address

Juan M. Flavier
*President**

International Institute of Rural Reconstruction

Distinguished members of the Ghana Rural Reconstruction Movement and Honorable Guests and my Beloved Friends:

Thank you very much, Mr. Twum-Barima, for that most gracious welcome. However, I must disappoint you by saying that I can no longer be made a Ghanaian, because I have actually been one since 1968 when I was adopted into the Ampofo family. In fact, I have a Ghanaian name: Kwaku Annan Twum-Ampofo Okasu from Mampong Akwapim.

It is a deep pleasure for me to be back because I could easily consider Ghana as my second country. The similarity in the people, the land, climate and vegetation gives me a special affinity with you. I understand your students at the University of Ghana are on strike. Our students in the University of the Philippines were likewise on strike last week over a tuition fee increase.

For another, Ghana is an affiliate of the world-wide brotherhood known as the Rural Reconstruction Movement. So I feel very much at home.

Yesterday, the Ampofos and I accidentally met a U.N. man who shall remain nameless. When informed about

**At the time of the seminar, Dr. Flavier was First Vice-President of the IIRR. On May 12, 1978 he assumed the position of President of the IIRR.*

the seminar this week, the U.N. man said with feeling: "What? Another seminar? We have far too many seminars. Integrated rural development! That is all slogan!"

I think he is an intelligent man and I felt his concern made sense. It is true there are too many seminars. And, since Mr. Robert McNamara of the World Bank spoke of the need for integrated rural development a few years ago, everyone has started to repeat the same phrase and, in fact, it has become the "in" thing. Whether people really understand it is something else. It is worth mentioning in passing that Dr. James Yen used the phrase "integrated rural reconstruction" half a century ago when McNamara was only a teenager.

The U.N. man referred to the many developing countries that make a strong point of committing themselves to the importance of rural areas because 80 percent of the population live there. But in a study made, the actual expenditure for the rural sector was only 20 percent of resources. Hence, there is a wide gap between promise and performance, between words and action. Can we blame this U.N. man for calling integrated rural development a slogan when policy is different from expenditure?

Having agreed with the views of this U.N. man, I was tempted to go home. But on analyzing his views last night, I came to the conclusion that, for the same reasons, this seminar should be held and is extremely important. For the seminar is in fact not an exercise in words but based on action work for the past three years. Integrated rural development has been so loosely flouted that there is need to set the record straight. There is a definite need for reporting, analyzing, and discussing the action experiences in integrated rural reconstruction, hence the need to share ideas on the Mampong Valley Social Laboratory experiment.

Yesterday, I spent the afternoon reading all the advance papers and must compliment the writers for their

impressive pieces. In addition, I made two important observations which speak well of the GhRRM and the University of Ghana. First, I found a very happy and balanced blending of the rigors of academic discipline and the realities of field practice. I feel that one without the other is not adequate. Second is the faithful adherence of the movement to our time-tested philosophy and credo.

Unfortunately, I found that the points for my keynote speech are covered by the various papers. Since I came to learn, this is just as well. So what I will do is simply underscore a few issues which I call lessons learned.

First of all, what we do is wanted and needed by the rural areas. Sometimes we are so enthusiastic that some of us end up imposing programmes and activities on the bewildered farmers. I am afraid that sometimes we outdo Jesus Christ. He shook the dust off his feet when the people did not listen. In our case, we insist and impose.

But how do you determine felt-need? Everyone talks about felt-needs, which are a rather complicated thing. When I was in the Philippine RRM, I used to tell our field workers: "Go to the villages and feel their need!" After a week, the rural workers would return and say, "We cannot feel anything!" How do you feel needs? By survey, dialogue, observation, reading existing records, etc. Not by one way, but a combination of available ways. Sometimes, what we as leaders think is reflective of the community is in fact only the selfish needs of a single leader.

There is a story of three Girl Guides that comes to mind. Every Saturday the Chief Girl Guide met the young members to ask them to recount their good turns for the week. The first Girl Guide said she helped an old lady cross the street, for which she got five points. The second Girl Guide reportedly hesitantly that she assisted the same old lady cross the same street. A third Girl Guide said even more hesitantly that she likewise helped the same old lady cross the same street. The Chief Girl Guide was

puzzled by the need for three persons to help one old lady cross a narrow street. The oldest of the three Girl Guides explained, "You see, the old woman did not want to cross the street!"

I wonder whether sometimes we get farmers to cross streets they do not want to traverse principally because we want to report the results. In our obsession for achievements we literally push people whether they like it or not, need it or not.

There is also that job applicant who took a bus for the interview. For practical purposes, we shall localize the setting. He took the bus at Accra for Mampong. But he was so sleepy that he requested the driver to wake him up and put him down at Mampong. To make a long story short, the applicant woke up to find he was already in Koforidua. He was furious and cursed the driver for forgetting to put him down at the proper place. A passenger remarked that he had never seen a more angry man in his life. The driver answered, "You should have seen the man I put down in Mampong. He was even more angry!"

So you see, sometimes we put down the wrong people and leave in the wrong ones. When the work falls apart we blame the passenger, when it was actually a problem with the driver.

The other lesson I want to underscore is the need to encourage participation in the planning and decision-making process. Oftentimes, we only involve the people in the implementation of projects.

This point is most vital, especially in the light of the concept of self-help and self-reliance. There was a time when dichotomy was the rule: Target-client and change agent, giver and receiver, consumer and provider, patient and doctor. Two distinct worlds. But lately, these two worlds have been fused into one. The target is the change point. The provider is consumer. In the case of the Barefoot

Doctor of mainland China, the doctor and the patient are both the farmers. If this be the case, then participation in all aspects must be observed if the development effort is to prosper.

Even the days of advisers and consultants are past. Involvement or participation is the rule to understand the problem, thus providing Ghanaian solutions to Ghanaian problems.

There is a favourite story among FAO circles. It concerns an upgrading project in cattle. To produce bigger cattle, with more meat and more milk, the decision was made to get a purebred bull. Unfortunately, after two years, no up-grading had occurred, so the bull was asked. His answer was straightforward: "I am only a consultant; I do not do the job."

The next point is the concept of integrated rural development. In December 1976, I participated in a discussion on this topic and asked twelve persons from twelve agencies their understanding of integrated rural development and I got twelve different answers.

Let me share with you the views of Dr. Yen. He says that integration must ultimately be reflected in the person. For he is a total and whole man. His problems interlock. The successful solution of one depends upon the successful solution of the others. However, integration is a natural process. One activity logically leads to the others, whatever the area of his concern—livelihood, health, education and culture, and civic responsibility.

More will be said about integrated rural development in the papers to be presented this morning. But I have been able to understand the approach by stating that literacy alone is not enough. Health alone is not enough. There must also be livelihood and even civic consciousness, hence integration in the human reconstruction of the total

human person. It implies the release of his God-given potentials.

The other lesson I would like to refer to is communications. I do not yet know enough Twi [a language of the Mampong Valley] to be able to tell whether it has words for the technical terms necessary to explain scientific information. Simplification of science is difficult. Having an adequate language to convey the idea is an even bigger difficulty.

I remember the chap in my country who had a Masters degree in Agronomy. He went to a village to teach the use of salt solution to disinfect the rice seeds and select the heavy-laden ones. He said: "Prepare an isotonic saline solution with specific gravity of 0.9 and place the *Oriza sativa*. All those with buoyancy factor plus two will sink and all those with buoyancy factor minus two will float."

Or take family planning. There are many reasons for the difficulties we encounter. But I submit that a big reason for slow adoption is the inadequacy of language. In our dialect there is no word for ovary, ovulation, etc. What we have is hispanized English, understood only by the educated. Or how does one translate I.U.D.? To begin with, it is an abbreviation which means intra-uterine device. Some suggested *alambre*, which is supposed to mean wire, because of the double S-shape. Later we found out that the real translation of *alambre* is barbed wire. Now imagine a 19-year-old woman, afraid of a foreign body being inserted in her womb, not fully knowledgeable about the mechanism of action, and we say, "Look, we will insert a barbed wire!" The woman runs away, and we say with all solemnity, "She is resistant to change".

I once asked a woman what method she was using, and I was told she had an A.I.D. Of course, she meant the I.U.D., but she said the more familiar A.I.D. That one is dedicated to the A.I.D. participants in this seminar!

Finally, let me share with you the lesson that rural development is difficult and a thankless job. Perhaps I am saying this more for the field people, although I will not be surprised if it is relevant to the academic people also. Sure, there are satisfactions and grateful souls. But be ready for being misunderstood.

What I am trying to say is that I have been in rural development for 16 years. That is a long time. There are many things that have sustained me. But one story has enabled me to weather the thanklessness of the job and the occasional persecution.

It is the story of a farmer whose rice crop was devastated by a strong typhoon and a week-long flood. This happened in a November when the rice was just about to be harvested. He lost everything. In desperation, this farmer wrote a letter to God. He reasoned that if God did not answer, he had lost nothing. But suppose God answers?

So Lencho sat down and wrote: "Dear God: The typhoon has just come and devastated my rice crop. I have seven children, God. Please send me twenty cedis to tide me over. Sincerely yours, Lencho." He placed it in an envelope, put on a stamp, addressed it to God in heaven, and actually mailed it.

To make a long story short, the letter reached the post office. You know, a letter addressed to heaven is difficult to deliver. The postmen read it and had the time of their life laughing. In this age, when people say God is dead, here was a man who actually wrote a letter to God! Before putting the funny letter in the dead letter section, they showed it to the postmaster. Instead of laughing, the postmaster felt that the letter was not funny at all. In fact, it was a chance to help a man in need.

Out of shame, the postmen passed the hat around to collect contributions to help Lencho. But money is diffi-

cult, so they collected only fifteen cedis instead of the twenty cedis. Still it was an amount given with sincerity.

Just to play the game, the money was placed in an envelope with a stamp and a stamp mark. On the upper left-hand corner they wrote: From God in Heaven. And a postman hand-carried the letter to Lencho in the village.

On seeing the letter, Lencho was ecstatic with joy, especially on noting the enclosed money. But when he counted only fifteen cedis instead of the twenty cedis requested, Lencho decided to write another letter to God.

He wrote: "Dear God, Thank you very much for the cedis you sent. But next time, God, do not send money through the post office because the people in that office are God-damn robbers. Sincerely yours, Lencho."

May I conclude by congratulating the Ghana Rural Reconstruction Movement and the Seminar Planning Committee, especially those from the University of Ghana at Legon, for this most worthwhile and significant seminar. To all of you who have come as participants, my fervent wish that this four-day sharing of experiences and views will be truly fruitful and meaningful.

Section I | **Rural Development:
Concepts, Theories,
and Strategies**

The Essence of Rural Reconstruction

D. A. Ampofo

In practical terms, rural development in Ghana and other developing countries is often equated with the provision of social amenities to rural areas. It usually has two objectives: firstly to prevent the drift of young people from the rural to urban centres, and secondly to improve the lot of rural people. Rural reconstruction, according to the usage of the Ghana Rural Reconstruction Movement, aims at both the human and material development of the rural dweller. Recently the Government of Ghana instituted the National Reconstruction Corp. with its main aim being to use the youth to establish settlement farms, etc., in rural areas. This is certainly not the meaning of reconstruction for the GhRRM. It has thus become necessary for the Movement to clarify its position on the meaning of reconstruction.

The word "reconstruction" implies a change. The change that is expected is in the behaviour of the ultimate human target, the farmer. At the end of the reconstruction period, the farmer should have changed from his traditional activities and behaviour to more scientific methods of achieving his goals in the fields of livelihood, health, education, and citizenship. Thus, in the GhRRM programme, the farmer was shown the benefits of multi-

cropping on the same piece of land in order to achieve better yield and higher income. He was made aware of the usefulness of cooperative ventures to facilitate credit acquisition, processing of produce, and marketing.

In health, safe drinking water was emphasized because water was the common vehicle for transmitting germs, especially those responsible for gastrointestinal disorders. The practical way of ensuring the safety of drinking water included water boiling, hand washing before eating, and the hygienic care of water receptacles. He was made to regard his civic responsibility with seriousness by urging attendance at community meetings where he could participate in decision-making for the common good. The Movement's Officers live with the farmers in their villages to act as continuous stimuli to motivate the villagers until the desired effect has been achieved. And at the end of the reconstruction period, there must be criteria for measuring the change that has occurred at the family—as well as the community—levels.

The Integrated Approach. The most salient point in rural reconstruction is the integrated approach. In government-sponsored rural development, the emphasis is often placed on the provision of amenities by the rural development agency while other aspects of socio-economic advancement are left in the hands of respective Departments and Ministries with their headquarters in the capital. In rural reconstruction the agents responsible for total development are grouped together under one organisation. The integration must be organic as well as functional.

It has been found that merely grouping the experts in one place is not enough because it is hard to eliminate the tendency to be interested in one's own special field. To achieve organic and functional integration of activities in the field, the following schedule was practiced by GhRRM. Each Departmental head makes a quarterly forecast of

activities divided into weekly assignments. The content of each forecast is discussed at weekly meetings so that each member of the team knows exactly what the others' plans are. For the most effective impact, activities are coordinated in such a way that all activities at a particular time are concentrated in a definite geographical area. To integrate activities over the whole project, multi-purpose propagators are stationed at strategic villages to ensure that the momentum of concentrated effort is maintained at the village level. This part of the integrative activity is under the charge of a Field Coordinator who is also Deputy Director of the Yensi Centre.

Integration is also reflected at the community level. Periodically the staff of the Movement hold meetings with farmers from different villages to compare notes and to appraise the work done in each village. This gives the farmers a general view of the GhRRM activities in the Project Area. Projecting the integration idea into the government machinery can be achieved when there is a concentration of several extension services under one organization. The government approach of allowing agencies and institutions to move into the rural areas according to their own priorities has not yielded the desired results. The Governor of the Bank of Ghana recently suggested "the establishment of a body to coordinate and direct the activities of the various agencies and institutions which render services to the farmers of the country to speed up rural development." His reason was that at the moment there was no visible coordination taking place among agencies working with rural people—the banking institutions, the various agricultural research stations, extension services, marketing agencies, and the cooperative department. It is the conviction of GhRRM that it is possible to achieve the required integration both at the organisational level as well as at the implementation level in the field and that this will yield better results. The coordinated government effort suggested by the Governor is consistent with the

GhRRM's philosophy and outlook. In each district the various government extension services could come under one umbrella to ensure that all groups work for the good of the district as a whole, irrespective of Ministerial or Departmental affiliation.

Rural reconstruction does not preclude the establishment of capital works and amenities for the common good of the community. In the area where the Movement operates, it familiarises itself with the government plans for the area and uses its influence and contacts to assist in the implementation of capital development projects. In addition to this, when the community decides to obtain a particular amenity, it is encouraged to secure it through cooperative effort. This means that feasibility studies for the creation and maintenance of the facility have to be made. It is imperative to stress from the beginning of the venture that the amenity must be paid for and maintained by the people of the community. This can only be achieved when rural people have a firm economic base.

The GhRRM's Temporary Role. The other salient feature of rural reconstruction is the temporary existence of the catalytic agent in the area of operation. GhRRM should not be regarded as a permanent institution in the area where it is functioning. The Movement sets out to change the attitude and way of life of rural people to suit the rural environment. After the change has been effected and the community is able to conduct its affairs in accordance with GhRRM philosophy, then the Movement's officers should leave the area and curtail its direct involvement. It can then focus its attention on another part of the country, while it retains only an indirect link with activities of the reconstructed area through its resident propagators.

The Target Population. The commonly expressed purpose of government-sponsored rural development is to check the drift from the rural to urban centres by school leavers

in rural areas. It is reasoned that what attracts young people to urban centres are social amenities such as electricity, pipeborne water, paved roads, and improved housing. Therefore, if these are provided in rural areas, the drift should be minimised. No mention is made of the earning power of the young people, whether at the rural village or in the urban centre. Attempts have been made to settle school leavers on farms under the auspices of the Ministry of Agriculture, but experience to date shows that school leavers find the life on the farms arduous and monotonous and the returns so meagre that they leave the settlement farms for urban centres.

One of the objectives of rural reconstruction is to develop a rural area to such an extent that many people would like to remain and live in the locality. The target population, however, is not the young school leavers but those who have no choice but to live in the village. These are the farmers who are attached to their land and have to live there and make a livelihood for themselves. It is believed that as a result of rural reconstruction the farmers—and the inhabitants in general—will be able to practice scientific farming, increase their income, live in healthy surroundings, and provide themselves with needed amenities. The young people in the rural areas would then be convinced that there is a lot to be gained in the rural locality if they stayed and participated in activities of rural reconstruction. This is more likely to minimise the drift from rural to the urban centres than the mere provision of amenities.

Universal Nature of the GhRRM Philosophy. GhRRM is an organisation which, at present, seeks to carry out the philosophy of rural reconstruction in a specific area—the Mampong Valley Social Laboratory. The ideas and ideals of rural reconstruction are, however, universal. At the request of any public-spirited individual or group from a rural community expressing interest, GhRRM will offer its services and expertise to train personnel chosen from

the particular community. After training, the trained personnel would be expected to return to their people and put into practice what they have learned.

The Theoretical Basis of Integrated Rural Development

N. O. Addo

The idea that society is a complex whole in which all parts are interrelated has its origins in the writings of early Greek philosophers. Plato, for example, spoke of the three different elements of society as the thinking, the feeling, and the appetitive parts, each represented by a particular social class. However, the organic analogy became widely prevalent in the writings and thoughts of early sociologists in the 18th and 19th centuries, who drew their inspiration from biology and compared society with the human organism, using terms such as the "organ of society" and the "differentiation of its parts."

The idea of equating society with the human organism has been organized into three schools of thought. One school is the "organic school", whose basic assumption is that society, the universe, or the totality of everything are all integral wholes and have properties like an organism; for this school, the relation between the sub-parts are like the relation between the organs of a living body. This "holistic" approach is a departure from the atomistic approach which tends to treat social wholes as having characteristics similar to mechanical objects, whose parts are replaceable and can be assembled in different ways.

One exponent of the organic school was Herbert Spencer, who used evidence from biology and anthropology, and applied his criteria of complexity, differentiation, and integration to human society. In particular, he argued that

the differentiation of functions in society and an increasing "positivistic" move towards scientific control of the human environment would result in greater production, more leisure, and a greater pursuit of ideals.

Another exponent of the organic conception of society was P. Sorokin, who distinguished three types of organism: (i) philosophical, which conceived society as a super- or trans-individual reality; (ii) psycho-social, which conceived society as a super-individual organism of ideas, representations, mind, and volitions; and (iii) bio-organismic, which conceived society as a biological organism in its nature, functions, origin, development, and variations. Sorokin argued that even though organismic theories have been held by ancient Hindu, Chinese, Greek, and Roman writers, the dramatic development in biology, which culminated in the work of Charles Darwin, led to the development in the late 19th Century of a new series of bio-organismic theories.

The second theoretical foundation of integrated development is functionalism. Like the organismic conceptions of society, functionalism is based upon the analogy between society and an organism. The basic assumption underlying this approach was the notion that all of the institutions, beliefs, values, and morals of the society are an interrelated whole, so that the existence of any one item in the whole is dependent upon the others. It therefore holds that changes in any part of the social system will have important consequences for other parts and for the system as a whole.

One version of the functionalist theory, that of Malinowski, explained social phenomena by reference to individual biological and "derived cultural" needs. In the extreme form proposed by Malinowski, this approach asserted that every social activity had a function by virtue of its existence, and that every activity was so completely integrated with all the others that no single phenomenon was intelligible outside the whole social context.

As a sociological theory, functionalism originated with Emile Durkheim. In his classical form of functionalist explanation, he defined the function of a social institution as the correspondence between it and the needs of the social organism. In his explanation of religion, for example, he refutes theories which explain religion as a product of the intellectual or emotional characteristics of individuals and avers that religion is a social phenomenon. He then explains religion in terms of a collective need to express a sense of solidarity and an awareness of the social derivation of the moral order. In effect, he seems to account for the phenomenon in terms of its desirable consequences.

With time, the functionalist approach was modified to become less dogmatic and less exclusive. Merton, for example, attempted to make the approach more useful by distinguishing between function and dysfunction, and between manifest and latent functions, indicating that any institution may have several functions, any one of which may be of crucial importance in a particular society.

It can therefore be said that functionalist theory generally purports to explain social phenomena in terms of the part which they play in maintaining the existence of a society. Like most early social theories, functionalism has been criticised; some even question whether functionalism is a theory at all. Whatever the criticisms, perhaps what is most valuable in the functionalist approach "is the greater emphasis and clarity given to the simple idea that in every particular society the different social activities are interconnected."¹

The third theoretical foundation on which integrated development is based is the systems theory. As reconstructed by social scientists, this concept of system integration refers to the way in which the different sets of norms, values, sentiments, role-structures, institutions, beliefs, and

¹T. B. Bottomore, *Sociology: A Guide to Problems and Literature* (London: 1962), p. 53.

symbols which are characteristics of a social system are interrelated and mutually reinforcing. It explains how different activities occurring in a society or a sub-system of a society support one another. System integration can occur in society in three main forms: (a) The degree to which one social or cultural process contributes to the operation of another or others; (b) the manner in which, and the degree to which, different features of social life can coexist without actually obstructing one another's operations; and (c) the psychological correspondence between different ideas, norms, and symbols of a culture, so that they constitute a consistent pattern.

Proponents of the systems theory further argue that each of the variables of functional interdependence in a social system—compatibility, mutual support, and psychological consistency—affects the other. As Cohen puts it:

In so far as items are compatible they tend to be used in support of one another: in so far as they are used or need to be used in support of one another, there is pressure to make them mutually compatible; in so far as they are closely integrated in these two ways they will be internalized by most participants as integrated items; and in so far as this occurs, the items will continue to coexist and to support one another.²

Perhaps the major criticism of the systems theory as applied to society is that it fails to account for variations in the degrees and forms of functional interdependence and for the relative lack of it in some cases. For example, it is known that even in the simplest systems there are some areas which are relatively autonomous with respect to others, and there are also many possibilities of conflict between institutional parts or between different norms.

Furthermore, as pointed out by A. W. Gouldner, it can be argued that even though different parts of a system can be said to be functionally related, this does not mean that the mutual effect of each on the other is of the same

²P.S. Cohen, *Modern Social Theory* (London: 1969), p. 153.

magnitude. There is, thus, the problem of functional reciprocity to be resolved.

The Integrated Approach to Rural Development

"Integrated development" as a concept became popular in international circles in the mid-1960s. It started as the peculiar and pressing need for the various specialized agencies of the United Nations to reduce rivalry and to work better together.³ In other words, integrated development meant development in which several UN agencies collaborated, or were meant to collaborate, so that their activities might become mutually reinforcing.

In recent times, this usage of the concept has been extended to rural development, resulting in an approach variously referred to as the integrated, the multi-sectoral, the multi-faceted or the fully comprehensive approach, all of which purport to deal with every aspect of rural life. The basic assumption underlying this approach is that rural programmes should be planned and implemented at the local, district, and regional levels within the framework of an overall national development plan.

Integrated rural development aims generally at the attainment of three objectives:

(i) Economic development, which ensures overcoming the vicious circle of poverty, a major hindrance to social security and stability. This includes raising the productivity of the rural people and thus increasing their incomes, ensuring equitable distribution of income and participation in economic activity and productive employment by all sectors, properly utilizing local resources including the management of land, improving basic social and economic infrastructure, and encouraging popular participation in decision-making by all sectors of the community;

³R. Chambers, *Managing Rural Development: Ideas and Experience from East Africa* (Uppsala, Sweden: The Scandinavian Institute of Africa Studies, 1974), p. 24.

(ii) Social development, which aims at effecting desired social change at a speed commensurate with the development of material resources; and

(iii) Educational and cultural development, which aims at equipping the rural population with the means to attain the goals of economic and social development.

In order to achieve these objectives, the integrated approach calls for the mobilization of all human and material resources to cope with the complex problems of rural development. This involves the stimulation of the active participation of the rural community for whom a development programme is designed.

Secondly, the approach is based on the premise that the problems of rural areas—such as rural-urban migration, rural exodus, unemployment and low productivity in agricultural and industrial activities—cannot be considered in isolation, but should be tackled in relation to those in urban areas. Both the rural and urban sectors must complement each other in the planning and implementation of an overall national development plan.

Thirdly, the approach signifies the interdisciplinary integration of the various rural development activities into a comprehensive system which takes into account the inherent interrelationships and complementarities of physical, economic, and political factors. In this connection, the approach recognizes that there should be coordination and integration of development programmes at all levels by the central government, voluntary agencies, and members of the community, as well as decentralization of management and control of development programmes to ensure active local participation. To do this effectively, there is the need to establish guidelines for the various agencies involved in the development process.

In a nutshell, then, an integrated rural development programme should be part of an overall national develop-

ment plan and should involve the active participation of all members of the rural community in the development process; it should seek the integration of the urban and rural sectors and effect coordination of programmes of all agencies concerned with rural development.

It is therefore obvious that the integrated approach to rural development has a number of advantages. In the first place, the approach ensures that various development agencies use resources sparingly and do not duplicate one another or compete for the same resources.

Secondly, the rural population is mobilized and made aware of the importance of rural development; they are thus encouraged to participate meaningfully in the development process.

Finally, by making a rural development programme part of an overall national development plan, it not only becomes easier to allocate resources for rural programmes but also less cumbersome for government structures and procedures to be adjusted to deal effectively with the requirements of programmes in one or a few regions of a country.

Despite these advantages, the integrated approach to rural development has its drawbacks and heavy costs. In the first place, as has been pointed out by R. Chambers,⁴ the approach is liable to mean a simultaneous implementation of many different programmes in the same area. However, if the emphasis is on mass participation, then a sequential approach, involving the establishment of clear priorities and the phasing of activities, may be more appropriate.

Secondly, an attack on many fronts in one area may involve a wasteful and inequitable concentration of resources. This is especially the case in developing countries where the potential target groups are large relative to

⁴Ibid., p. 25.

available resources, particularly the trained manpower and institutional capability available for planning and implementing rural development programmes. As Lele argues:

It would seem . . . that in many cases the objectives of mass participation of low-income groups may be better served by a more equitable allocation of resources at the outset to ensure a minimum level of services and institutional development for removal of the most critical constraints before a few regions benefit from substantially greater allocation.⁵

Finally, the terms "integration" and "coordination" are very often used synonymously, with the result that they are easily regarded as automatic benefits. However, when the activities to which they refer are looked at in detail, they are sometimes seen to have heavy costs. For example, coordination can have such high costs in staff time spent in meetings and paper work that output may be nil. Therefore, unless integration between officials is regarded as an end in itself, it is possible that unconnected projects are best implemented in an unconnected fashion. Even when projects are connected, it is suggested that costs as well as benefits be weighed when assessing whether projects would better be implemented independently of one another.

Emerging Models of Integrated Rural Development⁶

In operationalizing the concept of integrated rural development, a number of models have emerged: (i) The rural-urban integration model; (ii) The intersectoral and/zonal coordination model; and (iii) The "package approach" model.

⁵U. J. Lele, *The Design of Rural Development: Lessons from Africa* (Baltimore: 1975), p. 186.

⁶This section has drawn heavily on E. E. Ekong, "A Critical Appraisal of the Emerging Models within the Integrated Approach to Rural Development in Africa." Conference on Rural Development and Regional Planning, University of Science and Technology, Kumasi, 11-17th April, 1977.

The rural-urban integration model has the following characteristics: (i) The planning of rural programmes along with (and in the framework of) an overall national development plan; (ii) The deliberate involvement of rural people in the planning, execution, and evaluation of all development projects directly affecting them, thereby gradually integrating them into the mainstream of national development; (iii) A stress upon social equality and self-reliance on a national scale and an accompanying maximum mobilization of domestic, human, and material resources so as to attain these goals and thereby generate rural-urban integration; and (iv) Equal emphasis on economic and political participation by rural people.

(Tanzania is a good example of a country in which this model of the integrated approach has been adopted as the central focus of its national development effort. Indeed, since 1967, the country has adopted the villagization scheme as a strategy for achieving a balanced urban-rural development. Despite a number of problems, the establishment of *ujamaa* villages has ensured that both production and distribution are determined by the villagers themselves, who are the ultimate beneficiaries of rural development efforts.)

The distinguishing feature of the intersectoral or zonal coordination model is the coordination of hitherto isolated sectoral and zonal development programmes directed at rural areas. The major characteristics of this model include: (i) The integration of various rural development activities into a comprehensive system; (ii) The tendency of the central government to establish a super-ordinate body charged with responsibility for coordinating all rural development activities in the country; (iii) A cold war atmosphere between agencies and persons expected to cooperate in rural development; (iv) The absence of an articulated and popularly-shared development ideology upon which integrated rural development efforts are founded; (v) An obvious preoccupation with creating ideal organiza-

tional structures for achieving coordination without a corresponding consciousness of using the integrated approach to eventually close the urban-rural gap; and (vi) The absence of the rural population's participation in the planning of programmes affecting them and the prevalence of a patronizing or clientelistic attitude towards them.

In the third model of integrated rural development—the package approach model—the concept of integrated rural development has been interpreted to mean “putting together a number of interrelated programmes or items so that they form a complete or interrelated package for rural development.”⁷ In other words, the concept of integrated rural development is operationalized by the central or regional government supplying a packaged project to a specific area. The distinguishing features of this model are: (i) A preoccupation with projects and their supportive facilities rather than with people and their overall well-being; (ii) A project-oriented model in which the success of each project is usually equated with the success of the entire rural development effort; (iii) A highly localized nature of projects whose sponsors tend to emphasize their demonstration effects instead of highlighting the benefits which rural people may obtain from them; (iv) The incidental nature of projects to the overall national development plan, since they are invariably co-sponsored or sponsored by external agencies; and (v) The degree of local participation in the planning of projects is usually negligible and their implementation usually benefits only the few who are able and articulate enough to participate.

It can thus be argued that although the package approach model succeeds in most cases, the integration of rural development activities into a comprehensive system for a small local area generally fails because it does not meet the other objectives of integrated rural development:

⁷Ibid., p. 20.

the integration of the rural and urban areas into a continuum; the mobilization of the rural population to encourage self-reliance; and the incorporation of rural development programmes into the overall national development plan.

The Integrated Programme of the GhRRM

The Ghana Rural Reconstruction Movement has the basic philosophy that the issues of development should be tackled in a holistic fashion. It therefore advocates a totally integrated concept of action and research. This implies that all activities are to be viewed as necessary complements and the success of each component will define the success of the whole. This basic philosophy has been spelt out in the GhRRM's integrated four-fold programme to combat poverty, disease, illiteracy, and civic inertia among rural people. The Movement believes that the successful solution of one of these problems depends on the successful solution of the others.

- (i) Livelihood — to combat poverty through improved plant and animal production, credit, purchasing and market cooperatives, village industries;
- (ii) Health — to combat disease through immunization, health education, clinics, family planning, nutrition, maternity and child care, environmental sanitation;
- (iii) Education — to combat illiteracy through literacy, literature, folk drama, folk music and other cultural activities; and
- (iv) Civic responsibility — to combat civic inertia through citizenship training.

One of the tenets of the GhRRM is that the involvement of appropriate local personnel, professionals, and ins-

stitutions is an important prerequisite to the successful implementation of a rural development programme. Accordingly, the movement is led and run by its own nationals for the uplift of their fellow nationals. The basic strategy is "to build from the bottom by teaching the peasants practical ways to do things for themselves" as expressed in the Movement's well-known motto:

Go to the people;
Live among them;
Learn from them;
Plan with them;
Start with what they know;
Build on what they have.

Furthermore, the Movement has adopted the interdisciplinary approach to the solution of the problems of the rural folk. The Movement is a coalition of three key groups, namely:

- (i) National sponsors, who are civic-minded leaders deeply concerned about the plight of their rural countrymen;
- (ii) Science simplifiers from various specialties who train the workers at the Mampong Valley Social Laboratory; and
- (iii) Science missionaries, who are the rural workers and village leaders.

As the Movement has stated, "Separately none of these can accomplish much, but together they constitute a potent force for nation building at the grass-roots."

In addition, the Movement has adopted an approach which is interdepartmental, aimed at ensuring interagency cooperation and coordination. Consistent with its basic philosophy, the Movement has stated in its publication, *Concept of Research*, that it "will seek and involve various entities within the University of Ghana, Legon, as well as

governmental and private institutions, on a sub-contractual basis to perform various parts of the research component of the overall programme."

Finally, the GhRRM recognizes that activities within the social system are interrelated and need to be studied. For example, it views development and population matters to be interrelated and intertwined. As such, they must be treated simultaneously if the hoped-for improvement in the quality of existence is to be achieved. Accordingly, it proposes to intensify its programme of understanding the relationships between development programmes at the community level and its population (family planning) programmes. It has therefore stated that:

The provision of community development action programmes, such as education, health, roads, etc., will provide for the people the needed release from civic inertia to propel the community towards self-sustained development; and that such positive gains will be safe-guarded through the adoption of population programmes that reflect the increased need to reduce desired and completed family size, which in turn will generate increased demand for family planning services.

Even though the GhRRM has been in existence for about five years and despite serious financial constraints, preliminary reports and records indicate that it has begun to make a meaningful impact on the local population in the field of agriculture and health. As one commentator has noted:

The favourable response of the people suggests that a strategy based on the local resources utilization, simple field demonstrations, easy-to-copy innovations and voluntary participation by the local people is a promising way to initiate rural development. It is hoped that the pioneer effort of the MVSL would meet success, and thus serve as a model for rural development in other areas.⁸

⁸E. A. Gyasi, "Some Preliminary Observations on the Impact of a Pilot Rural Development Project in the Akuapem Mampong Valley." Seminar on Urbanization and Rural Development, Legon, 11-17th July 1976, p. 20.

Conclusion

It is increasingly realized that the development of rural areas must proceed in an integrated manner. This has given rise to the current notion of the integrated approach to rural development which involves the coordination and integration of the activities of the various agencies engaged in rural development as well as a commitment on the part of government to integrate the rural development programme into the overall national development plan. However, there is also the need to integrate rural people, who have so far been by-passed by past and current development policies and programmes, into the mainstream of government activity. This calls for the total restructuring of the social, economic, and political order of the society and the adoption of a policy of decentralization and devolution to ensure that rural people are the real beneficiaries of the rural development effort. It is only when this has been done that rural folk will no longer feel left out in the development process.

Rural Development Strategies with Special Reference to Ghana

C. K. Brown

During the past few years, rural development has received a great deal of attention in development literature, in national plans, on political platforms, and in the lending programme of most donors. This is because it is now realized that all countries should have programmes of rural development if only because rural areas exist in all countries, albeit in different proportions. However, the need for rural development is more pressing in developing countries. For it is here that the rural sector is appreciably larger than the urban sector and it is here that rural activities constitute the basis of national income generation. Therefore, any effort to modernize these countries requires the mobilization of the resources of the countryside, both as a means to improve the standard of living of the rural population and to provide the main source of national income and foreign exchange earnings for use in the development of the urban-industrial sector.

Accordingly, numerous rural development programmes and projects have been launched in many developing countries. Emphasis is similarly shifting towards the development of rural areas, not only to raise the productivity, purchasing power, and standard of living of the rural peoples, but to achieve a balanced urban-rural development, for this is now recognized as a *sine qua non* of any worthwhile development programme. Correspondingly, there are now concerted efforts to encourage in the rural areas

the application of improved technology to agricultural production and small-scale industries, to reform traditional land tenure practices, to develop rural infrastructure, and to reorganize the machinery of rural credit. Efforts are also being made to change the ideas and attitudes of rural people to encourage their use of new equipment and facilities and to participate effectively in programmes of rural development. To this end, some governments have begun to introduce a measure of decentralization in their development machinery and to allocate development funds on a regional or district basis.

This paper therefore attempts to review the various strategies adopted for rural development by successive governments in Ghana as well as their differing conceptions of what rural development entails. The final section of the paper tries to draw useful lessons from past and present approaches and to suggest a viable programme for rural development in Ghana.

The Definition of the Problem

Rural Development, as either a concept or policy prescription, has been variously conceived, interpreted, and applied. It is therefore becoming increasingly difficult to adopt any single definition which satisfies the various suggested meanings of the term. Some see rural development as essentially an economic notion concerned with the economic development of the poor third of the world's population. Others consider an improvement in the real income of the rural population as the essence of rural development. Still others believe that the provision of some basic modern amenities—such as decent housing, health facilities, potable water, electricity and telephone facilities—constitutes the meaning of rural development.

Not surprisingly, various attempts have been made to define rural development. For example, Uma Lele defines rural development as "improving living standards of the

mass of the low-income population residing in rural areas and making the process of their development self-sustaining."¹ The important features of her definition are: the mobilization and allocation of resources so as to reach a desirable balance over time between the welfare and productive services available to the subsistence rural sector; the allocation of resources to low-income regions and classes; and the development of the appropriate skills and implementing capacity and the presence of institutions at the local, regional, and national levels to ensure the effective use of existing resources and to foster the mobilization of additional financial and human resources for continued development of the subsistence sector.

A definition provided by the World Bank suggests that rural development is:

a strategy designed to improve the economic and social life of a specific group of people—the rural poor. It involves extending the benefits of development to the poorest among those who seek a livelihood in the rural areas.²

The rationale behind this definition is that most of the poorer and most disadvantaged people are found in rural areas. These people are often malnourished, least in contact with the modern world, least influential politically, least likely to possess adequate land and capital for a decent life, least able to help themselves, and hardest for governments to help. Thus, in McNamara's phrase, "the poverty of the poorest 40 percent of the citizenry" should continue to be the priority target group of rural development programmes since it is in rural areas that the great majority of these people live.

¹Uma Lele, *The Design of Rural Development* (Baltimore: 1975), p. 20.

²World Bank, *Rural Development: Sector Policy Paper* (Washington: 1975), p. 3.

Still another conception sees rural development in terms of increased productivity, higher incomes and rural employment opportunities. Kocher, who shares this view points out that:

Rural development primarily implies generalized increases in (i) rural labour productivity resulting in growing incomes, and (ii) rural employment opportunities sufficient to absorb the large numbers of new entrants into the rural labour force at continually rising levels of living.³

From these definitions only one common denominator emerges, namely, a concern with the improvement in the working and living conditions of the rural population.

Given the various definitions of rural development, it is hardly surprising that there is no single approach which has come to be regarded as the approach to rural development. The result is that the approach to rural development differs from country to country and there are as many approaches to the rural problem as there are objectives. Indeed, in many parts of the world, rural development programmes have taken a multiplicity of forms. These include: "mass action," "mass education," "popular action," "community development," "*animation rurale*," "agricultural extension," and the like. Rural development has also been confused with agricultural development or with the mechanization of the countryside.

Furthermore, rural development programmes have been classified in various ways: by degree of integration, breadth of objectives, size of target population, or by funding agencies. Lele, for example, has classified rural development programmes into five categories to emphasize their diversity in design and implementation and to point to the gradual shift in objectives. There are: (i) commodity programmes; (ii) functional programmes; (iii) regional rural development programmes; (iv) a miscellaneous category of planned programmes; and (v) spontaneous efforts.

³J. E. Kocher, "Rural Development, Income Distribution and Fertility Decline," (New York, The Population Council: 1973), p. 5.

The present writer has, however, identified the following as the strategies being currently adopted by various governments in their rural development efforts. These are: the social amenity approach; the increased agricultural production approach; the accelerated project implementation approach; the regional development approach; the community development approach; the agrarian reform approach; the approach through rural crafts and small undertakings; the approach through rural resettlement schemes; and, the integrated or interdisciplinary approach. While it would be a useful exercise to review all these approaches, it is beyond the scope of this paper. Therefore, we will restrict this account to the various rural development approaches adopted by successive governments in Ghana.

Approaches to Rural Development in Ghana

Ghana's efforts towards rural development date back to 1943 when the idea to establish the Department of Social Welfare and Community Development was first mooted. From its early beginnings, this Department's function was "not only to provide the necessary machinery for undertaking social welfare work in the Gold Coast but also to examine the wider field of social welfare in its relation to health, education and agriculture." When the Department of Social Welfare and Housing was created in 1946, most of its efforts were concentrated on the construction of community centres, social clubs, and youth centres as the basis for welfare work.

The main strategy used for rural development in these early stages was the community development approach. Under this approach, the main concern was to help the local people grow in civic responsibilities and in the use of their potentialities and talents in achieving desirable economic, social, and cultural goals. The main objective was to stimulate the local people to undertake self-help projects to improve their standards of living. By combin-

ing the efforts of the rural people with those of the government, the approach sought to encourage local initiative and voluntary efforts as well as the use of local skills and manual labour by establishing local development committees in each district with the District Commissioner as Chairman.

Since this early emphasis on mass education and community development, a number of different rural development approaches have been adopted. In 1974, C. D. Kudiabor mentioned three basic approaches which have been adopted by succeeding governments in Ghana towards the development of rural areas: (i) the social amenity approach; (ii) the increased agricultural production approach; and (iii) the accelerated project implementation approach. These approaches have not followed any chronological order or set pattern, with the result that in any one period traces of the other approaches can be found.

The social amenity approach to solving the rural problem lays emphasis on the provision of social services and amenities for rural communities. Exponents of this approach argue that although the rural areas have made considerable contributions to the overall development of the country's economy by the production of basic agricultural raw materials for export and local consumption, they have been completely neglected in the distribution of the good things of life. They therefore argue that, through the distribution of social amenities and services, the gap in living conditions between urban and rural residents will be bridged, while at the same time rural-urban migration will be discouraged and urban residents will be attracted to rural areas.

As a rural development strategy, the social amenity approach has its advantages and disadvantages. On the credit side, the provision of basic amenities might, in the long run, not only lead to increased productivity but also serve as a first step towards the achievement of a balanced

urban-rural development. Furthermore, by using the bottom-up strategy of development planning, the provision of social services could generate considerable potential for increasing the participation of the rural population in development projects. This strategy allows the local people to delineate for themselves their critical needs and to identify the remedial steps that they are willing to take.

On the other hand, it can be argued that, as the sole strategy for rural development, the social amenity approach is expensive. Indeed, cost constraints alone will limit the speed with which central government funds can be spent on the provision of these basic social services to rural communities. This is especially the case in a developing country like Ghana where the other parts of the economy are not yet fully developed to enable funds from the productive sectors to be diverted for the provision of social amenities in the rural areas. This view is endorsed by Lele,⁴ who points out that in many rural areas the demand for a wide range of social services is substantial, whereas the financial, manpower, and organizational resources for effective delivery of social services are often extremely limited. Indeed, experience in many parts of the world has shown that unless the rural community accepts the principles of self-help and self-financing, social services *per se* are unlikely to prove viable and self-sustaining.

Finally, although almost every Ghanaian government has adopted the social amenity approach as one of its approaches to rural development, one is not sure whether the preferences of rural folks have been ascertained before the amenities are provided. Worse yet, it appears that the provision of amenities is not based on the economic potential and factor proportions in these areas, nor is it an integral part of a comprehensive rural development plan; instead, it is based on the political influence of groups who manage to lobby for such amenities.

⁴Lele, *op. cit.*, p. 122

Another strategy for rural development in Ghana has been the increased agricultural production approach. This approach seeks to improve the living conditions of rural folk by increased agricultural production and productivity. The assumption here is that an increase in agricultural production will in turn enable the rural population to provide itself with some of the basic social amenities which it now lacks. This approach usually includes such elements as improved agricultural extension services, an improved feeder road network, better-organized cooperative movements, experimental or demonstration farms, seed distribution nurseries, availability of farm machinery, better storage, marketing, and processing facilities, and the availability of credit on easy terms to the farmer. This approach was adopted by the Ghana Government in 1970 as follows:

In order to promote increased agricultural production in the rural areas, Government during the 1970-71 financial year will concentrate on the development of a few critical commodities; accelerate the feeder roads construction programme throughout the country; expand extension service in the use of fertilizers to farmers in the rural areas; improve the quality of mechanization services to the farmer; increase agricultural credit facilities by expanding the work of the Agricultural Development Bank and consolidate and strengthen existing agricultural cooperative organizations servicing the rural areas.⁵

Furthermore, since 1972, the Supreme Military Council (S.M.C.) Government has basically adopted this increased agricultural production approach by the introduction of the Operation Feed Yourself (OFY) Programme which, *inter alia*, aims at self-sufficiency in agricultural production. As Lt-Colonel Agbo, Commissioner for Labour, Social Welfare and Cooperatives stated: "...Ghana's programme of Operation Feed Yourself, founded on our national philosophy of 'Self-Reliance,' is seen by us as a realistic attempt to tackle the problem of Rural Development from the grass-

⁵Ghana Government: One Year Development Plan, July 1970-June 1971, (Accra: Ghana Publishing Corporation, 1970), p. 183.

roots." It can be said, however, that the rising cost of living, the high prices of foodstuffs and the under-utilization of the productive capacity of several agro-industries in the country are all indicative of the fact that, as a rural development strategy, the increased agricultural production approach has not yet made a meaningful impact on the Ghanaian consumer.

The accelerated project implementation approach to rural development was first tried in Ghana in 1968 through the establishment, in each region, of Regional Planning Committees. These were to serve, *inter alia*, as the framework within which development projects could be effectively monitored in each region. The rationale behind these Committees was to ensure that an effective machinery existed at the regional level for the prompt and efficient implementation of the various projects and programmes outlined in the annual budget. The Committees therefore had the function of identifying new opportunities for development, strengthening existing economic activities of the government, reporting on progress being made in executing government development projects, and, finally, forging a link between the central government and private enterprise. This has been stated in *The Two-Year Development Plan (1968-70)* as follows:

For the implementation of projects in the public investment programme, the Government is convinced that it must decentralize responsibility. The lower level public bodies... are closer to the problems involved than the central administration, and hence they are the ones who should be responsible for the implementation of projects and programmes. It is, however, necessary that they should report back to the coordinating agencies. The feed-back of data on project implementation is not only required in order to keep a check on progress in implementation and the flow of expenditure but also to provide a guide for the formulation of new projects.⁶

⁶Republic of Ghana, *Two-Year Development Plan: From Stabilization to Development*, (Accra: 1968), p. 20.

It is now agreed that the Regional Planning Committees generally failed to serve as the link in matters of economic development between the regions and the central planning agency in Accra. The reason for this was that they lacked sufficient authority and a respectable budget to deal with local development issues which transcended sectoral decisions. As Opoku-Afriyie puts it:

Their mandate was weak and blurred. They had no legal status, nor a significant budget.... They lacked purposeful direction from the Central Planning Agency.⁷

In addition to the three approaches mentioned above, there is also the regional development and growth pole strategy which was adopted by the S.M.C. Government when it came to power in January, 1972. In the *Guidelines for the 5-Year Development Plan (1975-80)* the case for this regional planning approach is stated as follows:

Ghana's planning experience has shown that regional planning has not received the due attention that it deserves in the methodology of national development planning: sector planning has been emphasized, while regional planning has been played down, as if they are two opposing approaches. The results thereof are enough to confirm the observation, the world over, that regional and rural needs do not receive the thorough attention that they deserve through such a planning methodology.... Government is dissatisfied with this state of affairs, and is determined, during the Plan period, to employ regional planning methods to correct it.⁸

The principal objectives of regional development planning are:

- (a) to ensure proper coordination between national goals and the hopes and aspirations of the regions and local communities;

⁷Y. Opoku-Afriyie, "Regional Development Authority and Rural Development," *Greenhill Journal of Administration*, Vol. 1, No. 1, (1974), p. 31.

⁸Republic of Ghana, *Guidelines for the Five-Year Development Plan (1975-80)*, (Accra: 1975), p. 45.

- (b) to strengthen the machinery for regional development planning in the country as a tool for plan formulation and as a frame for plan implementation in each region;
- (c) to progressively reduce the present disparities in the levels of development and standards of living existing between regional centres and urban areas... and also gradually between regions, and within regions of Ghana;
- (d) to create a number of development centres or towns across the country to serve agricultural activities in rural areas and to serve as new centres of industrial development and thus help raise rural incomes.

A four-tier hierarchy of growth foci has been accordingly planned for the country: (i) growth poles at the national level; (ii) growth centres at the regional level; (iii) growth points at the district level; and (iv) development service centres at the local and village level.

The administrative machinery for carrying out this development strategy has been planned to comprise: (i) Regional Councils; (ii) District Councils, including Municipal and Urban Councils in appropriate cases; (iii) Local and Area Councils; and (iv) Town and Village Development Committees. Indeed, the preparation and implementation of this rural development plan has been entrusted to the Regional Administration at the apex of the local government machinery.

Since 1972, as part of the regional development strategy, the S.M.C. Government has set up in each of the nine regions a Regional Development Corporation owned jointly by the central government, the Regional House of Chiefs, and the Local Councils in the region. As the Government has stated, these Corporations

shall operate as normal business enterprises with the power to borrow money from the banking system and to undertake viable projects in the field of agriculture and industry. The Regional Development Corporations will work in close liaison with the Regional Planning Committees which in turn shall work within the framework of a national plan. This will facilitate the coordination of the various developmental activities in the region.⁹

On paper, at least, it can be said that the present structure of regional development planning appears very neat and well thought-out. However, the real test will be in the implementation. One serious bottleneck is the lack of adequate development personnel at both the regional and district levels. It has therefore not been possible for regional developers to evolve comprehensive development plans for the district and local areas and thus ensure that these areas have a say in determining their development priorities and their implementation.

Secondly, the successful implementation of the regional planning approach will require new sources of planning data and statistics. These are now non-existent in Ghana because the closer planning is carried to where projects are implemented, the more specific and detailed such planning must be. There is therefore the need to improve and sharpen the tools of planning institutions to increase the accuracy and capability of the planning process. To achieve this, a multi-disciplinary, national, rural development research and training institute will have to be established, not only to collect and store data on rural development, but also disseminate them to potential users and beneficiaries at all levels of the rural development system.

Some Useful Lessons

The foregoing account has shown that even though numerous rural development projects have been launched,

⁹Republic of Ghana: Outline of Government Economic Policy, (Accra: 1972), pp. 18-19.

there have not been articulated policies, programmes, or plans for rural development in Ghana. Indeed, there has been an absence of a satisfactory conceptual framework within which to organize a comprehensive rural development programme. The result is that there has been no consistent strategy for rural development in Ghana. A national policy for country-wide rural development is therefore needed. Indeed, experience of countries such as the People's Republic of China and Israel shows that where rural development has been adopted as a national policy, it is easier for government structures and procedures to be adjusted so as to deal with the requirements of rural programmes in one or a few regions of the country.

The second lesson to be learned from rural development efforts in Ghana is that, until quite recently, rural development planning has been aggregative and sectoral. This sectoral or "shopping list" technique for rural development, however, hardly takes into consideration the close interrelationship among the various sectors of the economy. The result is that projects tend to be sporadic, disjointed, and uncoordinated, mainly because each department or development agency considers its own individual interests without thinking of the economy as a whole.

What is needed is a shift from the sector planning approach towards one which is interdepartmental. There should be coordinated action among the various ministries, departments, and agencies which cuts horizontally across the vertical lines of these organizations' responsibilities. However, it appears that the existing organizational structure for rural development, whose activity is vertically defined, does not allow for rural development planning to proceed in an effective manner. What is needed is an organizational structure which will be able to perform the cross-function of coordinating both vertical and horizontal programmes of the rural development system. On the horizontal level, for example, the activities of different change agents should be coordinated both on the national and local

levels; in a vertical sense, communication links between the local and national levels should be established and made more effective. The result will be that all inputs for a specific development project are provided by the various agencies involved at the right time and place.

The third lesson is that at the moment there seem to be too many bodies dealing with various aspects of rural development without any appreciable coordination of effort.¹⁰ The result is that very often a project which is being implemented under the responsibility of one department or agency is not sufficiently coordinated with other areas of activity falling within the competence of other departments. Thus there is bound to be duplication of effort and a waste of scarce physical and human resources.

Finally, rural development planning in Ghana has tended to come from above at the national level instead of coming from below at the micro or grass-roots level. The result is that very often the felt needs and views of the local people are not fully accounted for in these programmes. This can lead to the alienation of the local population, who have sabotaged rural development work through their suspicion of the motives of the developers and their misunderstanding of the proposed use of a new structure.

Local people should therefore be fully associated with the conception, planning, implementation, and evaluation of projects, due consideration being given to the prevailing socio-economic realities, local customs, and traditions. In this connection, it is suggested that the *total* rural community—traditional heads, elders, villagers, extension workers, various voluntary and youth organizations, etc.—should

¹⁰At the moment, there are at the regional level, for example, the various Regional Organizations, the Regional Planning Committees, the Regional Development Corporations, the Regional Management Committees, and the regional branches of the various ministries and government departments each of which seems to be pursuing its own line of action dictated invariably by its central body in Accra.

all be encouraged to air their views and make suggestions. For in the long run, local participation is the most crucial factor for the success of any rural development effort.

Summary and Conclusion

In spite of several approaches which have been adopted by successive governments in Ghana, rural development efforts have not yet had the desired impact on the rural population. This can be attributed to several factors.

In the first place, there has not been a national policy for rural development with a consistent strategy and ideological commitment. Secondly, until quite recently, rural development planning has been sectoral in approach. In addition, there seem to be too many agencies dealing with various aspects of rural development without any appreciable coordination of efforts. Furthermore, the existing organizational structure does not encourage efficient rural development planning. Finally, local participation in the conception, planning, and implementation of rural development projects has been minimal.

From the past and current efforts towards the improvement in the living conditions of the rural population, some useful lessons have been learned. In the first place, there is the need to evolve a satisfactory conceptual framework within which to organize a comprehensive rural development policy with an ideological commitment. Secondly, there is the need to devise an approach which is interdisciplinary and interdepartmental. In this connection, it would be useful to have effective coordinating machinery to ensure the integration of rural development agencies and rural development goals and programmes and involve the rural population in their design and implementation. Finally, there is the need to incorporate the active participation and commitment of the local population in any programme designed to improve their living and working conditions. This implies that planning for rural development should start from below, at the micro level.

Roads to Rural Development

I. K. Boateng

About 70 percent of the people in Ghana live outside urban centres in the rural areas.

The rural sector of the economy is dominant in terms of its contribution to the gross domestic product, as a source of food, employment, income, and Government revenue. In 1971 agriculture including livestock, forestry, and fishing contributed 41.3 percent of the gross domestic product. Agricultural products are the major source of foreign exchange, accounting for 74 percent of total exports. In 1971 cocoa alone accounted for 48 percent of Government revenue.

Despite this clear predominance in the economy, the rural sector is characterised by poverty, ignorance, illiteracy, and poor resources in respect to safe and adequate water, transport, communication, electricity, and health. Past development strategies and policies have tended to favour industrialisation and large-scale agriculture based on highly developed capital intensive techniques biased against the generation of incomes and employment for the vast masses of the rural population.¹

On the international scene, active efforts are underway to improve the poorer nations' relative share of the

¹"Employment Problems in the Rural and Informal Sectors in Ghana", Report to the Government of Ghana by I. L. O./JASPA mission.

world's wealth; I refer, of course, to what has become popularly known as the north/south dialogue. May I suggest that at our own national level we might do well to examine in depth the rural areas' relative share of the national wealth compared to their contribution to this wealth?

Our development strategies and policies have created a situation whereby the wealth of the rural sector is siphoned off to develop urban areas. This has resulted in rural poverty of acute dimensions, which denies the majority of Ghana's people the minimum satisfactory standard of living in terms of nutrition, shelter, clothing, and education.

The Community Development Approach

The basic components of the community development approach to assisting rural areas are self-help, felt needs, and government assistance. It has been generally implemented with the project approach. But it has a more comprehensive conception. In Ghana, the basic principle of community development has been to inculcate the idea of self-help in the people in the process of completing a project or achieving some other objective of their own choice.

Community development in Ghana has always looked beyond the project as an end. Adult education and literacy, basic home science for rural families, and extension work in almost all fields have been integral aspects of the community development programme. It is fair to say, however, that there has been a tendency to give prominence to projects because they are more visible as political rewards. A Minister or Commissioner can more readily attest to his government's concern for the people of a community by pointing to the middle school building, clinic, Post Office, Community Centre, public toilet, or feeder road that it has provided them.

The improvement in maternal and child health as a result of improvements in nutrition and hygienic habits due to the home science programme is not so tangible and not so persuasive in an election campaign. While the long-term effects of successful adult literacy work are more far-reaching, it is painfully true that most (if not all) rural communities would give priority to a project which all can see and which more readily enhances the prestige of their village or town.

But a more serious weakness in the community development approach has been the lack of a comprehensive plan related to the socio-economic development at the district, region, or national level. It is no surprise, therefore, that community development efforts over the last thirty years have not done very much to alleviate rural poverty.

The Integrated Approach

The need for the integrated approach to rural development has emerged as a result of the realisation that the tendency of organisations involved in development to pursue their independent goals has been responsible for the failure to make any significant progress towards the elimination of rural poverty. By integration we do not mean merely cooperation or coordination. As a concept of development, integration is the dynamic process of linking together various factors of development as well as groups of agencies and of people, in the process of striving to achieve development goals and objectives.

The concept can be defined at two levels:

- a) Programme and project integration in which sectoral relationships are identified and integrated.
- b) Organisational integration in which the roles of the individual organisations are defined and relationships identified and integrated.

Organisational integration involves both vertical and horizontal relationships. That is, how can the activities of headquarter ministries be related to those of the same ministries in the field? How can the activities of the various ministries at a given level be related to one another? Integration at both these levels is necessary to achieve effective implementation of rural development programmes and projects.

An integrated approach to rural development involves the linking together and coordination of all people and organisations (both public and private) involved in the effort to develop rural areas. It is an approach which emphasizes teamwork and interdependence. The basic problem of using this approach is the need to change the attitude of staff and people involved to appreciate the implications of the integrated approach to rural development. To do this, the state propaganda machinery must be mobilized to change the values and attitudes of all sections of the society positively towards rural development in practice. Some of the positive steps that should be taken are:

- (1) Budget and manpower allocations must be biased in favour of specific integrated rural development programmes and projects.
- (2) Government incomes and pricing policies must discriminate in favour of the rural areas instead of the urban.
- (3) Policies and incentives must be adopted which favour the transfer of high-level manpower to the rural areas to ensure the realization of the objectives of the decentralization exercise.
- (4) The land tenure system must be revolutionized so that the rewards of cultivating the land accrue to those who work it, and not to those who claim to own it.
- (5) The educational system must be more closely oriented to the needs of the environment and prepare its products for the world of work and not the next cycle of education.

- (6) Seventy percent of the people live in the rural areas. In the context of this country, therefore, rural development must be seen as an integral part of national development with the accent on developing rural resources so as to solve the problem of rural poverty.

Prerequisites for Successful Implementation

1. There should be clear government policy-directives on the form and manner which integration should take. This should be clearly stated in a government document.
2. There should be formal structures at national, regional, and district levels which bring together all interested parties as a team.
3. There should be a central coordinating body to monitor the functioning of the structures set up at various levels. In this connection, a National Rural Development Commission comprising public-spirited citizens must be constituted as a matter of urgency to translate the above proposals into reality. Such a Commission should be placed at the highest level of the country's administration in order to command the requisite status and influence.

The Mampong Valley Social Laboratory programme of the Ghana Rural Reconstruction Movement and the Aowin-Amenfi District Project of the Department of Social Welfare and Community Development in cooperation with the Friedrich Ebert Foundation are pilot or experimental projects based on the integrated approach to rural development. These two projects offer a classic demonstration of private initiative and governmental action having the same objective.

This seminar will provide a forum to exchange information and experiences by all those concerned with improving the quality of life in our rural areas. But more importantly, the seminar should provide new insights into the implementation of the integrated approach to rural develop-

ment under Ghanaian conditions. It is my fervent hope that what the Mampong Valley Social Laboratory project has achieved so far, and its promise for a prosperous future for the rural people of the Mampong Valley, will inspire those who are charged with the responsibility of carrying out local development at the District Council level. As you are aware, the decentralization exercise, under which the new District Councils were set up, was meant to provide viable development as opposed to mere administrative units. It is also envisaged under the decentralization exercise that District development plans incorporating all Government agencies will be developed and implemented in an integrated manner.

The initiative of the Ghana Rural Reconstruction Movement in establishing the Mampong Valley Social Laboratory will thus be a most valuable model for all to learn from. This is particularly gratifying to me because this model has been planned, implemented, and is being nurtured by Ghanaians. Its lessons ought therefore to be directly applicable to other parts of Ghana without significant modification.

I cannot conclude without paying my respects and giving deserved recognition to the role being played in Ghana by the International Institute of Rural Reconstruction under the most distinguished leadership of Dr. Y. C. James Yen, who may justly be described as the father of the Rural Reconstruction Movement, and to his leading disciple and my friend, Dr. Flavier. I wish to assure the Ghana Rural Reconstruction Movement of the good will and cooperation of the Department of Social Welfare and Community Development in its noble endeavours. You have taken action to do something practical to alleviate rural poverty instead of just talking about it.

Health Inputs in Rural Reconstruction

D. A. Ampofo

In any viable level reconstruction effort, the health needs of the people must be taken into consideration. Health affects socio-economic factors and is itself affected by these factors, notably income and standard of living; a person's ability to live at a certain level is dependent upon his level of health.

Among the first information that is needed for the reconstruction of an area is the disease pattern. The knowledge of the prevailing diseases in a given area suggests the direction which a health care system in a community should take. The disease pattern found in MVSL, for instance, is typical of rural Ghana: The top four diseases are fever, gastrointestinal and respiratory disorders, and skin disorders. Data has shown that fever as a symptom and disease entity comprised 40.9 percent of all the disease categories and gastroenteritis 21.8 percent. It is reasonable to consider most febrile illness to be due to malaria. If one were to make a community diagnosis of a typical rural area, the two commonest diagnoses would be malaria and gastroenteritis.

In order to reduce the incidence of these two conditions, programmes can be instituted for prophylaxis against malaria and effective means of treating the condition once it has become clinically manifest in the preschool age group. If means can be found to make chloroquin tablets more available through a community-based programme, the

farmers and the general rural population can benefit by reduction in morbidity due to malaria. The farmer's health will improve and his productive capacity increase. The diarrhoea diseases can be reduced by preventive measures. The incidence of this disease can be minimized by the provision of good drinking water and the teaching of methods of cooking and storage of food. Preventive methods to control malaria and gastroenteritis in a rural population will improve the health of a majority of the rural people, especially those in the younger age group.

Rural reconstruction without the health input will not have the required immediate impact. In the case of the GhRRM, it took six to nine months and two planting seasons to convert the first two farmers to the method of multicropping as advocated by the Agricultural Expert. In the health sphere, however, contact with rural people was immediate. In the first month, 25 new cases from villages outside the Yensi Centre were seen and treated at the rudimentary clinic. Almost 1200 new cases were treated in the first 18 months. In addition to the treatment given, an opportunity was afforded the Movement's staff to disseminate the GhRRM's philosophy. The fact that patients came from several villages helped to spread the name of the GhRRM and what it stood for. Without this health component, the spread of the activities of the Movement would have been definitely slower. The Movement now has eight village clinics offering curative, preventive, and intutional services, and at each of these every opportunity is taken to educate patients on health and other subjects like agriculture and cooperatives as well.

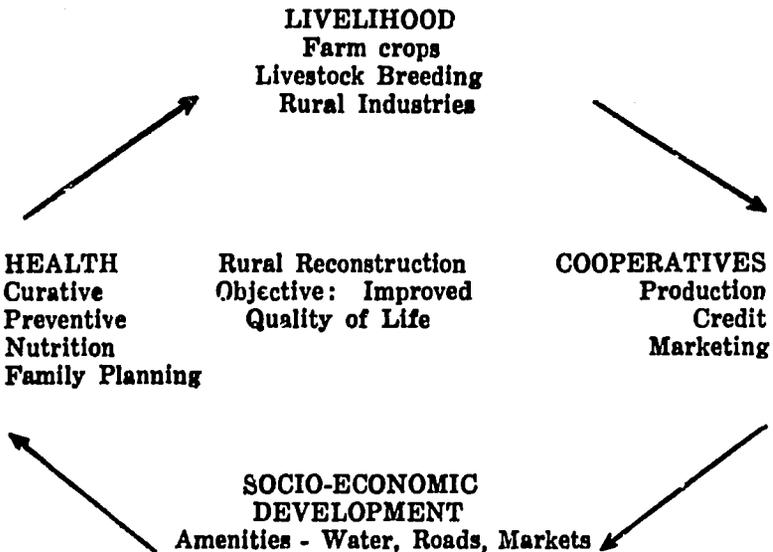
Family Health and Welfare Cycle in Rural Reconstruction. Health as a basic human right and the universal desire to be healthy can be made the basis for integration in rural reconstruction. Starting with the premise that every person desires health, the health programme should be comprehensive and geared mainly toward first-aid treatment and environmental sanitation. In addition,

there must be a system of effective referral to the nearest government health facility.

With the health programme well established, the Agricultural Expert can begin to advocate to the farmers and others that they should grow the right kind of food so that they can remain healthy and work harder for their livelihood.

In the same way, the Cooperative Expert can portray the desire for healthy living as a prerequisite for the formation of cooperative ventures. Credit system, production, and marketing arrangements are necessary for the farmers in order to increase their income, which can be used to ensure their families' health and welfare.

The Industrial Expert and other providers of amenities can also use family health and welfare as the ultimate aim of their action and advice. If all the experts focus on the health of the family and community, then a family health and welfare cycle can be devised for rural reconstruction:



Areas of Coordination. With the theme "family health and welfare" it is possible to cite examples of how the promise of ultimate health for the family can be used to coordinate various activities in rural reconstruction. In agriculture, for instance, the preparation of manure from disposed household refuse can be used on the farm to give better yield of crops from which the family will benefit for their health and welfare. So, too, the cultivation and planting of suitable crops of requisite nutritional value is necessary in order to provide adequate nutrition to protect a family from disease and to enhance a family's health and welfare. Indeed, if adequate food is not grown, children become malnourished and prone to disease. Hence there is need for scientific farming to ensure the health and welfare of the family.

A similar relationship can be found between health and the promotion of cooperatives. The aim of cooperatives is to increase the income of the society's members; this makes it possible for them to pay for health care to maintain their family's health and welfare. Indeed, any activity which aims to increase income (such as rural industries) enables families to pay for their children's education, and for social amenities such as water and electricity. These amenities are designed to enhance a family's health and welfare.

Another way in which health inputs can enhance rural reconstruction is the use of community-based health delivery systems. For example, trained village health workers dispensing drugs for first-aid treatment and contraceptives for family planning acceptors can be trained in other aspects of rural livelihood. These then can be the source of propagation of the rural reconstruction philosophy. The oft-mentioned Barefoot Doctors of China do not deal only with health problems but also with other aspects of the life of the communities they serve (e.g. agriculture, cooperatives, and home industries).

The World Health Organization is currently engaged in experiments in rural development using health needs as a starting point for the process of development. In Ghana, there is a WHO project in Kintampo which utilizes health inputs to galvanize other governmental agencies and community effort to achieve a general socio-economic development of the Kintampo project area.

Section II

The Mampong Valley

Social Laboratory

History and Rationale of the Experiment in the MVSL

K. Ohene-Ampofo

The Mampong Valley Social Laboratory experiment is a socio-economic experiment being carried out by the Ghana Rural Reconstruction Movement. The Movement is a private, nonpolitical, nonprofit, charitable organisation which was incorporated on the 29th of March, 1972, under the Trustees (Incorporated) Act 1962. The MVSL came into existence on the 1st of April, 1974.

The Movement was born in March, 1972. Like all human endeavours, however, much thought had gone into it before its birth. The idea, plan, and decision to establish a Rural Reconstruction Movement in Ghana came about as a result of an association in 1968 between Dr. D. A. Ampofo and Dr. Juan M. Flavier, who met in the School of Hygiene of the Johns Hopkins University, in the United States, as classmates in the Master of Public Health course. Dr. Flavier subsequently discussed the opportunity for the Rural Reconstruction Movement to gain a foothold in Africa with Dr. James Yen, President of the Rural Reconstruction Movement. As a result, Gregorio Feliciano, then Vice President of the International Institute of Rural Reconstruction, was asked to come to Ghana in April, 1968, to investigate the possibility. It was I who met and conducted him around, and the burden was subsequently put on him to organise one. Unfortunately, the climate was not then favourable, as key officials would not permit a private rural development organisation.

"Apollo" 568 retired some of these officials in 1970. Then in 1971 the Afro-Asian Conference on Rural Development was held in Ghana, and this yielded dividends. In November, 1971, the first Board met and decided to take all legal steps to establish the GhRRM.

The Movement is Started

When the Movement was born in 1972, the Board decided to find a suitable place to establish a Social Laboratory. Bawjiase and Mampong Valley were considered. The Board favoured Mampong Valley as the local people were accustomed to agricultural experiments. They had seen the plantations of Dr. Paul Isert at Bewase and the West Indian Farms at Akropong, where Mohr's Garden still stands; they were the pioneers of the cocoa industry. And the Mampong Valley constituted the fertile grounds for the Basel Missionaries' experiments in education, the spread of the Gospel and the development of the Twi language. A pilot survey was conducted in 1972 which confirmed that the area was typically rural, because the villages were nucleated settlements of less than 1,000 in population.

It took about eighteen months to find the appropriate experts who would go to Silang in the Philippines to be trained in integrated rural reconstruction methods. Eventually six left in November, 1973; they were the Secretary of the Movement and the experts for Crops, Livestock, Cooperatives, Health, and Education. Training expenses were borne by the International Institute of Rural Reconstruction; the Institute also agreed to underwrite GhRRM for five years—to the amount of ₦35,000 per year—should we fail to raise the funds ourselves.

The trainee-specialists were: I. K. Appiah, C. B. K. Techie-Menson, R. L. Adabie, Miss J. A. Ntiamao, and E. F. K. Atiemo. Added to them was E. V. Gyan-Mante who, though he did not qualify for training in Silang, was

recruited as the expert for Culture, Youth, and Sports. The experts came back in February, 1974, rested for one month, and on April 1, 1974, went into the MVSL.

Out of the six experts who trained in Silang, only three are now with the Movement. In addition to these three, we now have nine technical officers, one field Coordinator, and five Rural Reconstruction Propagators. Of the nine technical officers, four have been seconded to us by the Ministry of Health, the Ministry of Agriculture, and the Ghana Teaching Service. We also had the benefit of five National Servicemen in 1975 and 1976, and these young university graduates were very instrumental in boosting livestock and vegetable planting in the MVSL. To them we owe a lot.

Dr. Yen and the Movement's Philosophy

The philosophy of the Movement is based on the concept that the basic problems affecting rural folk are poverty, ignorance, disease, and civic inertia. These problems interlock and interweave; the successful solution of one depends on the successful solution of all the others, simultaneously tackled and solved together in an integrated manner to produce a "whole man". Therefore, to achieve a good solution of rural development we must release the potential powers of the rural peoples and not spoon-feed them by relief activities. Once their powers are stirred, they themselves will become the instruments of their own change—mentally, physically, and spiritually—and tackle their problems together and not by piecemeal methods.

Although this is the IIRR's philosophy in a nutshell, the development of these principles has taken a number of years, labour, and money. It is a philosophy which has evolved out of the experiments of the celebrated Dr. Y. C. James Yen. Dr. Yen was engaged by the Allies to work with the thousands of Chinese Coolies serving with the Allies in Europe during the First World War. He was

stationed in France. Tired of just writing letters for the Coolies, he simplified the 40,000 Chinese characters to 1,000 and then taught the Coolies how to read and write them. His experiment was so successful that he decided to commit his life to the upliftment of rural people. In his own words he summed up his vow thus: "After that contact with these particularly wonderful, neglected peasant people of our country, I for one began to see the tremendous potential powers of these people. We had taken it for granted for many centuries that education was something that belonged to the few, the scholarly family, and we didn't even believe that education was possible for the peasant. We just didn't know; we didn't pay attention to it for centuries. But after that humble and modest experience in France, I began to see the tremendous potential of these people. What they needed was not brains but opportunity."

Dr. Yen's Experiment in China

After the war, Dr. Yen returned to China to fulfill his vow. He collected a group of scholars around him and they decided to focus on the county of Ting Hsien as their social laboratory.

Having been inspired by his achievements in France, he started what is known in history as the Mass Education Movement of China in 1921. Millions of Chinese peasants were taught to read. It was a great success. But just as he was being complacent about his achievements, a farmer told him: "Big Master, I can now read and write, and my neighbour cannot read or write. But my stomach is as empty as his."

This caused Dr. Yen and his colleagues to realise that, although they had succeeded in education, there was the problem of the peasants' livelihood which also had to be tackled. They therefore embarked upon improving the yield of the farmers by teaching them the right type of

farming—introducing simple manures, good seeds, and new varieties of rice and animals. This experiment went on fine for some time. But just as Dr. Yen and his colleagues were getting satisfied, they discovered that some of the farmers could not work for long hours, and others were idle most of the time.

They therefore had to examine the new problem. It turned out that when the farmers were medically examined in 1930, some had worms and others had diseases that sapped their vitality. It therefore dawned upon Dr. Yen and his colleagues to tackle the health needs of the people. Environmental sanitation was tackled, clinics were established, and village health workers were trained to cater to the health needs of the peasants.

To keep the peasants busy during the periods after harvest, they introduced rural industries to supplement their livelihood as well as cultural studies and sports to engage their leisure.

This is how approaches to solve the problems of ignorance, poverty, and disease evolved. It was through long and arduous struggle and trials that Dr. Yen realised that the successful solution of one problem depends upon the solution of others simultaneously.

The problem of civic inertia came very late to Dr. Yen in this China experiment. It was in 1936 that he was called upon by the Chinese Government to help the country organise resistance to the Japanese invasion in the province of Hunan. China was then ruled by Warlords who had carved out their own domains and were fighting each other. They regarded the provinces as their bona fide properties and taxes and corruption sapped the peoples' strength and demoralised them.

To resist the Japanese in Hunan Province, he says, "it became necessary for me to enter the tiger's den to be able to retrieve the cubs." He accepted the job as the

top government official and, with the help of his colleagues, he purged the Civil Service of corruption and introduced new tax-collection systems which were fair. The people in Hunan Province were also organised in such a way that they successfully resisted the Japanese invasion till the end of World War II.

The JCRR and the IIRR

No sooner had the Japanese been conquered than the Communists overran most of China. Dr. Yen left China and went to America. There he campaigned for money from Americans so as to convince the world that what Asia, Africa, and Latin America needed to develop themselves was rural reconstruction in accordance with his new-found, four-fold integrated system.

He succeeded in getting the U.S. Congress to charter the Chinese-American Joint Commission on Rural Reconstruction (JCRR) in 1948. The JCRR was initially located in China but, when the Communists completely overran the Mainland, the JCRR moved its operations to Formosa (Taiwan), where it has remained till now.

In 1952 a private organisation was incorporated in New York as the International Mass Education Movement, an organisation whose name was later changed to the International Institute of Rural Reconstruction (IIRR). Under the auspices of this organisation, Dr. Yen toured leading countries in Asia to observe what was being done along the lines of community development, and to discover where his new organisation would be most useful in uplifting the rural masses.

In the same year, the Philippine Rural Reconstruction Movement was born. Later, similar Movements were established in Colombia and Guatemala in Latin America, Thailand in Asia, and finally Ghana in 1972.

These, then, are the various aspects of Dr. Yen's work which have culminated in the present philosophy of the GhRRM. This philosophy can be described as one of solving the rural folk's complex and interwoven problems of poverty, disease, ignorance, and civic inertia by releasing the potential powers of local people rather than by spoon-feeding them or just giving them relief. Once their powers are stirred they themselves will solve their own problems. Since these problems are interwoven and the successful solution of one depends upon the successful solution of the others, all four basic problems must be tackled together rather than singly.

The methods we use are summarised in our motto: "Go to the people; live among them; learn from them; serve them; plan with them; start with what they know; build on what they have."

These simple words form the yardstick by which the Movement measures its actions and those of its officers and workers. Any deviation from these methods is not in tune with the GhRRM's philosophy. We are enjoined to be one with the people we want to help. We have to live with them to learn what they know. All plans must be discussed with them before execution, and we must begin from what what they know, using what they have.

We must approach the farmer with respect for his intelligence, his ambition, and his traditions, too. Once the worker has learned these from the farmer, he can then build upon the farmer's knowledge by introducing him to simplified but scientific knowledge.

Dr. Juan Flavies in his book, *Doctor to the Barrios*, has added the following maxims: "Not piecemeal but integrated approach; not show case but pattern; not relief but release; mass education through mass participation; learn by doing; teach by showing."

These additional maxims have evolved from the hard experience of the Philippine Rural Reconstruction Movement. They vividly counter the mental attitude of many developing nations, which we must guard against. In short, there is wisdom in starting things in simple, small, practical, and economic ways, *not* by building "white elephants." Simple things should be the basis for development, as our philosophy so clearly says.

The Environment of the MVSL

E. A. Gyasi

B. A. Quarcoo

This paper provides a brief description of the area of the Mampong Valley Social Laboratory—its location, physical environment, and principal human activities. It is intended to provide the necessary background for an understanding of the more analytical studies of the Mampong Valley Social Laboratory experiment presented later.

Location

The area chosen in 1972 by the Ghana Rural Reconstruction Movement (GhRRM) for its pilot project is known as the Mampong Valley Social Laboratory—a “social laboratory” being defined by the GhRRM as “a district where specialists live with farmers and assist them through participation to identify their problems with a view to finding solutions to them.” It originally measured about 39 square kilometres (15 square miles), and is located in the basin of the River Yensi (Niensi or Nyensi) to the west of the town of Mampong in the Akuapem District (see Map p. 251). It is bounded in the north by the five kilometre (3 miles) distance between kilometre 58 (mile 36) and kilometre 63 (mile 39) on the Mamfe-Koforidua motor-road; in the south by the Agyeno (Ajeno)-Kwatiakwa footpath; the east by the Akuapem ridge; and in the west by an imaginary line trending from Cherepong (Chiripon) Knoll and by-passing Adawso to kilometre 63 near Mampong-Nkwanta on the Mamfe-Koforidua road. These boun-

82

daries roughly coincide with latitude $5^{\circ} 57'N$ and $5^{\circ} 55'N$, and longitude $0^{\circ} 09'W$ and $0^{\circ} 13'W$ respectively. This area was, in 1972, estimated to contain almost 2,000 people, mostly living in thirteen villages.

Around the time field operations started in 1974, the Board of Trustees of the GhRRM decided to extend the MVSL almost five kilometres northwards to cover the Kwamoso-Adenya area, which physically and socially has much in common with the original area. The new enlarged MVSL measures approximately 65 square kilometres (25 square miles), and was estimated in 1975 to be inhabited by 3,370 people, grouped into 22 villages. Near the village of Addo-Nkwanta, in the central portion of the area lying south of the Mamfe-Koforidua Road, is situated the Yensi Centre, the training ground and field headquarters of the MVSL project.

The MVSL is favourably located near some of the largest Ghanaian towns, which constitute areas of concentrated population, major market centres, primary sources of modern agricultural inputs, and the abode and working place of the principal patrons of the project. By motor-road it lies either 51 or 66 kilometres (32-41 miles) from Accra—depending on which road you take; 26 kilometres (16 miles) from Koforidua, the Eastern Regional Administrative Headquarters; and about 37 kilometres (23 miles) by road and rail from Nsawam, an important market town. These towns have a combined population of about 310,000, and the major roads which link them to the MVSL are considered first-class, thus enhancing speedy transportation.

Physical Environment

The physical environment of the MVSL appears generally favourable. The soils (comprising mostly forest ochrosol, sandy clays, and loams) are deemed suitable for the raising of both food and tree crops. These soils offer

a sharp contrast to the shallow, rocky, immature, and relatively unproductive forest lithosol, the most typical soil of the adjoining Akuapem ridge and slopes.

The advantageous soils are reinforced by the area's comparatively gentle relief, which shows a general rise in height from about 168 metres (550 feet) in the valley of the River Yensi, the major river of the area, to approximately 305 metres (1,000 feet) in the East, at the slopes of the Akuapem Ridge, and to about 244 metres (800 feet) in the West. In terms of relief, three broad regions may be distinguished in the MVSL; the Yensi Valley, and the eastern and western highlands. A fascinating and effective way of appreciating this contrasting relief is to travel along the old Mampong-Adawso Road from Mampong-Nkwanta through Yensi Centre to Mampong.

As implied above, the MVSL is drained by the northward-flowing River Yensi, and its numerous tributaries, notably Akesu and Kwamo (Kwadidi). These streams provide an invaluable source of water for human consumption.

Climatically, the MVSL experiences a moderately high mean temperature of about 24°C (75°F), with a bi-modal or double maximal rainfall centered in June and October, averaging approximately 119 cm. (47 inches) per annum. The two rainy seasons are separated by two relatively dry periods which occur in August and December/January.

Observations at the Yensi Centre over a 14-month period, from April, 1974, to May, 1975, indicated 111 wet days representing 26 percent of the total of 426 days. Each of the 14 months experienced at least one wet day, with the maximum number of 13 wet days being recorded in June. The average number of wet days per month is approximately eight.

Even though the seasonal distribution of the rainfall is reported to be irregular, its high volume and bi-modal

pattern permit two rain-fed cropping seasons and the cultivation of many varieties of tree and foodcrops, including cocoa, oil palm, maize, cassava, cocoyam, and plantain. But the irregular nature of the rainfall requires that proper planning and good field husbandry are pursued in order to maintain or increase crop yields. This calls for the establishment of meteorological stations within the MVSL to furnish the relevant weather data.

The fairly rich soils and copious rainfall underlie the area's original semi-deciduous and evergreen forest vegetation, almost all of which, through man's activity (especially the land-rotation method of farming) has now been reduced to secondary forest and bush. In certain portions, particularly along motor-roads and footpaths, the forest has degenerated into grass and stunted bush such as *lantana comara*, *aspilia Africana*, and *paninum*. The remaining forest vegetation, containing only a few remnants of the commercially valuable species of timber (e.g., *wawa*, *odum*, and *mahogany*), appears to be more extensive in the southern portions than in the northern portions of the MVSL.

As in other tropical areas covered by a mixture of forest and grass, there is a large variety of fauna in the MVSL, although their numbers have been reduced considerably by man's activity, especially hunting and trapping. Among the mammals are the bushbuck, forest squirrel, Maxwell's duiker, giant rat, civet, genet, and the palm civet. These constitute a source of meat for human consumption.

Also found are different types of birds, notably the green frigate pigeon, coucal, and the bush fowl or francolin. In addition there are reptiles of various kinds. These include the lizard, Nile monitor, and different types of snake, such as the deadly green mamba and the green and white cobra. Other animals found in the area are the scorpion, millipede, centipede, worm, snail, and a host of insects including army ants, red ants, mosquitoes, and many other insect pests.

Accessibility and Transportation

It has already been pointed out that the MVSL is easily accessible from some of the largest towns in the country. Furthermore, because of its relatively small size of 65 square kilometres (25 square miles), distances within the MVSL tend to be short. This situation favours the diffusion of innovations, communication, and other kinds of spatial interaction. The farthest distance, as the crow flies, is about 11 kilometres (7 miles) from Cherepong Knoll in the extreme southwestern corner to the north-east (at the confluence of the Rivers Akesu and Yensi).

Direct distances, as the crow flies, between Yensi Centre and the 22 villages in the MVSL range between approximately 0.5 km. (0.3 miles) and 4.8 km. (3 miles), with an average of 2.6 km. (1.6 miles). Travelling entirely by vehicle along the motor-roads, or partly by this means and partly by footpath, the distances from Yensi Centre to the villages vary between approximately 0.5 km. (0.3 miles) and 16 km. (10 miles). Using footpaths or walking along motor-roads (or by doing both, as is often done by the rural residents), the distances from the Centre to the villages range between 0.5 km. (0.3 miles) and 12.8 km. (8 miles), with an average of 4.8 km. (2.8 miles).

Even though the latter measure of distance is, on the average, physically shorter than travelling by vehicle, vehicular transportation tends to be more efficient in terms of time spent and quantity of goods carried. Transportation of goods within the MVSL is mainly by head porterage along motor-roads and via the numerous footpaths connecting the villages and farms. Ordinary commuting is done mostly by walking.

Vehicular transportation is available especially for those living near the Mamfo-Koforidua road, the major motor-road in the area. This first-class tarred road, which connects the MVSL to the large external urban towns of Koforidua, Nsawam, and Accra-Tema, provides a fast form

of transportation. However, it must be pointed out that the remaining motor-roads within the MVSL (for example, the 8.8 km. [5.5. miles] old Mampong-Adawso feeder road) tend to be of poor quality and, presumably because of this, are not frequently used by vehicles. It is along the Mamfe-Koforidua Road that the nearest large rural market of Adawso is located. Twice a week rural folk may be seen trooping to this market with their foodstuffs and other wares.

Population and Settlements

The MVSL is presently inhabited by an estimated number of 3,370 people (according to the 1974 enumeration survey). The population density of 52 persons per square kilometre (135 per square mile) is much higher than the national average of 36 per square kilometre (93 per square mile), but considerably lower than the average of 137 per square kilometre (356 per square mile) estimated in 1960 for the Akuapem district as a whole. It is estimated that 44.5 percent of the total population comprise the native Akuapems, while the remainder is composed mostly of migrant Ewe farmers and their descendants from the Volta Region.

Most of the 22 villages are located along the Mamfe-Koforidua motor-road and in the area falling south of it. Kwamoso, the largest of the villages, and Abenta, the smallest, contain a total number of 661 and 27 people, respectively. The average size of villages in the MVSL is 153 people.

The villages tend to be nucleated morphologically, and unevenly dispersed spatially. Most of the individual houses are constructed of swish or sandcrete reinforced by bamboo, the branches of oil-palm, raffia-palm, and other kinds of wooden poles. These materials are obtained locally. The roofs of the houses are either thatched or made of aluminum sheets. About 1.6 km. (one mile) south-

eastwards of the Yensi Centre, near the old Mampong-Adawso Road, three villages are located which have been developed into relatively modern living-quarters for villagers and serve as temporary residences and offices for the MVSL's Field Director, specialists, and other supporting staff.

Agriculture and Other Economic Activity

As in other rural areas of Ghana, the majority of those employed in the MVSL area are engaged in agriculture, especially food-crop farming. This type of farming takes place through the traditional system of land rotation or bush-fallowing, in which the land is left to fallow for three to six years in order to regenerate its fertility after a period of cultivation.

The principal tools for cultivation are the cutlass and hoe. Typically, the farms (which average less than 0.8 hectare [2 acres]) are intermixed or interplanted by a variety of food crops, notably cassava, maize, cocoyam, plantain, yam, and assorted vegetables. Cassava and maize constitute the major crops. Tree crops such as cocoa, oil palm, coffee, and citrus are also grown. A few farmers also cultivate rice.

Although the various crops are found throughout the MVSL, the extent of their cultivation tends to vary spatially, leading to a kind of areal specialization. Thus Adenya and Bewase are noted for their production of plantain and cocoyam, while Yensiso, Kokormu, Otwetiri, Kwatiakwa and Abenta are noted for their maize production. Similarly, Sokoda-Guaso and Mampong-Nkwanta are outstanding producers of grated cassava (gari), while Kwamoso, the site of an extensive State-owned oil palm plantation, is noted for its palm nuts and palm oil.

Another interesting aspect of farming in the area is the system of land tenure. Basically the land is family-held by indigenous Akuapems. However, increasing popu-

lation pressure and the presence of a large number of migrant farmers have led to the evolution of share-cropping or tenancy arrangements and a system of rental or leasing. Two types of share-cropping, *abunu* and *abusa*, may be distinguished. In both cases, the tenant does the cultivation, usually using his own resources except for the land, which is furnished by the landlord. However, after harvest, the produce (or the proceeds thereof) are equally divided and shared between the tenant and landlord under the *abunu* arrangement; under the *abusa* arrangement, the division and sharing are done on a one-third and two-thirds basis, with the tenant taking the larger share. Leaseholds of varying duration can also be arranged at variable fees. Another way of acquiring land for farming is by outright purchase.

A limited number of livestock such as fowls, goats, and sheep are kept, usually on a free-range basis. Other economic activities of lesser importance are trading, hunting, basket-weaving, gari-making, palm-oil manufacture, distilling of *ai:peteshie* (local gin), and wood carving.

Organizational Structure of the MVSL

I. K. Appiah

The population of the MVSL is a heterogeneous one, made up of Ghanaians and aliens. The Ghanaians, who constitute over 60 percent of the population, are mostly Akuapems. The Akuapems there can be divided into the following categories: (i) The people of Tutu inhabit the Southern portion of the Laboratory. Among their major villages are Kwatiakwaso and Oko. (ii) The people of Mampong occupy the central part of the valley stretching from the Ridge to Mampong-Nkwanta. Yensiso and Addo-Nkwanta are among their major population centres. (iii) The Akropongs inhabit the northern fringes of the Laboratory, and their major villages are Kwamoso, Bewase, and Adanya.

All the villages have their own administrative structures. Basically there is an Odikro with his Council of Elders. The Odikro delegates power to specific people to see to the implementation of specific programmes. When the Odikro is sitting in state, all the office holders—such as Ankobeahene, Mmranthene, Gyasehene, and Okyeame—are usually with him to play their roles.

In the various farmsteads there are the various family heads who are directly responsible to the Odikro; in some cases there are people appointed to administer the Odikro's functions. For the maintenance of law and order there are people appointed to sit on cases which can be decided upon easily. A case in point is the catching of

sheep and goats. When these are caught by volunteer youths, they are sent to the appointed person. The owners then go there, and after they pay a fine the animal is released. In case of default, the animal is either sold to defray costs incurred in keeping it or the money is paid into the funds of the Village Development Committee.

The Odikros owe allegiance to the chiefs of their respective towns. In case of default, the parties are reported to these chiefs. At the apex of the structure is the Okua-penhene, to whom all the divisional chiefs are responsible.

The GhRRM has not attempted to break this traditional set-up, but rather work within it and help make it function more effectively. We have been educating the villagers to have development committees and youth organizations which would help in the uplift of the villages. Usually the Odikros are made the chairmen of these organizations in order to coordinate their functions. In line with tradition, we usually call on the Odikro before we go to the people. In this way we are able to enlist his cooperation. He acts as a vehicle for the spread of our ideas.

Each village has a non-working day popularly referred to as taboo day. Taboo days are days on which people are supposed not to work on farms but to do communal labour for the maintenance of the village. We see to it that our workers do not go to farm on that day and encourage the people to perform communal labour for the betterment of their villages. Thus, through our moral and material support and encouragement, the local, traditional practices are being upheld and preserved.

But one is bound to ask how the local government structure functions in close harmony with the operational structure of the GhRRM's Mampong Valley Social Laboratory. Let us examine the organizational structure and see how it functions.

For administrative purposes, the MVSL is divided into six operational zones or districts. Each district has its headquarters from which we reach the people. Each zone is for the time being manned by trained propagators who act as bridges between the Centre and the people. These propagators carry the message of GhRRM to all corners of their district. The propagators are grass-roots multi-purpose workers in health, education, livelihood, and civic responsibility. They work hand-in-hand with the farmers, know their problems, help them solve them, and refer problems to the appropriate authorities when they are beyond their [the individual propagator's] scope.

For effective coverage, we have different technical officers for the various departments, namely health, education, livelihood, and civic responsibility. These people liaise with the propagators and do extension work. Among their functions are on-the-spot technical advice and assistance to GhRRM Converts; acting as bridges between the Centre and the rural population; and passing on information from the Centre to the people and vice versa. It should be stressed that extension is a very important aspect of our work and the technical officers have to combine their daily work with that of extension. They have to walk long distances to go to the farmers, even when they are not given a warm reception.

To check on the work of the technical officers in particular and the propagators in general we have departmental heads whose basic functions are: (a) to plan, implement, and evaluate programmes; (b) to prepare training programmes; (c) to supervise departmental staff; (d) to write reports on each department's field activities; and (e) to be in charge of experiments at the Centre. These heads are specialists in their own fields.

At the helm of affairs is the Centre Director, to whom all the departmental heads are responsible. Among his duties are: (1) the day-to-day administration of the

Centre; (2) supervision and assessment of staff programmes; (3) public relations; (4) preparation and compilation of field reports; and (5) reporting to the Secretary. There is also a field Coordinator, who is responsible to the Centre Director; he coordinates the affairs of the different departments in order to harmonise their operations. The office of Deputy Centre Director has been created so that when the Centre Director is not there, somebody would be there to run the place.

The structure of GhRRM field operations parallels the local traditional structure. There is a Centre Director just as there is a chief—Odikro. Much as the Odikro is helped by his Council of Elders, so do the heads of departments advise the Centre Director. The technical officers link the propagators with their respective departments whilst the Odikro's influence is felt through his office holders. Our propagators bring the Movement to the people at their doorsteps, just as the local chief's instructions are conveyed to his subjects by his various functionaries.

For effective administration of the Laboratory, we of the Movement do not constitute an island unto ourselves but try to liaise with relevant agencies as and when needed. There is a healthy interagency cooperation between various organizations for the well-being of the Laboratory. The District Chief Executive and the chiefs are not left out when we want to embark on any new programme. Their advice and authority are sought to give validity to our actions. When the situation demands it, they are invited to come to our functions to meet the people at close quarters. By this cooperation we have been able to overcome some of the difficult problems and obstacles we have met.

Labour Force Structure and Economic Activities in the MVSL

N. O. Addo

V. K. Nyanteng

Rural economies in Africa are characterised mainly by peasant agriculture. Therefore, the economically-active population earn their living largely through agriculture. In Ghana, however, during the recent past, certain slow but gradual changes have appeared in the economies of rural areas. These changes have not been evenly distributed throughout the regions. In particular, the southern part of the country has experienced a relatively bouyant commercial agricultural economy through its production of cocoa, timber, and other cash crops, all of which are exported. Apart from commercial agriculture, the labour force is gradually being diversified; one result is that the modern sector is gradually making inroads into the rural economy.

The Eastern Region of Ghana, where the MVSL is located, is the first area to benefit from cocoa; this has led to the development of a commercial economy and has subsequently produced other regional developments in the fields of education and manpower development, the building of infrastructure, and similar investment projects. Like some of the more developed rural regions of Ghana, the labour force in the MVSL is not totally engaged in agriculture. Other minor (but equally important) activities appear to be undertaken by the labour force. We shall therefore examine two aspects of the economy. Firstly, we shall examine the occupational structure of the popula-

tion and the employment patterns of the labour force. In the second part of the paper we shall examine the specific nature of economic activities in the area, including patterns of agricultural and livestock production, rural industries, and marketing practices. The discussions are based principally on the Baseline Survey carried out in the MVSL area in 1975 by the GhRRM.

The economically-active population sometimes means the total population seeking employment or the total population already employed; certain categories of the population may or may not be included. For example, the 1960 and 1970 population censuses in Ghana divided the economically-active population, aged 15 years and above, into two categories: those employed and those unemployed but actively looking for work. Our concept of the labour force in this paper includes the economically-active population, except that we shall include in it persons aged 10 years and over.

Since a large number of people in many African countries enter active work rather early in life, the age group for determining the economically-active population is reduced from the usual 15 years and above adopted by the developed countries. In Africa, children contribute in several ways towards the economy of any household. They run various errands and take care of the younger ones at home; others accompany their parents to farm and actually participate in farm work; still others look after the cattle and sheep, fetch firewood, fetch water, and so on. At such tender ages, they may not have anything to do with decisions affecting an economic enterprise; nevertheless, their labour input may be substantial. For example, the recent withdrawal into classrooms of children as a result of modernization has considerably changed the pattern of work and employment in rural areas, sometimes leading to the acute labour shortages experienced in Ghana today. In our Baseline Survey, we therefore included persons aged 10 years and over in the labour force.

LABOUR FORCE STRUCTURE AND ECONOMIC ACTIVITIES 83

Some Demographic Data. According to the Baseline Survey, the total number of persons in the MVSL aged 10 years and over was 2,262; this was composed of 1,082 males and 1,180 females. The total population of the MVSL at the time of the survey was 3,370; hence the proportion of the labour force in the population was 67 per cent. The age distribution of the labour force is shown in Table 1. One may assume that the population aged between 10 and 15 years are mainly school children; their participation in the economy is therefore restricted to certain periods, especially weekends and holidays. It is also observed that there is a sharp decline in numbers between ages 10-14 and 15-19. This cannot be attributed to mortality; it is more plausible to attribute this to migration, especially of persons who probably completed their elementary education in the villages and proceeded to higher

Table 1. Age Distribution of Labour Force, 10 Years of Age and Over

Age Group	Males		Females		Both Sexes	
	Absolute	Percent	Absolute	Percent	Absolute	Percent
10-14	227	21.0	178	15.1	405	17.9
15-19	135	12.5	155	13.1	290	12.8
20-24	116	10.7	160	13.6	276	12.2
25-29	119	11.0	110	9.3	229	10.1
30-34	93	8.6	145	12.3	238	10.5
35-39	82	7.6	103	8.7	185	8.2
40-45	57	5.3	87	7.4	144	6.4
45-49	67	6.2	69	5.8	136	6.0
50-54	45	4.1	52	4.4	97	4.3
60-64	38	3.5	31	2.6	69	3.1
65 & over	76	7.0	47	4.0	123	5.4
TOTALS	1082	100.0	1180	100.0	2262	100.0

levels in the towns or had gone there to seek employment. There are significantly more females than males in the labour force except within the 10-14, 25-29 and 60-and-above age groups. In Ghana, proportionately more males migrate from rural areas into towns than females, for higher education, for employment, or for both. It should be understood, however, that recent trends in migratory behaviour appear to suggest that the rate of movement into towns among the female population (especially among educated women) has accelerated. It can be assumed that this trend is affecting the MVSL, too. The high percentage of males to females in the 25-29 age group may be due to in-migrant workers (especially those working as labourers, civil servants, and teachers), who invariably are males.

The pattern of employment of the various age groups has not been tabulated. However, trends in the structure of the labour force in Ghana clearly show that the younger generation are gradually shifting into the modern sector; this is reflected in the occupations of the younger age groups.

There were other occupational groups besides farming; however, these were of little significance proportionally within the total labour force. Among these other occupations were farm labourers and construction workers; craftsmen and production-process workers; drivers, sales workers (petty traders), and hawkers. Another small group within the labour force—especially among males—were professional, technical, and related workers. In villages like the ones within the MVSL, teachers usually form the majority of professional men. In addition to the above occupational groups, there were a number of clerical workers; others were engaged as quarrymen, maids, cooks, stewards, and security guards (e.g., policemen). A fairly considerable proportion of the survey group were not placed in any specific category; these are described as "Other occupational groups not elsewhere specified." The non-

LABOUR FORCE STRUCTURE AND ECONOMIC ACTIVITIES 85

response rate concerning occupations was relatively high (i.e., 9.9 percent). Perhaps some heads of households, who were generally those who provided information about household members, were unable to provide information about certain members of their household (e.g., absentee members whose occupations were not clear or those doing jobs of a dubious nature).

Like some persons in other communities, a considerable proportion of the labour force also engaged in sub-

Table 2. Subsidiary Occupations of the Labour Force (Aged 10 Years and Over)

<u>Subsidiary Occupation</u>	<u>Males</u>		<u>Females</u>		<u>Both Sexes</u>	
	<u>Absolute</u>	<u>Percent</u>	<u>Absolute</u>	<u>Percent</u>	<u>Absolute</u>	<u>Percent</u>
Farmer	121	30.2	95	23.9	216	27.0
Driver	12	3.0	—	—	12	1.5
Petty trader	11	2.8	79	19.7	90	11.3
Carpenter	15	3.8	7	1.7	22	2.6
Native doctor/herbalist	6	1.5	—	—	6	0.8
Gari making	4	1.0	23	5.8	27	3.4
Fitter	1	0.2	—	—	1	0.1
Tailor/seamstress	10	2.5	12	3.0	22	2.7
Sponge making	3	0.8	3	0.8	6	0.8
Palm oil maker	—	—	4	1.0	4	0.5
Animal husbandman	1	0.2	1	0.3	2	0.3
Akpeteshie distiller	11	2.8	1	0.3	12	1.5
Palm wine tapper	12	3.0	2	0.5	14	1.8
Poultry farmer	6	1.5	21	5.3	27	3.4
Mason	2	0.5	—	—	2	0.3
Charcoal burner	7	1.8	5	1.2	12	1.5
Weaver and knitting	23	5.7	6	1.5	29	3.6
Hunter	7	1.7	—	—	7	0.9
Carver	1	0.2	—	—	1	0.1
Kenkey seller	1	0.2	4	1.0	5	0.6
Baker	1	0.2	2	0.5	3	0.4
Midwife	—	—	1	0.3	1	0.1
Not stated/No information	146	36.4	132	33.2	278	34.8
TOTALS	401	100.0	398	100.0	799	100.0

subsidiary economic activities. What is considered as a subsidiary occupation in a developing country like Ghana cannot be clearly defined. In Ghana, for example, a relatively large number of these people perform, in their daily lives, a variety of activities which cannot be distinguished from one another. Some of these activities may be performed only during certain periods or seasons. Sometimes they provide additional income; in other cases they only enhance an individual's status and prestige within his community. Thus the demarcation between a major occupation and a subsidiary one is not always clear; it is usually left to the respondent to make such a distinction.

The total number of persons engaged in any subsidiary activity was 521; this represented 31 percent of the labour force who declared that they had a major occupation (33 percent of the males and 30.3 percent of the females). Many kinds of subsidiary activities are undertaken by the male group. Their main subsidiary activities were farming, carpentry, driving, herb medicine, gin distilling, palm-wine tapping, tailoring, and charcoal burning. Subsidiary activities engaged in by the females included farming, petty trading, gari-making, poultry-keeping, dressmaking and knitting/weaving. Few were engaged in palm oil processing, kenkey selling, sponging-making, and baking.

Employment Status

One would assume from the occupations delineated that a majority of the labour force were employed at the time of the Baseline Survey; still more, however, were self-employed. An insignificant proportion of the group were described as employers. Only a small group of the labour force were described as caretakers; these probably accounted for some of the few cocoa and permanent crop farms in the area. The unemployed group was similarly small; however, this should not be taken as evidence of full employment in the area. It is usual in rural areas to

LABOUR FORCE STRUCTURE AND ECONOMIC ACTIVITIES 87

find that some of the labour force are grossly underemployed or in disguised employment. This is particularly evident during off-seasons, especially in the dry seasons when there are no rains for farming. One would assume that the MVSL suffers from similar labour problems; the extent of this, however, cannot be determined from Baseline Survey data.

The proportion of the population in the category housewives/students/old age was relatively high; one reason for this is the inclusion of persons between the ages of 10 and 15 in the calculation of percentages. One would suspect that the majority of those in this category are students.

Table 3. Employment Status of Persons Aged 10 Years and Over

Employment Status	Males		Females		Both Sexes	
	Absolute	Percent	Absolute	Percent	Absolute	Percent
Employed	249	30.5	158	18.7	407	24.4
Self-employed	301	36.9	330	38.7	631	37.8
Employer	—	—	4	0.5	4	0.2
Caretaker	1	0.1	2	0.2	3	0.2
Apprentice	—	—	3	0.4	3	0.2
Unemployed	34	4.2	61	7.2	95	5.7
Pensioner	1	0.1	—	—	1	0.1
Housewives/students/ old age	222	27.2	253	29.7	475	28.5
Not stated	8	1.0	41	4.8	49	2.9
TOTALS	816	100.0	852	100.0	1668	100.0

Economic Activities

The economically-active population in the MVSL earn their living through various economic activities which are essentially characteristic of rural communities throughout Ghana (e.g., crop-farming, hunting, fishing, weaving, charcoal-making, distilling of *akpeteshie* [gin], woodcarv-

100

ing, cane and bamboo crafts, and processing of some agricultural products [particularly cassava and palm oil]). These economic activities are discussed under three main headings: farm activities, non-farm activities, and marketing activities.

Farm Activities

Farm activities may be divided into crop-farming and livestock raising.

The major economic activity in the country as a whole is farming, and the MVSL is no exception. In fact, all of the 858 people interviewed in the Baseline Survey earn part of their income, in one way or another, through farming.

Although farm sizes in Ghana are generally small, those in the MVSL are much smaller. Measured in ropes [one rope measures 24 yards by 24 yards], over 80 percent of the farmers operate on farms of less than three ropes (approximately one acre). Women operate on much smaller farms than their male counterparts.

A number of farmers own or operate as many as four farm holdings. However, over 50 percent of the farmers operate or own only one farm holding, while about 86 percent own or operate one or two farm holdings. Women tend to operate on a fewer number of farm holdings compared to their male counterparts. While a little over 20 per cent of the men interviewed own or operate on more than two farm holdings, only about 7 percent of the women interviewed operate three or more farm holdings. On the other side of the coin, more females (65.7 percent) operate or own one farm holding compared to their male counterparts (43.1 percent).

About 70 percent of farm holdings owned or operated by farmers interviewed in the MVSL are located within a five-mile radius from the individual farmer's village of

residence. A few farmers have farm holdings located outside the areas of jurisdiction of the villages in which they reside, in nearby villages, and in all the other regions in the country. As expected, those who have farms located in distant places tend to be those who own or operate more farm holdings.

The soil and climatic conditions in the MVSL are suited to the cultivation of a variety of crops, and a host of crops are therefore found cultivated in the area. Among the crops which farmers cultivate are maize, cassava, cocoyam, plantain, banana, yam, cocoa, sugar cane, vegetables, and fruits.

Cocoa, the major cash and export crop in the country, is cultivated by only a few farmers in the MVSL. Up to the early 1930s, this area was one of the most prolific cocoa growing areas in Ghana. Towards the end of the 1930s, the swollen shoot disease attacked and virtually destroyed most of the cocoa farms in the area as well as in some other parts of Ghana. Consequently, only traces of a few farms remained in the area. It is only in recent years that a few farms have been replanted and/or rehabilitated.

The most important crops currently cultivated in the area are cassava, maize, and cocoyam, which are cultivated by 36.7 percent, 34.6 percent, and 23.4 percent (respectively) of respondents to the Baseline Survey.

Mixed cropping, a characteristic feature of subsistence farming, is widely practised in the MVSL. Two crops which are invariably found growing together are maize and cassava. Cocoyam, which grows naturally when a piece of land is cleared for farming, is grown as a third crop on a significant number of farms. The study shows that about 83 percent of farmers cultivate two crops on a farm holding while 64 percent cultivate three crops. Only about 17 percent of the farmers cultivate some crops as the sole stand on some of their holdings. The survey also

suggested that more women tend to practice mixed cropping compared to their male counterparts. An inference from this is that pure cropping is practised by farmers who own or operate on more farm holdings, and these are mostly men.

Traditionally, and up to this day, most farmers in the country plant seed haphazardly. Farmers in the MVSL are no exception. However, a few farmers (about 10 percent of all those interviewed) have adopted the modern method of planting in lines or rows. Notable among crops planted in lines in the MVSL are cassava and maize.

Farm Inputs

A majority of farmers in the MVSL do not use chemical fertilizer or natural forms of manure such as decayed refuse or animal dung on their farms. Only about 3 percent of the farmers interviewed indicated that they use chemical fertilizer on their farms. The few farmers using chemical fertilizer use it in connection with maize, cassava, and vegetable cultivation.

Like their counterparts in most parts of the country, farmers in the MVSL depend on rainfall to water their crops. However, a few farmers (about 2 percent of those interviewed) indicated that they used some form of irrigation on their farms. Water for irrigation is collected from nearby rivers, streams, and ponds. This is mainly done by farmers who cultivate vegetables, particularly tomatoes.

In addition to the farmers' own labour, family and hired labour are used extensively on farms in the MVSL. Only about 31 percent of the farmers operate their farms alone, using no help. The remaining farmers use either hired labour, family labour, or both. Only three of the 731 respondents do not hire labour or use family labour but get help from friends, apparently on *mnoboa* basis. While more men work singly on their farms (39.6 of the

103

male respondents), relatively more women employ labour to work on their farms (indeed, 25.6 percent use only hired labor).

Livestock Raising

The survey indicates that about 71 percent of the 858 people interviewed in the MVSL raise some livestock. While generally livestock is raised to supplement the owners' incomes, it also provides occasional meat for the household cooking pot, especially on festive occasions and for the performance of various rites. Compared with crop-farming activities, most of the farmers who raise livestock do so as a secondary activity.

Farmers in the villages surveyed raise different kinds of livestock, including chickens, ducks, turkeys, rabbits, sheep, goats, and pigs. Chickens, goats, and sheep are the three most important livestock raised in the MVSL. However, in terms of average number kept or raised by the farmer, chicken is the highest (Almost 50 percent of the farmers raise chickens, with the average flock being 14.2 chickens. Goats are raised by 213 respondents and sheep by 186).

A majority of the farmers raise their livestock on a free-range system, allowing the animals to roam about to find feed. In the evening, some of the animals are housed in various structures, including wooden and barbed wire fences within the compound. Some of the livestock spend the night in swish houses, hallways, kitchens, and other places in and around the compounds. Some of the birds just roost on verandahs. In general, the farmers do not provide adequate shelter for the livestock they raise.

Over 50 percent of the farmers who keep livestock supplement the feed picked up by the animals on the free-range with a variety of feed. The supplementary feeds tend to be locally available materials. The most important feed given to poultry and pigs are maize and cassava, while

plantain peels and various types of leaves are given to sheep and goats. These materials are obtained largely from the farmers' own farms and as remnants from their kitchen and/or barns. However, about one-quarter of the farmers who raise chickens provide commercially prepared feed for the birds. In the case of farmers who raise goats and sheep, a little less than one-third own grazing land.

Livestock in the MVSL are usually kept under unhygienic conditions; consequently they contract various diseases. The major diseases contracted by poultry are Newcastle disease and diarrhoea. Among the major diseases contracted by sheep and goats are running noses, diarrhoea, and paralysis.

Non-farm Activities

There are a number of non-farm activities engaged in by the economically-active population in the MVSL. The most important non-farm economic activities are the processing of cassava into gari and basket-weaving. These are followed by the processing of oil palm into palm oil, the weaving of mats, and various cane and bamboo crafts.

Although both men and women engaged in non-farm economic activities, more women are found in the areas of processing (gari and palm oil-making), charcoal-making and the fetching of firewood. Men, on the other hand, are more engaged in weaving baskets and mat and cane crafts. Other areas of non-farm activity where men dominate include trap setting, crab catching, hunting, fish trapping, making of roofing sheets from raffia, wood carving, and distilling of akpeteshie.

Pottery, one of the most popular rural industries engaged in by women in many rural areas in Ghana, is not mentioned as a non-farm activity in the MVSL.

Marketing Activities

Marketing of farm and non-farm produce is an integral part of the monetary economic system in the MVSL.

The Baseline Survey sought to examine the nature and extent of marketing practices including: when produce is sold, storage practices, mode of transportation to market, places of sale, and marketing problems.

Information collected in the survey indicates that only about 18 percent of farmers (166 responding) produce crops for subsistence only. The remaining 82 percent produce partly for the market and partly for home consumption.

Survey data indicate that about 87 percent of the farmers in the MVSL sell all surplus produce intended for the market soon after harvest. However, a few farmers (12.6 percent), retain or store part of the marketable surplus to be sold later while the other part is sold immediately. None of the farmers store all their marketable surplus. This is an indication of their need for money for various purposes at harvest time or soon thereafter.

Almost all the farmers store part of their produce for home consumption and for seed for the next planting season. The most popular storage structure in the MVSL is the barn (181 out of 215 respondents). The barns are mostly erected on the farm or located somewhere on or around the compound of a farmer's house. Other less important storage structures identified in the survey area included sheds (15 farmers) and silos (2). A few farmers also store maize in the ceiling of their house (11).

Farm produce are hauled by two main modes: headloading and truck. However, the most important mode is headloading, with 74.4 percent using this mode, 14.1 percent using a truck, and 11.5 percent employing both procedures. The importance of headloading as a means of hauling farm produce suggests, among other things, that the quantity of produce available to be hauled by individuals is small. This also reflects the size of farm holdings, a majority of them being about an acre or less. An-

other cause is transportation difficulty [owing to the terrain].

The majority of farmers in the MVSL sell their farm produce in local markets, which are organised on specific days of the week. Other less important areas where farmers sell their produce are by the roadside, at the farm, or in a farmer's home in the village. It is important to note that a particular farmer seldom confines his selling to one particular place, but does so in several places simultaneously, even if he or she has only one crop to sell.

Farmers in the MVSL sell their farm produce to three main buyers: wholesalers, retailers, and directly to consumers. Most farmers sell to a combination of these three outlets. However, in general the most important buyers of farm produce in the area are retailers, followed by consumers; wholesalers are relatively insignificant as buyers. The Baseline Survey indicated that there was some variation in the type of buyer for different crops and livestock, but these variations were not very significant. Retailers are mostly members of the local community and a few of them come from nearby towns and villages. The fact that there are few wholesalers buying in the area suggests that the quantities of farm produce available in the area are small. Thus wholesalers are not attracted to the place.

A surprisingly high proportion of farmers in the area indicated that they encounter no problems in marketing their farm produce. Among those who indicated that they encounter some marketing problems, it was transportation difficulties which surfaced as the most important problem. All other problems connected with marketing (e.g., creditors fail to pay or low price offered) are relatively insignificant.

Summary and Conclusions

The economic structure of the MVSL seems to typify many rural areas in Ghana. The structure of the labour

107

force (e.g., the occupations pursued) reflect conditions pertaining to other rural areas in Ghana. Agriculture forms the basis of the economy; in this respect proportionately more females (65.8 percent) were engaged in agriculture and related activities than males (60.1 percent). This situation seems to reflect recent trends in which more females are being retained in the field of agriculture compared with males; increasingly males are shifting into the modern sector. The survey showed employment levels to be high, but so was the category of "housewives/students/old age." There were very few employees; similarly, there were very few apprentice workers.

The Baseline Survey also showed that all the 858 people interviewed were crop farmers. However, a majority of them also raised livestock and were engaged in other non-farm activities. In all economic activities, men and women are equally active participants.

A majority of the people work on farm holdings of less than an acre in size. However, close to 50 percent of the people own or operate on two or more farm holdings. The farms are mostly located within a five-mile radius from the village in which the individual farmer resides.

The predominant crops grown in the area are maize, cassava, plantain/banana, and cocoyam. Many farmers in the area practice mixed cropping and the crops are generally grown haphazardly on the farms. As in most parts of the country, farmers depend on rainfall, not irrigation, to water their crops. The use of modern and improved inputs (seeds, fertilizers, irrigation, etc.) are generally insignificant in the MVSL. About 50 of the farmers employ hired labour on their farms. Family labour also features prominently in the MVSL.

Over 70 percent of the people interviewed raise various types of livestock in addition to crop-farming. However, most of the people keep very few numbers. The predominant livestock are poultry (chickens), goats, and

108

sheep. The livestock is generally raised on a free range system and are inadequately housed for the night; consequently they contract various diseases.

The most important non-farm economic activities in the area include basket and matweaving, processing of cassava and oil palm into gari and palm oil respectively, charcoal making, and fetching of firewood.

A majority of the crop farmers market all their produce intended for the market soon after harvest. A few farmers who store part of their marketable surplus do so mainly in barns erected on farms or on the premises of the farmer's home in the village. The most important places where the farmers market their produce are the local markets on market days, the farm itself, or by the roadside. The most important buyers of farm produce in the MVSL area are retailers, consumers, and wholesalers, in that order. The farmers generally sell to a combination of these buyers. Surprisingly, a majority of the people do not have any problems with the marketing of their produce. Of those who have problems, transportation is the single most important problem.

Socio-Cultural and Political Conditions

D. N. A. Nortey

Men everywhere live in groups for the purpose of nurture, defence, and survival. In order to survive, men make use of both the social environment (the persons who form the social group) and the physical environment (the land and its resources). The social environment provides the skills and ingenuity for exploiting the physical environment, which provides the resources for meeting the needs of the group.

In exploiting their environment, men devise a way of life or culture appropriate to the resources they possess. The culture, then, is the product of both the social and physical environment.

This explains in part why no two societies develop identical cultures. This does not imply that all societies inhabiting similar geographical areas develop similar cultures; for example, not all societies inhabiting grasslands develop what E. E. Evans-Pritchard called bovine culture, like the Nuer in Southern Sudan or the Masai in East Africa. People everywhere select only certain aspects of the environment and exploit those aspects. What resources are selected or omitted depend to a large extent on the value system of the people, which is shaped by their past experiences and culture.

The culture determines the beliefs, attitudes, norms, and values of the people; indeed, it determines their be-

haviour—not only what they might do to sustain themselves, but also how they should do it. For example, the culture determines the artifacts the people produce to aid their survival, the type of food they eat, the occupation they engage in, and so on. By and large, the culture determines how the people meet their social needs.

In order to survive men devise methods for meeting their needs. The methods or means for meeting these needs are referred to by sociologists as social institutions. A social institution consists of a normative pattern of behaviour directed towards the fulfillment of specific social needs. The norms determine the social positions or status of persons who operate within these institutions and the roles they are expected to play in relation to their positions.

There are as many social institutions and sub-institutions as there are social needs. But sociologists recognize five basic social institutions as crucial to the survival of human groups or societies. The first and foremost is the family. This institution performs several important functions for the survival of the group including procreation or reproduction and nurturing. If these two important needs are not met, the group would die off. The second institution is the economy, which caters to the production and distribution of goods and services. The educational institution caters to the socialization—the teaching of the culture—to newcomers (e.g., children). Religion validates the norms and values of the culture, and political institutions play the role of maintaining social order.

All these social institutions are interdependent and are organized into a system which is usually referred to as the social organization; the network of interactions within the social organization is the social structure.

In this paper we shall look at the social organization of the communities inhabiting the MVSL and some of the

111

cultural activities of the people. The focus will be on the structure and functions of these basic institutions.

The Land

The MVSL covers an area of approximately 65 square kilometres (25 square miles). It lies within latitudes 5°57'N and 5°55'N and longitudes 0°09'W and 0°13'W. It is bounded on the north by the Akese and Yensi Rivers, on the east by the State Farms Oil Plantation, on the west by the Otwetiri-Mampong-Nkwanta footpath to the Chiripon (Kyerepong) Hills and on the south by the Ajeno-Kwatiakwa-Adawso footpath.

The land has a gentle terrain, rising from about 168 metres in the valley to about 305 metres at the slopes of the Akuapem Ridge. It has a moderately high temperature of about 24°C and a fairly good rainfall of about 119 cm a year. It is fairly well drained by a number of streams, tributaries of the Yensi River. The area is covered by loamy soils which are suitable for food-crop farming.

Originally the land was covered with semi-deciduous and evergreen forest vegetation, but due to extensive farming and the cutting down of the original vegetation, it is now covered with secondary forest, bush, and grass.

So far no mineral deposits of commercial value have been discovered in the area. Consequently its main natural resources consist of forest products. In addition, it possesses a wide variety of fauna which constitute a source of meat, many different species of birds, and a number of reptiles.

The condition of the land and its resources make the MVSL suitable for farming and hunting and capable of sustaining human settlements.

The People

The total population of the people inhabiting the MVSL, according to the 1974 enumeration survey, was 3,370. This was made up of 1,629 males (48.3 percent) and 1,741 females (51.7 percent), thus giving a sex ratio of 93.6. They live in about twenty-two settlements. The number of persons in a settlement ranged from a total of 23 persons in the small hamlets to 661 persons in the large villages. The mean average size was about 140 persons in a settlement. Nearly a fifth of the population live in villages containing more than 500 inhabitants, and another two-fifths in villages containing between 250 and 500 inhabitants. The population density was about 135 persons per square mile. On the average each settlement and its surrounding farm lands covered roughly 1.14 square miles.

The communities are heterogeneous as the inhabitants are made up of persons with different ethnic origins. They originated from both within and outside Ghana. There are, however, two dominant ethnic groups, namely the Twi-speaking people, who form about one-half (49.8 percent) of the population, and the Ewe-speaking people, who form 40.6 percent. These two ethnic groups together account for 90.4 percent of the entire population.

The Twi-speaking people were the first settlers and owners of the land. They migrated from towns on the Akuapem Ridge, especially Mampong, Akuapem, and Tutu. These people migrated to the MVSL as cocoa farmers and do not regard their villages as their permanent homes. Due to the short distances between their villages and their hometowns, they often travel to their places of origin to perform their major social and cultural functions. They maintain close links with their kinsmen and attend funerals, bury their dead, and partake in their annual Odwira and Ohum festivals in their hometowns. They send their children to their hometowns to attend schools, and the children come to visit them only during school vacations. By and large they maintain the Akuapem culture.

The Ewe immigrants who arrived from the Volta Region and Togoland came as farm labourers. The majority of them have made their settlements their hometowns. Only a small minority, mostly the old, maintain some kind of link with their original hometowns. Only 16.3 percent of the Ewes were born outside the MVSL. The rest were born and bred within the MVSL. Ewes born in the MVSL normally do not regard themselves as immigrants but as citizens of their settlements. Their children receive their primary education in the villages and a few continue in the surrounding towns where facilities for further education exist.

Except in a few instances, the immigrants are spread over all the villages and hamlets and have been well assimilated. There are, however, a few communities where the inhabitants are predominantly strangers. For example, the communities in Kokormu, Sokoda Guaso, and Bukor are made up of Ewes. Their way of life basically follows the Ewe pattern. In the mixed communities, the Twi-speaking people are always in the majority.

The main language spoken is Twi. The entire population communicates in this language. In addition to Twi, the immigrants (especially the Ewes) maintain their original dialects and use them in communicating within their homes and with persons with whom they share the same dialect. They are therefore bi-lingual. The Twi-speaking people, on the other hand, normally do not make any conscious attempt to learn the dialects of the immigrants since they can always communicate with them in Twi without difficulty.

The dominant culture in the MVSL is Akan, and the main social institutions are modeled on the Akan pattern. The Ewes, however, have maintained their cultural identity in certain fields. For example, apart from their language, they still maintain their forms of dancing, singing, drumming, and their rites in connection with birth, marriage,

and death. The majority of them—especially the illiterates—have retained their traditional religious rites and practices. This situation does not, however, generate conflict. Rather, at times it promotes inter-ethnic cooperation, especially in cultural activities. In almost all cases in which social action is demanded, the different ethnic groups come together and act as one unit without any form of ethnic discrimination.

The Family System

The term "family" is used by most—if not all—societies in Ghana to refer to four types of social structures. In the narrowest sense, the term is used to describe a group of consanguineous kinsmen who are joined together by a father and mother. This corresponds to what anthropologists refer to as the nuclear or elementary family. The group is composed of a father/husband, a mother/wife, and their offspring (by birth or adoption). Such a family may take the form of a composite unit, composed of a man, his wives, and their children; such a nuclear family is termed a polygynous family.

The second type, called an extended family, consists of consanguineous kinsmen of different generations residing in the same household or compound. Very large extended families may consist of relatives of between three to five generations, including other kinsmen of the parents. The type of kinsmen found in this type of family structure depends upon the residential pattern of the people. If the residential pattern is patrilocal then the other relatives may be brothers or sisters of the male head (and at times their children); if the residence is matrilineal then other matrilineal relatives may form part of the group.

The third type of family structure is the lineage, a group of kinsmen who trace descent from a common ancestry. In Ghana there are two systems of tracing descent. One system traces descent from a known ancestor,

and the other from a known ancestress. This gives rise to two lineage systems, i.e., patrilineage (which traces descent and inherits office and property through the male line) and matrilineage (which inherits office and/or property through the female line). Apart from blood ties, members of a lineage normally live together in the same locality, usually a whole village or a section of a town. They recognize one ancestral house and own a common property, usually land.

The fourth type is the clan—a group of kinsmen who believe themselves to have descended from a common ancestry, although normally the putative ancestor or ancestress is unknown. This belief in a common ancestry gives rise to the observance of certain common totemic practices or totemism. Unlike the other three systems, members may be spread over a wide area. Members recognize each other mainly through totemic rites and avoidances. It also regulates marriage between clan members, which is strictly proscribed. Of course this restriction applies to members of a lineage, too.

The ethnic distribution of the MVSL shows that two types of family structures exist in the area. Less than half (47.8 percent) of the population practice the matrilineal system. These persons are mostly the Twi-speaking people. The exceptions are the Guans and Kyerepongs who, although they speak Twi, have their own dialect and trace descent through the paternal line. They are the settlers from Larteh, Anum, Adukrom, Awutu, etc. People from Mampong originally spoke the Guan dialect and so they also trace descent patrilineally like the other Guans. The rest of the population (52.2 percent) practice the patrilineal system. They are made up of the Ewes, Gas, Kro-bos, Adangbes, people from Northern Ghana, and so on.

We find three types of houses, according to the number of households within each house and the number of persons comprising a household. First, there are houses

containing one single household unit. The inhabitants of this type of house include about three-fifths (62.1 percent) of the entire population. The second type comprises houses containing two or more household units. This type is inhabited by about a fifth of the population. The third type is distinguished by the number of inhabitants, and it contains about another one-fifth of the population. The third type contains less than four persons in a house. The average number of persons forming a household unit is 8.1. About one-third of the population live in households containing about 9 and 12 persons, while about 5 percent of households contain 19 or more persons. The remaining two-thirds (62.0 percent) contain less than four persons per household.

From this analysis we can assume two dominant types of family structures in the MVSL. The first is the nuclear one, consisting of a father/husband, a mother/wife, and children. This type is found in households containing four or less persons. Such a family may be a composite or polygynous one. The second type is the extended family structure. This type is found in households containing 12-19 persons more or less of different generations. Statistics suggest that lineages and clan structures have not developed in the MVSL. It is possible that lineage structures may emerge with the passage of time and the desire of settlers to turn their present settlements into permanent homes. The ethnic group most likely to develop lineages in the MVSL is the Ewe group, because a majority of them appear to have lost touch with their original homes.

The Political System

The political system deals with the maintenance of law and order within a society. It deals with peace within the society and war and diplomacy outside it. It enforces the norms of the group by applying positive sanctions (rewards) in favour of conformists and negative

117

sanctions (punishment) against non-conformists. This important function places the political institution in a dominant position vis-a-vis other major social institutions. The political institution coordinates the activities of the other institutions, and thus reinforces its dominant status among the others.

The political system found in the MVSL follows closely the general Akan pattern. It is a centralized system operating under one central authority, although all the families in an area enjoy political status, for the structure enables heads of the maximum, major, and minor families to exercise a certain amount of political authority.

The head of a settlement (town, village, etc.) is always selected from members of the founding family, or the family of the first settler who usually owns the land or comes from the lineage which owns the land. The head of the founding family is referred to as the Odikro (owner of the village) or Ohene if he has other settlements under his jurisdiction. The Odikro of a settlement is a representative of his lineage and therefore owes allegiance to his lineage head, who resides in his hometown. The lineage head may in turn owe allegiance to a sectional head who may be under a divisional head. The divisional head, who is a subject of a chief, also owes allegiance to his chief. This chief owes allegiance to the Omahene or the Paramount Chief of the state. Thus the political structure is hierarchical. At the lowest level are the heads of the extended families, above them are the Adikrofo, then the Ahenfo or subordinate Chiefs, and above the Ahenfo are the Divisional Chiefs who come next to the Omahene, or Paramount Chief, the head of the state.

At each level, the head is assisted in the discharge of his political functions by a council of elders. The council of an Odikro is composed of the heads of the extended families in the village; the council of an Ohene (Chief) is composed of the Adikrofo (Village Heads) under his juris-

diction; a divisional chief's council is made up of chiefs serving in his division, and the Omanhene's Council (State Council) is composed of the Divisional Chiefs. Apart from the various heads who serve at the different levels, there are also certain traditional officeholders who are either elected or selected to serve on the councils.

Social order is thus maintained in each family by the head of the family and his elders. At the village level, order is maintained by the village head (Odikro) and representatives of the family. This pattern is repeated up to the state level. There exists a two-way channeled communication line within the structure. Political decisions taken at the state level are carried downwards through the various representatives to the village/family level and, *vice versa*, decisions taken at the lower levels are carried upwards by the same process to the top levels.

The traditional political system in the MVSL follows the pattern described above.

The MVSL forms part of the Akuapem state. The original settlers came mainly from two Akuapem towns and so they owe allegiance to the Omanhene (Paramount Chief). These towns are Mampong and Akropong. The settlers from Akropong came from the Kumang division which forms part of the Omanhene's division. The villages which they established therefore owe allegiance to the Omanhene's division through the lineage heads. Mampong falls within the Benkum Division of the state and owes allegiance to the state through the Mamponghene who also serves the Benkumhene.

The present political structure in the MVSL is an ingenious blend of the traditional and the modern. This was achieved by the passing of the Local Government Act (Act 359) which created Districts and Local Councils. A Local Council has its specific area of jurisdiction and functions. The councillors are expected to be partly elected and partly

nominated. The nominated members form one-third of the membership and are selected from traditional office-holders.

A District Council covers a number of wards which form Local Councils within the District. Like the Local Councils, a District Council has specific functions. The MVSL forms sub-ward 3 or Ward 1 of the Akuapem District Council.

Politics

The findings of the Baseline Survey clearly showed that the inhabitants are politically sophisticated. They are not only aware of their political rights but also have the desire to exercise them.

During the 1969 elections, about half of the people registered as voters and exercised their right to vote. Those who did not register at the time were either not qualified on the grounds of age or nationality (non-Ghanaians), or did not have the opportunity due to sickness or absence from their constituencies. Remarkably, only the non-Akuapems registered and voted in the MVSL. The Akuapem travelled to their home-towns to exercise their political rights.

When respondents' views were sought on who should qualify as a voter and stand for election, about three-quarters were able to express definite views. The overwhelming majority said that every adult, qualified Ghanaian should have the right to vote and stand for election. Voters should also have the right to vote for candidates of their own choice, and voting should be conducted through the ballot box. With regard to the type of government or rulers they would prefer, slightly over two-thirds said they prefer a representative form of government. They disapproved of any form of imposed rule, be it by the military or traditional rulers. They want membership of the government to come from all sections of the community and

not from any privileged group (e.g., bureaucrats, chiefs, the army, professionals, or the elite class).

Respondents were not only aware and articulate about their political rights; they were also aware of their political and civic responsibilities. They were all agreed that both the development of the MVSL and the country as a whole is the social and political responsibility of all.

Economic Institutions

An economic institution deals with the production and distribution of goods and services to meet both the physical and social needs of people living in a group. Economic institutions include the occupations of the people which lead to the creation of wealth, markets where economic transactions take place, land which provides the resources, and labour which provides the skills.

The people who live in the MVSL are predominantly farmers. They were attracted to the place as a result of the favourable farming conditions, at first for cocoa and later for food crops. The decline in cocoa farming as a result of the swollen shoot disease caused people to turn their attention to food-crop farming.

The main occupation in the area therefore is farming and all the people interviewed 10 years and over (both males and females) said they were farmers. The total number of persons doing farming thus forms 57 percent of the MVSL's adult population. This calculation is based on the assumption that those who claimed to be farmers spend the greater part of their working time on activities connected with farming. Of the rest (43 percent), some engage in farming as a part-time activity. A lorry driver at Mampong, for example, may own a farm in the MVSL, but come down only on weekends to farm. Some farmers also may engage in other occupations between harvesting and the planting season.

Not all farmers own land. Some rent the land and others lease it. This system of land tenure applies mostly

to non-Akuapem farmers. In the case of the Akuapems, many farmers cultivate family lands, while a few farm their own private holdings.

The farmers practise the traditional method of shifting cultivation. This is a method whereby old farms are allowed to lie fallow (usually for a period of three to six years) to allow for the land to regain its fertility. However, as the majority of farms (68.5 percent) are located within 3.5 miles of the settlements, land is becoming scarce owing to population growth; this method of farming is therefore giving way to intensive cultivation of the same holding. Also, in the absence of the use of manures and fertilizers, farm lands are losing their fertility in the area. Data from the Baseline Survey indicates that only 23 persons (2.7 percent of the farmers) use commercial fertilizers; none of them use any other form of manure.

Farmers in the MVSL still employ traditional farming implements, namely cutlasses and hoes. The cutlass is used to cut down the bush and the hoe is used for weeding. Axes are sometimes used to cut down big forest trees. The big trees and bush are burned before stumping and planting.

The average size of a farm holding is less than two acres, but about half of the farmers operate more than one farm holding. The Baseline Survey shows that 295 persons owned two farms each; 109 had three farms each and 56 possessed four farms each. Some of these additional farms were located some distance away from the farmer's village or (at times) outside the MVSL altogether.

Farmers employ one or more of three categories of labour. The categories are: (1) their own labour; (2) members of the family (wife/wives, sons and daughters, other relatives); and (3) hired labour. In certain cases the farmer relies on the labour of members of his *nnoboa* group (cooperative society) for the initial clearing of the land. Male farmers own larger farms than female farmers and

122

ket, which serves a few villages, the bulk of the produce in the area is marketed twice a week at Adawso, a town situated on the western boundary of the MVSL. Wives, unmarried daughters, and female relatives of farmers who so employ a larger labour force. Female farmers normally rely on their own labour, but usually the initial clearing is done by her husband and/or adult sons. Hired labourers are employed on contract terms and are paid either in cash or in kind.

The farming or planting seasons coincide with the rainy seasons (March-July and August-November). This is so because the farmers rely mainly on rain water. During these periods there is intensive work on the farms. Farmers leave their houses early at dawn and return at dusk. They prepare and eat snacks (roasted cassava, yam, plantain, and cocoyam) on their farms. Like all other rural farmers in Ghana, they eat only one good meal in their homes after farm work. Additional hands are employed during the weeding period after planting as well as during harvesting. Sale of the farm produce is done mostly by the females (wife, daughter, and/or other female relatives of the farmer). The data from the Baseline Survey shows that the most popular type of labour employed is the mixture of all three categories; 55.8 percent of respondents engage all three categories. The three-combinations method is followed by those who rely on their own labour (29.2 percent). Farmers who depend on hired in the MVSL.

There is only one market in the MVSL. This market operates daily at Yensiso. Apart from the Yensiso market only form 15 percent of the total.

Besides farming and hunting, which engage about two-thirds of the labour force, the rest of the working population engage in a variety of occupations. The working population forms about 50 percent of the entire population

123

live in the villages near Mampong send their produce to Mampong for sale.

Apart from these three markets there are food collection centres at Otwetiri, Kkormu, and Bewase. Sales are restricted to persons—usually women traders from Accra and Tema—who do bulk purchasing. All over the area these women have their buying agents who buy direct from the farms and cart them by head portorage to the centres. The traders hire transport from Accra/Tema once a week to collect food items.

Crops grown in the area include cassava, maize, cocoyam, yam, cocoa, sugarcane, plantain, and banana. The important ones are cassava and maize and cocoyam. Cassava is cultivated by 33.1 percent of the farmers who are mostly Ewes. It is followed closely by maize, which is cultivated by 30.2 percent, and then cocoyam, cultivated by 26.4 percent.

Many of the farmers practice mixed cropping. Due to constant cultivation of cocoyams over the years, it now grows in the area without any deliberate effort at cultivation. Immediately the land is cleared for farming, the tubers shoot up. The other crops are cultivated mostly for home consumption. Coffee and rice have been introduced recently on a small scale.

Many farmers, especially female farmers, cultivate small quantities of vegetables in their backyard gardens. These are consumed mostly in the homes.

Every farmer, too, raises some livestock, poultry, ducks, goats, sheep and, at times, pigs in the home. These animals are sold only in emergencies when the owner wants ready money to meet an urgent need. They are used as meat supplement, as sacrificial animals to the gods, and on special social occasions like the Ohum and Odwira festivals.

Industries

There are few traditional industries in the MVSL. The two important ones (gari and cassava dough) rely on cassava as the source of raw materials. Gari is made from cassava which is grated, fried, and then turned into gari, a staple food item in the diet of most ordinary workers. The gari-making industry is a home-based industry and labour is supplied by the female members of the household.

The second major industry is the cassava dough industry. Like the gari industry, this industry is operated by women. The raw cassava is pounded and fermented for a few days. The fermented cassava is then turned into a dough and transported like gari to the main urban centres.

A few individuals manufacture palm oil and palm kernel oil. The majority of the manufacturers of these products are females, but occasionally one comes across male manufacturers.

Local gin (*akpeteshic*) is distilled on a small scale. The raw materials are obtained from palm-wine and sugar cane. Distilleries are owned and operated by males.

Raw materials for all these industries are obtained locally. Although the finished products have ready markets and enjoy good prices, no attempts have been made at modernization; the manufacturers still rely on traditional techniques. Crafts like wood carving, mat and basket-making, raffia work as well as cane and bamboo works, are practised only on a small scale.

There are a few tradesmen in the area. Many of them are persons who have retired from the urban centres. They practise their trades on a part-time basis only, and usually do farming in addition to their trades.

Education

Like all the other social institutions in the MVSL, education is a mixture of the traditional and modern. The traditional operates on an informal level where people learn culture through imitation, indoctrination, and so on. On the other hand, the modern operates on a formal level where people are consciously taught in classrooms. Those who receive formal education acquire certain aspects of the culture through imitation and indoctrination, in the same way as illiterates. The illiterates, too, through constant association with the literates, acquire certain of the contents of modern culture informally.

Baseline Survey data revealed that the majority of inhabitants from the age of six years upwards have no formal education. This group accounts for 53.2 percent of the population. Considering that the percentage of illiteracy in the country is estimated at 80 to 90 percent, the situation is fairly satisfactory; this is due to the high level of literacy in Akuapem as a result of the work of the early German missionaries.

The literate population accounts for 42.5 percent of all persons above six years of age; it is made up of 22.7 percent of persons who have already had some formal education, and 19.5 percent of persons who are still attending school.

About 46.2 percent of those who have had some formal education read up to the primary school level, and another 48.5 percent have had some middle school education. Those who have had post-middle school education represent only about 4 percent. This group consists of teachers and workers at the Kwamoso State Farms Corporation.

There are six primary schools and two middle schools in the area. Three of the schools are managed by the Presbyterian Church Educational Unit, one by the Angeli-

can Church Educational Unit, and the rest by the Akua-pem Local Authority. The salaries of the teachers together with the general running expenses of the schools are paid by the Local Authority. These schools are located at Addo-Nkwanta, Mampong, Nkwanta, Adanya, Otwetiri, Bewase, and Kwamoso; Adanya, Otwetiri, and Kwamoso have both primary and middle schools. Children who attend school from the remaining sixteen settlements commute daily between their settlements and the villages where schools are located.

A few of the adult members also attend literacy classes at Sokoda Guaso, where they learn to read and write. These classes are run by officers of the GhRRM. In addition to these literacy classes, officers of the GhRRM run functional education, especially for farmers. Seminars and demonstration classes are organised from time to time to educate the participants in modern farming techniques.

Religious Institutions

The function of a religious institution is to validate the norms and values contained in the culture of a people and to give ideological support to the beliefs, attitudes, perceptions, and world view of the people.

The three main religions in the area are Christian, Muslim, and the traditional. Of the respondents to the survey, 6.2 percent said they did not belong to any religious organization and 3.7 percent did not indicate their religious affiliation. Out of the 90 percent of respondents who claimed to be affiliated with religious organizations, 45.5 percent were members of various Christian denominations, 38 percent belonged to various traditional cults, and 6.2 percent belonged to the Muslim religion.

It appears from the number of organized churches in the area that not all the claimants are active members of their religious groups. Only one group has a church build-

ing. The building is located at Otwetiri and it belongs to the Apostolic Revelation Society. The members of this church form the most active Christian group in the MVSL. They meet regularly. The Presbyterian community, which forms the largest Christian community (24.0 percent), hold services at Kwamoso and Adanya. This community is served by part-time pastors who are stationed in the towns on the ridge. The Muslim community is located at Kokormu. It has no mosque but meets in the house of the Odikro of Kokormu. The interesting thing about this group is that members are Ewes, and one would have expected them to be either Christians or traditionalists.

The traditionalists worship various gods and fetishes. There are about ten of these cults, located in seven villages. These cults and fetishes celebrate their annual yam festi-

Distribution of Population by Religious Affiliation

<u>Religious Denomination</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
Roman Catholic	73	55	128
Methodist	100	87	187
Presbyterian	393	417	810
Angelicant	26	19	45
A.M.E. Zion	—	1	1
Seventh Day Adventist	—	2	2
Apostolic/Jehovah Witness	102	133	235
Other Spiritual Churches	25	29	54
Muslim	114	116	230
Traditional	605	676	1,281
Evangelical Presbyterian	15	17	32
Christian N.E.S.	14	17	31
Church of Christ	—	1	1
No Religion	103	106	209
Not stated	59	65	124
Totals	1,629	1,741	3,370

128

vals between August and November. During such celebrations there is much cooperation among cult members. Non-members of a particular group attend these celebrations as observers and people are invited from both inside and outside the MVSL as guests. Celebrations may last several days. Much drumming, dancing, and singing takes place during the period of celebrations.

Cultural Activities

Singing, drumming, and dancing form an important part of the cultural life of rural communities in Ghana. Participants do not engage in these activities for recreational purposes only, but they use these activities to express their cultural values and also to express their feelings about certain social events. Drumming, singing, and dancing also form an integral part of their religious life.

There appear to be no formal institutions for teaching and learning the art of singing, dancing, and drumming. It seems people pick them up unconsciously through imitation. Conscious teaching is done only in a few specialized and non-traditional groups like singing bands and church choirs as well as highly organized traditional groups like the Ewe *Agbadza* groups.

About 70 percent of respondents in the Baseline Survey claimed to be singers, 18.1 percent drummers, and 73.3 percent dancers. Both sexes engage in all three activities. The distribution according to the frequency of participation shows that the number of female singers and dancers is slightly higher than those of males, and there are more male drummers than females.

There are organized cultural or *agoru* groups in the area. A little over one-third of the respondents in the survey belonged to these groups. Members of these groups specialize in one or two roles. Some sing, others play the drums, still others dance. In the well-organized groups, some members play the role of administrators who are

129

responsible for the planning and organization of all the major activities of their group. They decide whether to accept or reject invitations; they control the group's finances; and they maintain discipline and acquire instruments for the group.

The *agoru* groups normally entertain people in their own communities or in neighboring communities, but at times some groups perform outside the MVSL when invited to perform at funerals, weddings, outdoorings, and naming ceremonies. Normally the groups perform at weekends in the late afternoon, either weekly or fortnightly. The Ewe groups usually perform in the evening and continue late into the night, especially on Saturdays.

There are very few musicians in the area, considering the number of people who claim to possess the skills for playing musical instruments. Only 3.1 percent of respondents claimed to possess the skills for playing indigenous musical instruments, and another 3.2 percent play foreign instruments. The indigenous instruments include flutes, drums, castanets, and similar instruments, and the foreign instruments include the guitar, accordion, mouth organ, and piano/organ. Only two persons in the whole area claimed to play the organ and the accordion.

Games and sports do not appear to be popular activities in the MVSL; only a negligible percentage of respondents in the Baseline Survey take part in these activities, which appear to be restricted to school-going children. The most popular game among the adult male population is *oware*. A few females also play this game. It is usually played indoors but, when played outdoors, it attracts a sizeable number of spectators. *Dame* (draughts) is played by a few young men. The most popular sport enjoyed by the youth is football. Occasionally football matches are organized between village teams on Saturdays or Sundays. Such events attract many spectators from participating villages and results become issues of debate and topics of conversation for several days.

Organized youth movements are not popular in small towns and villages in Ghana, and even less so in rural areas. They are found mostly in the big towns and are organized by literate leaders, mostly school teachers. Since it is difficult to come across many such interested individuals in rural areas, the youth in the MVSL lack leadership.

In the Baseline Survey we observed no organized youth movements. Only 10.1 percent of respondents said they were or had been members of youth organizations. Only 8.1 percent were presently members of such organizations, and they had joined these movements outside the MVSL; it was not clear whether they were still actively involved in the activities of these movements.

By and large the survey data confirmed the observation that dancing, singing, and drumming are the main cultural activities which give some degree of relaxation and recreation to rural folks in the MVSL.

The Social Structure

The foregoing analysis shows that the social structure existing in the MVSL is a reflection of the general social structure of the country which consists of both the traditional and the modern. The dividing line between the two parts is literacy: The literates operate predominantly within the modern sector and the non-literates operate mostly within the traditional sector. The modern is made up of modern legal laws and modern educational, economic, religious, and political institutions; the traditional is made up by the rule of chiefs and fetish priests, peasant and subsistence farming, traditional religious beliefs, traditional conduct norms, and so on. Neither operates separately; each impinges on the other.

The educated recognize the chiefs and obey them; they hold strongly to certain aspects of their traditional beliefs; they join their illiterate relatives in celebrating funerals

and annual festivals in the traditional way. Correspondingly, the non-educated accept and operate fully or marginally within modern institutions. Even some of the educated chiefs, who are supposed to be the custodians of the traditional culture, are now engaged in modern occupations and live outside their states or towns.

In the MVSL, both structures coexist as a result of social change, but the traditional structure is the more pronounced. The intensive contact between the inhabitants and the surrounding towns in Akuapem and New Juabeng districts has influenced the way of life of the people in the area. Certain of the social institutions have been more influenced than others: for example, imported religious institutions have had more impact on religion in the area (the majority of the people are either Christians or Muslims). At times, within the same institution, certain aspects have been influenced more than others. For example, farming methods and other traditional occupations have not been affected much by modernity, while other aspects of the same institution (e.g., transactions at markets) follow modern practices.

Modern changes have also not been able to bring about any noticeable change in the general styles of life of the people. For instance, there is no incipient class structure in the various MVSL communities as is seen in the urban centres. The pattern is the same as exists in other rural communities in the country. Social interactions and social relationships are predominantly egalitarian. By and large, we see cultural duality in all aspects of the social structure, with the two social structures, the traditional and modern, coexisting.

132

Section III | **Field Operations
and Research
in the MVSL**

Field Operations: Livelihood

B. A. Quarcoo

It is the policy of the GhRRM to help rural folks raise their standard of living by their own bootstraps. Its programme is community-based, designed to motivate the people and make them self-reliant through the integration of Education, Health, Livelihood, and Civic Responsibility.

The educational aspect sharpens the tools of the intellect; the health programme aims at producing a physically and socially sound person; and the livelihood section is regarded as the economic mainstay of the programme. After one has acquired intellectual training and physical strength, he needs to put this to work. By working and earning something, the individual enhances his economic well-being. The civic responsibility section of the GhRRM's programme seeks to make the person civically awake.

The livelihood department is a multi-faceted organization with four sub-divisions: Crop Production; Livestock; Rural Industries; and Cooperatives.

Crops Production

This unit aims at improving locally available crops and introducing more economic ones. The traditional crops sown or planted are cassava, yams, maize, plantain, oranges, banana, and cocoa. In addition to these crops, the GhRRM has introduced crops like pineapples, cowpeas, beans, pepper, tomatoes, pawpaw, and a host of other crops.

These crops, it is hoped, will help raise the income levels of the local people.

When field operations first started, the people were buying such common food ingredients as pepper and tomatoes from Adawso. On our experimental farm, our men in the Crops Section made a small pepper farm, and in a short time most of the villagers were buying pepper from us. The same thing happened in the case of tomatoes. Since then, they have been making efforts to grow some for home consumption and for the market.

We have been introducing simple scientific methods of farming to the people. The main aim is to teach them to work on the same plot of land for a long time instead of resorting to the shifting cultivation system. Consequently, on the same piece of land, we have introduced about 16 crops, including ground nuts, citrus, yams, oil palm, and garden eggs. With crop rotation as the cornerstone of the system, simple row planting is encouraged. With plants at specific distances, one can easily calculate the plant population on a plot and a reliable estimation of expected yield can be arrived at. To increase yield, compost, mulching, and the application of fertilizer are taught. Mulching is the act of putting the weeded grass under the crops in order to reduce the loss of soil moisture, to check the growth of weeds and to enrich the soil when it decomposes. The application of fertilizer, too, is not neglected—the ring, the broadcasting and the line method are taught. To help the farmer, our extension officer collects the money and we buy the fertilizer for distribution.

In order that farmers are at ease with our teachings, they are invited to visit our research farm where we have been able to put our teaching into practice. They are then invited to participate in our experiment. Either our extension officer or the Rural Reconstruction Propagator visits interested farmers to see their farms. On an ex-

135

perimental basis, each farmer is advised to set aside one-third of his farm for the GhRRM special method and use the traditional method for the rest. All the modern methods (i.e., row planting, planting at specific distances, improved planting material, fertilizer use, and spraying if necessary) are used on this plot whilst the traditional method is used for the other portion. In the experimental plots, in addition to maize and cassava, pepper and garden eggs are used as intercrops. Oil palm and citrus are planted, too. After the harvest, the yields from the experimental plots are weighed and compared with the yields from equivalent areas in which the old methods had been used. Experience shows that the output of the experimental plots is greater. After the experiment, each farmer is allowed to decide for himself whether to go in for the new or maintain the old.

In order to reduce the farmers' journey to the site of the first experimental farm, Rural Reconstruction Propagators, trained at the Yensi Centre, have been posted to six "farming districts" where similar experimental farms are maintained for on-the-spot visits by village folks nearby. Each farmer trained in our methods is expected to train five others, and each of those five is, in turn, expected to train five more. We call this the Farmer Scholar Programme.

Livestock

Livestock to us includes poultry, rabbits, pigs, sheep, and goats. In an effort to produce more meat to feed the people, we have been trying to be as self-reliant as possible by making use of an available local resource, bamboo. Starting with what the farmers have, namely, bamboo, we have built a fence for the birds. This unit we call the "semi-intensive unit." The birds are given one-third of their daily feed within this fence and are permitted to "free range" in search of the rest. By this process of confinement, the incidence of birds getting lost is reduced,

havoc from reptiles minimised, and incidence of pests reduced. Another aspect of the programme is cross-breeding. The local birds are crossed with exotic ones. The progeny are healthier and disease-resistant, in addition to having plenty of meat. When the birds lay eggs, they are sent to local farmers for hatching. Upon hatching, the young ones are brought back to the fenced enclosure. After six weeks the farmer is given a third of the young birds. By this simple process, the farmer gets some of the improved strain in his stock.

In addition to the semi-intensive unit, we have the intensive system in which the birds are confined to their coops and not allowed to roam about. We have used bamboo to build these coops. There are three types of coops: (i) a brooder house, where the chicks are put for about six weeks under controlled heat and feeding conditions (by using a lantern); (ii) a broiler coop; and (iii) a layer coop. There are many advantages to these coops. They are above the ground, so the incidence of introducing disease to the coop by foot is eliminated. The birds are fed from bamboo troughs from outside; by nobody going into the coop this helps reduce the introduction of disease. The floor of the coop has been made such that the droppings can fall to the ground, reducing the need to clean the inside of the coop. And, finally, the slippery nature of the stands makes it difficult for any reptiles or rodents to enter the coop. An interesting feature of the layer's coop is that its floor is slanted, the gentle gradient allowing eggs to roll to the bay for collection when laid.

The poultry coops have endeared themselves to farmers and visitors alike. Soon over 15 farmers were trying this method of poultry raising. Interested farmers are invited to visit the Centre and they are given or taught the rudiments of poultry-keeping the GhRRM way. They come for a week or two to learn how to build the coops, how to handle the chicks, and how to look after them. There are books available to those who can read.

137

During the training period, farmers are taught how to recognise the symptoms of some of the simple poultry diseases. When a farmer sets up his own coop, the livestock extension officer pays regular visits to him and provides advice when needed.

The Movement helps the farmer to get the chicks, teaches him how to handle them, helps to get the feed for him by the use of our only vehicle, the Land Cruiser, and supplies drugs when needed. In close liaison with the Veterinary Services Department, regular medication is given at all times. In case of an outbreak of disease, the appropriate authorities are contacted. For the farmer to get his money's worth, the Movement arranges a market for the birds and eggs. It is unfortunate that we have not been able to supply all our customers with their requirements.

Our rabbit breeding programme is going along well. The crossing of the local species with the exotic ones from the National Rabbits Project at Kwabenya has been successful. Rabbit raising, a vogue in the area, is catching on well with the people. Our sheep and goat project has not gotten off the ground yet, for it met with a mishap when it started. However, there are plans to get it started again. The idea of penning sheep and goats has already been sold to the farmers and some are doing it. The goats are fed with leaves, dry plantain and cassava peels, and the sheep taken to the bush to eat. The Veterinary Officer comes around to give them medical attention. Those who allow the animals to go round the village are dealt with by a local court and fined.

Research

Various types of research activities are also being carried out in the MVSL. Two of these have sought to determine whether farmers should compound their own poultry feed. So far, results have shown that it is more

138

economical for a farmer to compound his own feed. During the trial period, farmers were taught how feed is compounded; thus, during a period when poultry feed was difficult to find, the farmers were able to compound their own with the assistance of the Livestock Extension Officer. We have been trying to use as many local resources as possible. In this quest, a local farmer has taught us how to cure some poultry diseases with tobacco. This shows that we do not trample on local know-how, but use it side-by-side with modern technology.

Rural Industries

During relaxation and off-season periods, most farmers try their hands at rural industries such as gari-making, gin distillation, charcoal burning, soap-making, basket-weaving, making door mats and cane chairs, wood carving, and palm-wine tapping. Farmers are encouraged to partake in some of these activities in order to augment their incomes. Small informal classes are held for would-be participants. In addition, craft classes are held for women in weaving, knitting, bag-making, and child-care. Sheds are now under construction in which these skills will be taught. Both full-time and part-time classes will help village youth be more of an asset than liability to their parents, and the economy as a whole.

Cooperatives

Last but not least among the units in the livelihood sector are the Cooperatives. Our type of cooperative is what we term the village-based type since each village is expected to have its own. This fosters good-neighborliness and unity among the people in contrast to big cooperative societies which give administrative headaches to their members. The cooperative societies are aimed at pooling the meagre resources of farmers so they can improve their own economic standing.

After initial contacts and lectures have been given, villagers are given the option of choosing the type of society they want to form, i.e., production, consumer, or marketing cooperative. Once selected, the Cooperative Officer meets prospective members and explains to them the intricacies of the cooperative movement in general and of their chosen society in particular (admission fees, share capital, bye-laws, registration, and what have you). Then the election of the executive and his subordinates takes place. The members of the society invest their capital and levy amounts on their produce for the society. There is a training programme in record-keeping for their secretaries at the Cooperative College at Kumasi. Already two boys have been trained.

The long-term programme of setting up these societies is to help produce more food and get the food to the people at reasonable prices. It will also eliminate the middlemen who dupe the farmers by paying low prices for their produce; sometimes nothing is paid at all. The proverbial money-lender would be replaced by the society, which can get loans from banks and re-lend the money to their members. So far we have registered three societies and nine are in process of being registered. It is hoped that when all these societies are functioning properly, the question of credit for members will be solved. In addition, when our rural bank is opened, we expect that these societies will be assured a good reception whenever they go for a loan.

General Observations

Coordination is necessary in order that all these units of crop production, livestock, rural industries, and cooperatives function well. This is done by the Field Coordinator who seeks to correlate the work of the Technical Officers with the Rural Reconstruction Propagators (RRPs). Every week the propagators have to send their diary of action to the Field Coordinator. This diary shows each propagator's intended programme of work or activity for

140

the next week. The Field Coordinator discusses the diary with each RRP and later with the Technical Officers. The diary helps us know what the propagators are doing and where they are going to be at any particular time. To check their movement, we visit their destinations unannounced; by doing this we know whether they are working or not. Technical Officers, too, prepare their own diary of action. At the end of each month, reports are submitted by all and forwarded to the Head Office. The success of their work is evaluated by visits and these reports.

The Movement has evolved a training programme for rural youth who have earned the Middle School Leaving Certificate. These multi-purpose workers are trained by the Movement at the Yensi Centre and sent to the villages. There they give on-the-spot advice to farmers and interested parties. In addition, the RRPs and the Technical Officers go round to give a helping hand. Difficult cases are referred to the Centre for solution by specialists. To add to this, it is the duty of the Field Coordinator—who reports to the Centre Director—to visit the propagators at work and to see things at first hand.

Most farmers would like to share experiences with others. This is accomplished by periodic seminars, meetings, and get-togethers held for them. Attendance has been very encouraging. Problems and difficulties are brought out, discussed, and solved. New things are learned and the season's farming performance reviewed. Relevant agencies like the Ministry of Agriculture's Extension Division, the Faculty of Agriculture at the University of Ghana, Legon, and USAID are invited. Most of these seminars are lively and bring to the fore some of the difficulties facing the farmers.

As is now common knowledge, it is not that farmers lack intelligence; it is only opportunity which they lack. Thus, when they are given opportunity, they are able to

rise to the occasion. This is what we have been trying to do—to help them help themselves. By this process, we have been trying to inculcate into them the notion that their age-old methods are good, but that with the touch of modern technology they can produce or do more. That is why we compare their traditional planting method with the line and pegged one. That is why we compare the yield output of the local planting material and the improved varieties. That is why we compare the modern form of keeping poultry and the traditional one. That is why we tell them of the need to revive their traditional arts and crafts.

Unlike the armchair critics who sit and criticize, we go to the field, identify the problems of the people, and solve them with them. Where there is a need for an outside agency, we bring it in. Our aim has been to help the local people not only merely to exist but to live a full and meaningful life.

Field Operation: Education and Health

I. K. Appiah

As part of the four-fold approach to the development and operation of our programmes, education in the field of literacy helps to develop intellectual and spiritual powers while our programme in health helps to develop a person's physical powers so as to enable knowledge and the skills gained through our educational programmes to be applied. Taken together with our programmes in livelihood and civic responsibility, our programmes in health and education should enable us to reach our ultimate aim which is human development.

Education

In our operations in the MVSL, education covers non-formal education, culture, youth, and sports. Our aim in education is human development through the development of spiritual and intellectual powers. We hold that every human being possesses some talents, and that what he needs is the opportunity to develop them. To this end, our education programmes are designed (a) to teach illiterate adults how to read and write; (b) to get children of school age to go to school; (c) to organise pre-school children to go to day care centres; and (d) to organise village people of all ages so they can participate in recreational and cultural activities in the community. Our programmes take the form of conversation, visits, excursions, seminars, courses, personal participation, pictures,

film-shows, on-the-job training, farmer-scholar programmes, songs, sermons, dramas, campaigns, and so forth.

On-going educational activities include literacy classes, staff training programmes, cultural activities, and recreational activities. We have opened literacy classes for interested youths and adults at Sokoda Guaso and Addo-Nkwanta. Whilst the Sokoda Group meets thrice a week, the group at Addo-Nkwanta meets daily—all in the evenings. Classrooms are rent-free, but learners contribute 20p per head each month towards lighting. Volunteer teachers come from the respective villages.

We consider education as the key to progress. We therefore organise orientation courses and run staff refresher courses every six months for propagators-in-training, private students, and the entire field staff. As a rule, comprehensive programmes for all the disciplines are covered during the courses. While staff refresher courses last from 7-14 days, orientation courses for propagators-in-training take six months of their two-year training period.

Propagators are nominated by the respective village communities. We make selections through written tests and interviews; nominees must pass trial examinations to qualify as propagators. They are then posted back to their people to serve as GhRRM's ambassadors and our paid staff.

Cultural Activities

We have mobilised the youth into cultural groups. There are, at the moment, ten such groups in the laboratory, including those either started or re-activated by the RRP's. Like the popular "Osofo Dadzie" group, this drama group stages plays on topical issues for the education of the rural population. In this connection, we owe many thanks to the kind initiative and active cooperation of the

144

PEA representative in the area for his personal efforts in helping to prepare the youth for the shows.

In the Social Laboratory the weekend is soccer time. This is thanks to the Ministry of Education who seconded a teacher who has introduced regular soccer competitions to the Laboratory. For the first time in the history of the Laboratory, we have been given the opportunity to witness gala matches. Ten teams participate, thus bringing them together as one people with one destiny. In progress today are inter-village football competitions aimed at tapping talents to raise a team that may, hopefully, develop into a first division one to compete at the national level. The youths no longer travel to towns and cities to watch soccer matches; instead, they travel from village to village to cheer their teams. We have on record the story of a soccer team which left Buadeso as early as 3 a.m. with their supporters to travel over 10 miles to Adenya to participate in a football competition and return the same day through rain. Is soccer not a felt need for such people? Match officials have travelled from Akropong and Anankrom to officiate, with our staff in the background.

Health

What we do for health is to encourage new methods and practices at no extra cost to the people. The most pressing health need in the rural areas today would seem to be the evolution of a practical system to make elementary medical relief and health protection available to the masses.

Our main objective thus is to provide for these health needs of the people. This objective is to be achieved through: (1) The establishment of a village clinic to render first-aid to the people and the Movement's field staff; (2) Staff training in firstaid and the training of intelligent laymen to serve as auxiliary health workers; (3) Programmes in environmental sanitation, including construction of sanitary toilets, water development, and controlled

145

tipping; (4) Immunization against preventable diseases; (5) Programmes in family planning and maternal and child welfare; (6) Establishing a pre-school and well-baby clinic; (7) Organisation of mother classes for teaching handicrafts; and (8) The training of traditional healers and birth attendants.

We were fortunate to have started our health programmes with an experienced and efficient Public Health Nurse, thanks to the Ministry of Health. The work which this one nurse started a little over three years ago has since been expanded by a team of six, including three Community Health Nurses, two Orderlies, and one Woman's Worker.

Two successful experiments helped in the development and successful implementation of our health programmes. One of these was the water experiment. It all started when we came to realise that there were two main sources of water supply for the area—a stream and a spring. An American sanitary engineer, who was visiting us, was interested in the development of a good water source. He suggested the sinking of a well in addition to the two other sources. That done, we took samples of the three sources to the Koforidua Ghana Water and Sewerage Corporation for testing and analysis. Upon the result of the tests, the Chemist-bacteriologist at the Water and Sewerage Corporation suspected that we wrongly labelled the samples. We also suspected the test had not been properly done.

Why? The spring water that looked crystal clear and clean to the naked eye, and which had served the areas as its main source of drinking water, turned out, from the tests, as the worst of the three sources. The well came out first with the stream as the second. When we were told the result at the Koforidua office, we condemned their tests and they, in turn, condemned our labels. Thereupon, I threw a challenge to the Chemist to go with me to the

village with his own sterilized tubes to collect fresh samples for fresh tests. He accepted the challenge.

We went straight to the spring water, that being the bone of contention. Our disagreement about the tests reached further heights while we stood to watch the clarity of the water. But soon the Chemist left us and marched slowly into the bush as if to run away from defeat. But he returned to invite me along the same path he had taken. I followed him quietly while he kept his left forefinger pointed at some cracks. Finally, we came to the end of the journey where the cracks hid a toilet that hit the table of the spring water. We had learned the table was high when we were sinking the well in 1974 with the American Sanitary Engineer. Now we learned that *all the pollution in the water was being caused by the toilet*. That solved the mystery of the unexpected result of the tests and analysis. In the end, the Water and Sewerage Corporation's laboratory accepted the initial results as correct.

I immediately invited the Chief and people of Sokoda Guaso to see things for themselves. The water expert took all of us over the cracks and they, too, became convinced. At the site, the following dialogue went on between the rural people and the water expert.

Rural Man: "So clean and clear water is not necessarily good water?"

Water Expert: "No."

Rural Man: "How do we make sure that water is pure and safe for drinking?"

Water Expert: "Boil your water before you drink."

Rural Man: "So even rain water has to be boiled before drinking?"

Water Expert: "Sure."

Rural Man: "What about pipe water?"

Water Expert: "Boil it if you can."

When I asked what would happen to the latrine, the people shouted in unison: "Condemned!" The toilet was covered up soon after that.

We capitalized on this lesson and asked them to pass the discovery and the lesson on to everyone they knew: "Boil your water before you drink," became a slogan in the health education campaign. If we had not involved the people in the exercise, its result might not have carried the same weight. All our experiments have taken the same turn; we have involved the people. From these results, it has become apparent that reform and expansion of our present social services is essential and urgent.

Health Conditions in the MVSL

D. A. Ampofo

Operation of the GhRRM began in 1974. The first task was to find out what socio-economic conditions in the MVSL were. The first group of experts to enter the project area stayed in two villages about half a mile apart. Socialisation with the farmers with whom the experts were staying began at once. The first few weeks were spent improving the living conditions of the experts in the village in collaboration with the landlords. Lavatory and refuse disposal pits were dug, and the mud walls of their rooms were plastered with cement and painted. The safety of their water supply was secured.

The next three months were devoted to discussing the problems of the farmers with them. The experts lived so close to the farmers that it was easy to establish confidence with them. A clinic built from palm branches was constructed in one of the villages for clinical consultation with pre-school children and for the first-aid treatment of adults.

Initial Findings

In the health sector it was found that the nearest hospital was Tetteh-Quashie Memorial Hospital at Mampong, about four miles away by a difficult route across a range of hills, or about 13 miles by motorable road. There were two famous fetish shrines in the area. Even though the shrine priests were old, their influence and advice were

sought in the event of serious illness. There were also a number of herbalists who provided traditional medical treatments.

After the establishment of the primitive child welfare clinic, the numbers of children brought for advice and treatment grew rapidly, and by the end of the third month the clinic had to be shifted to the Yensi Centre. It was also found that most mothers and adult patients, who were referred to Tetteh Quashie Memorial Hospital, were reluctant to go to Mampong and preferred only first-aid treatment at our Clinic. The disease pattern pointed to the need for improvement in environmental sanitation. The toilet system was commonly of the open pit type. It was usually situated at the outskirts of the village and often did not have a roof over it. Houses were typically made of mud, with small rooms often without windows for ventilation; the roofing was commonly constructed of corrugated sheets, but a fair number of households had thatch roofing.

Initial Activities

The health component of the Movement's programme was pursued with zeal. True to the philosophy of teaching rural people to do things for themselves, the immediate objectives were to make it possible for rural people to appreciate good health, to teach them in simple terms causation of common diseases in the community, to mobilise them to improve their environment so as to minimize diseases and, finally, to make them assume responsibility for keeping healthy both at the family and community levels.

The Health Expert and her co-workers in the MVSL had to accept the fact that the various clinics were not only places to which rural people came for help in times of illness, accidents, and during pregnancy; they were also places where advice could be given on all aspects of rural life. Within the community, the total effort of all the

GhRRM's workers in the MVSL was aimed at assisting local leaders and family heads to understand the basic problems of health and livelihood.

In furtherance of our objectives, five specific areas of health activities were instituted.

1. Pre-School Programme: The Movement did not envisage providing comprehensive health care for the whole community; it is capable only of complementing the Government's health effort. It was decided that the Movement would provide only first-aid treatment for adults and then refer patients to the district hospital. Child care was given prominence because we believed that children should not die before the school-going age. A pre-school programme was instituted which included clinics for the sick child, the well-baby, nutrition of the child, and immunization against common diseases. Eight clusters of villages were identified with one big central village for each cluster. These central villages were visited once every two weeks when all aspects of child care were taught. The emphasis was placed on prevention of disease and first-aid treatment for sick children and occasionally for adults. All seriously ill children were referred to the district hospital.

Clinics were initially conducted only by the Health Expert but she was later joined by two Community Health Nurses seconded from the Ministry of Health. At the villages where clinics were held, voluntary helpers were employed to assist in conducting the clinic. In addition to holding clinic, the health team inspected villages from house to house to advise on environmental sanitation.

2. Water Hygiene: It was evident from the disease pattern that diarrhoeal diseases formed a high proportion of local illness. Attention was therefore focused on water hygiene. The first activity was to test the safety of the water supply of the villages near the Yensi Centre. The water supply was from the Yensi Stream and a few springs.

Officers of the Regional Water and Sewerage Corporation were invited to carry out tests. The result showed that the spring water, which was thought to be purer than water from the stream, proved to be the more impure. The cause was later traced to a pit latrine near the source of the springs.

The Movement was not in a position to make a major improvement to the rural water supply. Therefore, attention was focused on making water purer at home. The boiling of water before drinking was canvassed and demonstrations of how to do it were given. People were educated to collect the water with a clean receptacle, to strain it again before storing it in a clean, covered container. In the use of water it was found that the commonest way to pollute water in the pot was the collection of water with a calabash or cup which had been left on the floor. To minimise this danger, it was advocated that a small platform be erected near the pot so that the calabash or cup could be placed on it after use. Those who could afford it were advised to fit taps to their pots to drain water through the tap in order to obviate dipping a soiled cup into the pot. Another way of minimising water-borne disease was by washing hands with soap and water before meals. The people were advised of this practice, especially children. At the clinics it was always pointed out that a cause of diarrhoeal diseases was improper hand washing.

3. Disposal of Human Waste: Instead of the open pit latrine, two toilet systems were introduced. The first was a covered pit latrine which could be covered to keep out flies. The second was a water-sealed toilet bowl known as the "Yensi Toilet Bowl." The bowl was made of concrete and modelled to facilitate squatting. It was placed at the edge of the pit and connected to the pit by a conveyor through which flushed faces passed into the pit dug behind the bowl. The pit was covered and made air tight with the exception of a long bamboo pole, which

carried the odour away. The main disadvantage of this system was the unavailability of water in most villages; villagers were therefore advised that bath water or waste water from washing clothes could be used to flush the faeces.

4. Ventilation for Rooms: Another innovation was the introduction of wooden louvre windows in the project area. Most rooms in the villages were not provided with windows. These "Yensi Louvres" were initially fitted to the houses of the farmers where the officers of the Movement were staying. It was found to be cheap and helped make the house safe from thieves.

5. Nutrition Programme: In order to combat under-nutrition and malnutrition in the project area, Catholic Relief Services agreed to supply foodstuffs to the Movement. The usual items of sorghum, corn and soybeans, bread, and salad oil were received periodically. Storage and transportation of the bulky bags to the villages was initially a problem. A solution was found when volunteers in the villages offered to store them in their homes to facilitate distribution on the days when clinics were held. Volunteers also helped in the distribution of the food to mothers.

Health Status After 18 Months

The health status of the area can be portrayed by stating some of the Movement's achievements in the health sector after the first 18 months of the programme.

Our experience over this period demonstrated that the following rural disease pattern prevailed.

Twenty-six people representing seven villages have bought and installed the "Yensi Toilet Bowl." Its use has been hampered by the scarcity of water in some villages, and will not become widespread until there is a reliable abundance of water in the area.

<u>Disease Category</u>	<u>No. of Cases</u>	<u>Percent</u>
Fever	498	40.9
Digestive disorders/diarrhoea	259	21.05
Respiratory disorders/cough	206	17.2
Skin disorders	58	4.8
Intestinal parasites/worms	44	3.7
Measles	39	2.3
Muskulo-skeletal disorders	28	2.2
Ear and eye disorders	23	1.9
Anaemia	19	1.5
Others	40	3.3
Total	1,194	100.0

The idea behind the controlled tipping of refuse was grasped quickly. By the end of 18 months, 35 households were practising controlled tipping of refuse.

The extent to which villagers are boiling their water and cleaning their hands with soap before meals is difficult to record. The impression gained by questioning school children is that some households are now boiling water and cleaning hands before meals.

Eighteen wooden louvres are now in use. They are installed in the villages where the Movement's officers are staying. A few farmers have expressed the desire to buy and install the louvre windows. The only constraint is the availability of a carpenter to make them on a large enough scale to bring down their unit price.

A women's group of 50 members has been formed from among women who live near the Yensi Centre. This group meets regularly with the Movement's staff to discuss matters of common interest. They are also taught how to make simple crafts, such as door mats made out of pieces of cloth, bamboo door blinds, and baby rattles made from empty milk cans. Twenty members have been

very active, and it is hoped that this group can be developed into an organisation which will embrace all the women of the area.

155

Local Government and Civic Responsibility

K. Ohene-Ampofo

The pattern of local government in the MVSL has followed the universal pattern of local government in Ghana. This pattern moves sequentially through the eras of Fetish Priests, Chieftaincy, Traditional Government (as molded by colonial legislatures), and Local Government in independent Ghana.

Before Akuapem became a State, most of the Kyerepongs, Guans, and the Kamanas were ruled by fetish priests and priestesses. With the advent of the Akan tribes and their superior statecraft, Chieftaincy, which was the kingpin of the Akan statecraft, began to rear its head among the Akuapems. By 1730, when the Akims helped the Kyerepongs and the Guans to drive away the Akwamus, Chieftaincy had been well established in Akuapem. In the MVSL the dominant gods of old, whose fetish priests ruled the area, are Damti and Brukuada of Mampong and Gyamfi of Gyamfiase near Otwetiri.

The influence of these were later superseded by the Chiefs who are known as "Adekrofo.". Chiefship in this area did not follow the usual pattern of descendants of a warlord, as it is in Akan states, but followed the original settler or founder of the village, whose name is usually given to the village. Thus Addo-Nkwanta was named after Addo Kofi. Others are also named after natural phenomena such as junctions, rivers, animals, raffia palm, and fufu.

Since it is always the founder who is made the Chief, the allegiance of a village is owed to the town or the quarter of a town where the founder originated. Thus Adenya owes allegiance to Aboasahene, Bewase to Banmuhene and Kwamoso to Akrahene—all of Ekropong; Sokoda Guaso, Korkormu, and Addo-Nkwanta owe allegiance to Adompore, Mampong-Nkwanta to Kotoku, Yensiso to Asin, Gyeabor to Gyeabor and Bepowano to Mamponhene—all of Mampong.

Another interesting characteristic of Chiefship in the MVSL is that although we have 22 villages, only ten have Chiefs. The rest of the villages have elders who serve one of these ten Chiefs. Thus the founders of the villages of Kwatiakwa, Kuransan, Tutubease, Anyaamu, Abenta, Adobease, and Akresua serve Addo-Nkwanta and the villages of Akwasiase, Ajena and Gyeabor serve Sokoda Guaso.

During the colonial era, the Chiefs in these areas were considered as part of the towns to which they owed allegiance. Thus they served on the Councils of their overlords in the tribunals set up by the Native Administration, Native Authority, and State Council Ordinances. They were always responsible for the overall administration of the Villages and accountable to their overlords.

Independent Ghana saw the authority of Chiefship eroded and finally a series of statutes stripped the Chief of almost all his powers. The Chieftaincy Act of 1961 stamped the Chief as only a ceremonial figure, and the Local Government Act of 1961 removed the Chief from local government. The result was very unsatisfactory since rural areas like the MVSL were left without any effective authority. To remedy this situation, Legislative Instruments Nos. 199 and 262 were passed to establish Town and Village Development Committees with the Chief of the village as Chairman.

Separation of powers is ideally good and right on paper, but in a country where the people in rural areas

look upon the Chief as the source of authority and respect, friction soon arose between the traditional authorities and the new town and village Development Committees. Consequently, very little was achieved in local government. Kwamoso is a typical example in the MVSL where friction between the Chiefship and the Village Development Committees has persisted till today.

In attempting to remedy this friction, the National Liberation Council passed L.I. 540 which defined the areas in which Village Development Committees should function. These are:

- a) Assume all the functions formerly performed by the town and village development committees;
- b) Organise and supervise the general sanitation and cleanliness of the village, town or area and encourage the inhabitants to undertake self-help and voluntary projects;
- c) Cooperate and collaborate with the Local Authority (within whose administrative area the Committee is established) in the performance of its functions and, in particular, ensure that rates are promptly paid to the rate collectors;
- d) Provide a focal point for the discussion of local problems and make recommendations to the Local Authority within the Administrative area in which the Committee is established; and
- e) Perform such other functions as the Member of the National Liberation Council responsible for Local Government may prescribe.

This attempt was not successful and the Second Republic in 1971 passed the Local Government Act (Act 359) which fused traditional authority and western democracy in our local government system. The new District Council system, in which traditional authorities assume a third of the representation, is the result. The MVSL now forms part of the Akuapem District Council (established by Legislative Instrument 1053) which covers the areas of

158

authority of the former Akropong and Nsawam-Aburi Local Councils.

The various Local Government experiments in Ghana also affected the MVSL. Prior to the arrival of GhRRM, there were no Chiefs in the MVSL except in Adenya, Ot-wetiri, and Bewase. A week before our entry into the Social Laboratory, some of the quarter heads rallied the villages under them and set up traditional authorities so that the Movement could meet them. Thus Sokoda Guaso, Bepowano, Addo-Kkwanta, Mampong, Nkwanta, and Kokomu installed their chiefs.

The position of the traditional authority and village Development Committees in the MVSL may be summarized as follows:

[Editor's summary of tabulated data: In only one village was there an active chief before the GhRRM's arrival in the MVSL; the other chiefs were largely ineffective. Since the GhRRM's arrival, two Fetish Priests are now performing the function of the chief in their villages, religious leaders have assumed a prominent position in two villages, an active young man has taken charge in a village where the chief had been perpetually absent, a struggle for power between two opposing camps has developed in another village, a new chief has been installed to replace an old and ineffective one in still another, and the above-mentioned active chief has become "very active." Development Committees are known to exist in four villages.]

The policy of GhRRM has been not to disturb the present Local Government set-up of the villages. The Movement therefore carries out its field operations in civic responsibilities through the traditional set-up. The Chief is used to convene meetings of the village folk for deliberations concerning the planning, programming, and implementation of village projects and activities. The Movement's duty is to help villagers distinguish their felt needs from their real needs and to realise that, for effec-

tive project implementation, decisions based on consensus are better than those based on the authority of a few.

Another task of the Movement has been to educate the people of the MVSL to realise that since they form a political unit and since their social, economic, and political needs are bound together, it is in their own interest to consult together and to plan and act in concert.

To this end, therefore, the Movement has organised the people to form an Area Council of Chiefs, Elders, and Chairmen of Village Development Committees, who meet periodically in one village or another. The Chairman is the Chief in whose village the particular meeting is being held, and the recorder is chosen by him. The Area Council has been planning seminars for farmers, putting on cultural displays and forming football leagues, promoting a rural bank, and discussing matters concerning the area as a whole.

As an incidental aside, out of 1274 respondents to the Baseline Survey (a third of the population of the MVSL), 68.5 percent of the people preferred the ballot box as the best procedure for voting. However, this has never been used at their meetings; it is the show of hands which is always used.

We are fortunate to have entered MVSL at a time when statute permits the fusion of the traditional and western systems in our Local Government. It has been the goal of our Civic Responsibility experiment to determine how best this fusion can be effectively achieved at the grass-roots level to enable Ghana to have a stable and effective Local Government. It is too early to tell where we are drifting, but we hope to have developed a suggested model by the end of our social experiment.

A Method for Determining the Economics of Compounding Poultry Feed Locally (Phase I)

Kofi Amaning-Kwarteng

Poultry farming, as a specialized, commercial agricultural business, is found concentrated in the urban areas of Ghana where it is easier to get day-old chicks and poultry feeds as well as find a ready market for poultry and poultry products. In the rural areas, poultry production is still mostly a "backyard" industry, generally serving as a subsidiary farm occupation. However, with the development of rural areas in recent years, more attention has come to be given to the improvement of poultry breeds and their production. It is an easy source of subsidiary income to the vast number of unemployed and underemployed manpower, which is unable to find a ready means of livelihood for want of industries in the transitional phase of development.

When the economics of successful poultry farming is considered, the cost of feeding accounts for a very high percentage of the total outlay. Also, one of the problems which a rural poultry farmer faces—especially in the MVSL—is the procurement of commercial poultry feed.

Surrounded by major urban market centers like Accra, Tema, Nsawam, Koforidua, and Akosombo, all the ingredients for compounding one's own feed are readily accessible to the farmers of the MVSL. The objective of the following project was therefore to compare the cost of rearing poultry to market weight on one's own compounded

ration with the cost involved in rearing poultry on commercial feed.

Experimental Procedure

The project was carried out at the Yensi Centre over a period of eleven weeks between February 13th and May 6th, 1975.

A total of 312 day-old broiler chicks were assigned to a Control and two test groups. The control and the test groups formed the Experimental Treatments. Table 1 shows the design of the experiment.

Table 1. Design of Experiment

Treatment	Feed	No. of Birds
Control	Commercial Feed	104
Test Group I	Self-compounded Feed Containing No Gari	104
Test Group II	Self-compounded Feed Containing Gari	104

The control group received commercial Broiler Starter (for the first 8 weeks) and commercial Broiler Finisher (for the last 3 weeks) bought from the Tema Food Complex Corporation. The feeds for Test Groups 1 and 2 were self-compounded with ingredients obtained from the Yensi Centre and the surrounding market centres. The difference between the two test groups was that while the feed of Test Group 1 contained no gari, Test Group 2's contained it. Careful records concerning the ingredients used in compounding the feeds, their sources, and their respective unit prices were kept.

Results and Discussions

The only health disorder observed was a sudden disease outbreak between the 12th and 29th of March (when

162

the birds were 4 weeks old). This caused deaths within all the three groups. A total of twenty birds died during the period.

A veterinary report from Koforidua revealed that the birds suffered from pneumonia; enteritis; fatty degeneration of the liver; and haemorrhages of the shanks and wings. The report, however, added that the diagnosis was uncertain but that there was clear septicemia. Drugs prescribed were Vetrivite and F.T. 15. The Vetrivite was mixed with each of the feeds and the F.T. 15 in drinking water (3 days treatment and 4 days prevention).

Other preventive and vaccination requirements were given with all treatments, including antibiotic medication when the birds were 1-3 days old, Coccidiostat for 5 days (during the birds' first week), 1st Newcastle Disease Vaccination (N.D.V.) during their second week, a repetition of Coccidiostat for 5 days in their fourth week, and a second N.D.V in their sixth week.

Cost of Feeding

Table 2 shows the number of bags of feed, each weighing 45.45 kg., which had been consumed by each group by the end of the experiment. Table 3 shows the cost of each type of feed at the time of the experiment.

Table 2. Number of Bags of Feed Consumed/Group

Group	No. of Starters	No. of Finishers	Total No. of
	Consumed (Bags)	Consumed (Bags)	Bags Consumed
Control	11	5	16
Test Group 1	10	5	15
Test Group 2	9	5	14

163

Table 3. Cost of Feed at Time of Experiment

Feed	Starter (¢ per Bag)	Finisher (¢ per Bag)
Commercial*	¢13.80	¢13.30
Self-compounded Feed Containing no Gari**	13.50	11.82
Self-compounded Feed Containing Gari**	13.68	12.23

*The cost includes cost of transportation.

**Includes cost of grinding, labor, and transportation.

Table 4. Cost of Feeding per Group

Group	No. of Starter Consumed	Total Cost (¢)	No. of Finishers Consumed	Total Cost (¢)	Overall Cost (¢)
Control	11	151.80	5	66.50	218.30
Test Group 1	10	135.00	5	59.10	194.10
Test Group 2	9	123.12	5	61.15	184.27

Table 2 shows that Test Group 2 consumed the least number of bags of feed (14 in eleven weeks) followed by Test Group 1 (15). The Control consumed the most (16).

From Table 4, it can be seen that if a farmer compounded his own feed, he could save on feed as much as ₦24.2 per 100 broilers kept for eleven weeks provided that the feed contained no gari, and ₦34.03 if the feed contained gari.

Livability and Growth

A record of the number of birds per group alive at the close of the experiment and their respective average weight gains indicated that here, too, Test Group 2 performed best. Of the 104 birds in each group at the beginning of the experiment, 88 were left in the Control, 87 in

164

Test Group 1, and 99 in Test Group 2 at the close of the experiment. Based on this result it could be said that birds raised on self-compounded feed containing gari have higher livability. The average liveweight gain among the Control Group was 1.99 kg., among Test Group 1 it was 1.65 kg., and among Test Group 2 it was 1.95 kg. The efficiency of feeding as measured by the ratio of the average cost of feeding to the average liveweight gain is presented in Table 5.

Table 5. Efficiency of Feeding

	No. of Birds at End of Experiment	Overall Cost of Feeding Birds (₦)	Ave. Cost of Feeding Birds (₦)	Total Wt. Gain (kg.)	Ave. Efficiency Wt. of Feeding Gain (₦/kg.)	
Control	88	218.30	2.48	175.12	1.99	1.25
Test Group 1	87	194.10	2.23	143.48	1.65	1.35
Test Group 2	99	184.27	1.86	183.26	1.95	0.95

For a kilogramme of liveweight gained by each bird, an average of ₦1.25 was spent on each bird in the Control Group while ₦1.35 was spent in feeding each bird in Test Group 1, and 95 pesewas on each bird in Test Group 2. This shows that of the three groups, the birds in Test Group 2 were the most efficiently fed. They were followed by those in the Control Group and lastly by Test Group 1.

Assuming that each bird were to be kept to gain 2 kg. (4.4 lbs.) liveweight, it would mean that ₦1.90 would be spent to feed each bird in Test Group 2; ₦2.50 on each bird in the Control Group, and ₦2.70 on each bird in Test Group 1.

If a farmer kept 200 broilers he would save ₦120.00 (₦500.00 less ₦380.00) on feed if he compounded his own feed containing gari.

Conclusion

From the findings of this project it can be concluded that to raise broiler birds from day-old chicks to the marketable age of eleven weeks at the Mampong Valley Social Laboratory, it would be more economical to compound one's own feed containing gari, since: (i) Birds consume less of the self-compounded feed containing gari than the commercial feed; (ii) Livability is higher on the self-compounded feed; and (iii) It costs less to raise a bird on the self-compounded feed per a kilogramme weight gain.

The above conclusion is based on only one trial. The experiment should therefore be repeated with more emphasis on the comparison between the commercial feed and the self-compounded feed containing gari. If the subsequent findings prove consistent with this experiment, I would suggest that the Movement should organize poultry farmers to purchase a grinding machine and begin to compound their own feed. This will go a long way to arrest the unfortunate situation of feed shortages, which has frustrated many poultry farmers in the MVSL.

166

A Method for Determining the Economics of Compounding Poultry Feed Locally (Phase II)

Nathan M. N. Yebuah

Poultry farming on a modest scale is becoming increasingly popular with the rural folks in the Mampong Valley Social Laboratory as the need for eggs, meat, and money is becoming greater every year.

The vital role poultry raising can play in releasing rural folk from poverty can scarcely be gainsaid.

Poultry raising on a commercial basis, however, is beset by a number of problems, including lack of feed and the susceptibility of birds to a number of diseases. The former condition has been a discouraging factor to many rural folks who have ventured into poultry raising, even on a modest scale.

In the light of the nutritional and financial needs of rural folk in the MVSL, a research study in this area was considered important. The present study is a follow-up to the preceding one. So important did I consider this study that in spite of the fact that an unexpected shortage of commercial poultry feed occurred halfway through the experiment, I went ahead with it.

The objective of the study was to determine the possibility of raising poultry to market weight on one's own compounded feed and to compare the cost involved with that raised on commercial feed.

Methods and Materials

The study was carried out at the Yensi Centre in the MVSL from 25th November, 1975, to 16th February, 1978. A total of 200 day-old chicks were purchased from the Pomadze Poultry Enterprises, Limited. Two bamboo brooder houses and four bamboo broiler houses were used to house the experimental birds.

Ten of the day-old chicks were found unfit for the experiment so they were destroyed. Because only two bamboo brooder houses were available, subdivision of the flock to allow for separate vitamin treatments was not possible. Therefore, all the birds were randomly divided into two experimental groups (Control Group and Test Group); feeding experiments, each involving the same two vitamin treatments, were then initiated.

Feeding

The Controls received commercial feed. This was in the form of Broiler Starter for the first eight weeks and then Broiler Finisher during the last four weeks. The Test Group was given self-compounded feed with ingredients obtained from the Yensi Centre and surrounding market centres.

Careful records were kept of the eleven feed ingredients used in compounding the feeds, the sources of each ingredient, and their unit prices. Equally meticulous data was kept on the chemical composition of each of the feed ingredients of the commercial feed (e.g., crude protein, dry matter, ether extract, crude fibre, and gross energy) as well as of the broiler starter and broiler finisher for the Test Group.

Health

It was the aim of the experiment to keep the birds as healthy as possible. To achieve this, the treatment and

168

vaccination regimens provided by the Pomadze Poultry Enterprises Limited were judiciously followed.

As a result, no disease outbreak was recorded throughout the experimental periods. Deaths in the brooding stage were mostly due to starvation and, in one case, pneumonia. However, deaths after the brooding stage were due to faulty management.

The treatments and vaccinations were Antibiotic Medication in the first three days, Cocidiostat for five days during the birds' first week, 1st Newcastle Disease Vaccination (N.D.V.) in the second week, a repetition of Cocidiostat for five days in the birds' fourth week, and 2nd Newcastle Disease Vaccination (N.D.V.) in their sixth week.

Results

Table 1 shows the number of bags of feed, each weighing 100 lbs. (45.4 kg.) consumed by each group at the end of the seventh week of the experimental period (broiler starters consumed) as well as the number of bags of self-compounded feed consumed by each group from the seventh week to the end of the experimental period (broiler finisher consumed).

Table 1 indicates that the Test Group consumed less number of bags (12.25), with the Control consuming 15.75 bags of feed during the experimental period. The same table reveals that a farmer could make as much as ₦81.28 on feed (₦297.06 less ₦215.78) per 100 birds up to twelve weeks of age by compounding his own feed containing gari.

Table 1. Cost of Feeding Per Group

Group	No. of Broiler Starters Consumed	No. of Broiler Total Finishers Consumed		Total Cost	Overall Cost
	(Bags)	(₦)	(Bags)	(₦)	(₦)
Control	8.75	168.26	7	128.80	297.06
Test Group 6	6.25	113.06	6	102.72	215.78

From Table 2 it is evident that of the 95 birds in the Control Group at the beginning of the experiment 91 were left, while 89 birds of the total 95 birds on self-compounded feed survived the experimental period. The birds did

Table 2. Efficiency of Production
Overall Average

Group	No. of Birds at End of Experiment	Cost of Feeding Birds (₹)	Cost of Feeding Birds (₹)	Total Wt. Gain (kg.)	Ave. Wt. Gain (kg.)	Efficiency of Production
Control	91	297.06	3.26	140.25	1.54	2.11
Test Group	89	215.78	2.42	125.00	1.40	1.73

equally well on both feeds with respect to livability. However, the birds in the control group had a higher average weight gain than those in the test group. The difference in the average weight gains could be attributed to the initial drag in the growth rate of the birds on self-compounded feed during the brooding stage as a result of inadequate feeding trough space. The data collected were not sufficient to allow for statistical analysis to be performed to find out whether the differences in growth rates were significant or non-significant.

Table 2 also indicates that the test group was more efficient in production than the Control Group. It costs less to produce a unit weight gain of one (1) kg. on each bird in the Test Group than birds in the Control Group.

Conclusions and Recommendations

1. Birds consumed less of the self-compounded feed than the commercial feed.
2. There is no difference between the livability and the growth rate of the birds on the self-compounded feed and the commercial feed.
3. It costs less to raise a bird on the self-compounded feed per kilogramme weight gain.

170

It is suggested that to confirm the findings of this study another experiment should be conducted with the following guidelines:

1. Commercial Feed should be purchased in bulk to avert any feed shortage during the experiment.
2. Enough data on growth should be taken to make statistical analysis possible.

Vegetable Farming Using Farmyard Manure

S. Twumasi Afriyie

A series of experiments was carried out in the Mampong Valley Social Laboratory between September 1975 and July 1976 while I was on attachment to the Movement under the National Service Scheme. This village-based research project was designed as a series of experiments to determine the suitability and economic returns of some recommended vegetables in the Social Laboratory using farmyard manure and simple cultural practices.

The following reasons were adduced for the choice of the project:

- i) Although there seemed to be a potential for profitable vegetable farming in the area, it was usual for people in the area to buy vegetables from marketing centres outside the Laboratory.
- ii) Large quantities of unused animal droppings were available in the Laboratory owing to the introduction of livestock and poultry farming in the area; one of the chief advantages of mixed (crop and livestock) farming is that the by-products of each type of farming can be used to supplement the other.
- iii) Mineral fertilizers cost more than organic manures in developing economies. Organic manures have an added advantage of improving the texture and water-holding capacity of the soil. However, a disadvantage is their bulky nature; but even this is less so in situations where livestock and crop farms are located at the same place.

Material and Methods

The series of experiments were carried out on the banks of the Yensi Stream at the Research Farm of the Yensi Centre. The vegetation is described as a derived secondary bush with a dominance of grass species and *lantana camara*. There are two quite distinct rainy seasons—the major from April to July and the minor from September to November. The mean annual rainfall is 119.84 cm., with a rather uneven distribution during a particular season. The soils (mainly brown to red sandy loams) are ideal for crop production but have a low organic content. The site carried pepper, garden eggs, and tomatoes the previous year, but had reverted to bush.

Five vegetables were chosen for the experiments: onion, hot pepper, garden egg, okro, and tomato. These were familiar vegetables to the people and they enjoyed a good market in the area. These vegetables are briefly described below:

1. Onion (*bawku* type) is a recommended variety of the Ministry of Agriculture and is widely grown especially in the northern part of the country. This cultivar is more hardy than most of the exotic varieties on the market. It flowers easily, has medium-sized bulbs and takes 14-16 weeks to mature.
2. Hot pepper (Legon 18) was bred at the Faculty of Agriculture of the University of Ghana. It has long slender fruits and takes 14-16 weeks to mature.
3. Garden eggs (local) is one of the local selections recommended by the Ministry of Agriculture. The plant is short in stature and has round fruits. It matures in about 12 weeks.
4. Okro (local) is popularly known as *labadi*. It is short in stature with medium-sized, elongated fruits. It has a duration of about 14 weeks.
5. Tomato (improved zuarungu) is a variety recommended by the Ministry of Agriculture and widely

173

grown in the country. The plant branches rather profusely and the fruits are large and heavily ridged. It has a field growing period of about 12 weeks.

Experimental Procedure

Four of the vegetables—okro, pepper, garden egg, and onion—were grown in the minor season of 1975; the tomato was grown in the major season of 1976. The planting scheme is shown below.

Table 1. Planting Scheme of the Vegetables

Vegetable	Field	Total Area	Spacing	Duration
	Planting Date			
1. Okro	24/11/75	0.029 ha.	90cm × 90cm	Abandoned in 6 weeks
2. Pepper	29/11/75	"	"	20 weeks
3. Garden egg	5/12/75	"	"	16 weeks
4. Onion	12/12/75	0.018 ha.	15cm × 15cm	15 weeks
5. Tomato	4/5/76	0.029 ha.	90cm × 60cm	12 weeks

In all cases, the soil was given the following pre-planting manure treatments: (1) rabbit manure, (2) poultry manure, (3) compost manure, (4) mineral fertilizer, (5) control. The organic manures were applied at three rates of 10, 20, and 30 tons per hectare. The mineral fertilizer was applied at one rate of 125 kg/ha. Nothing was applied in the case of the control.

Each experiment was laid out in a split-plot design with a main plot of the five manure treatments and sub-plots of the three rates of application. The sub-plot treatments were replicated three times. Treatments were randomised.

Management Practices

The vegetation was hand cleared and burnt later. This was followed by land cleaning during which the twigs were

174

heaped together and burnt. Each plot of onion consisted of a bed 240cm. x 90cm. with a spacing of 60cm. between the beds. There were 45 beds altogether. All the other vegetables were planted on ridges. Each plot consisted of three ridges, each 180 cm. long, with 90 cm. between the ridges.

The compost manure had been prepared the previous year in a simplified manner for the sake of easy duplication by local farmers: The various crop-remains from the research farm, together with the available animal droppings from the livestock section of the Centre, were simply dumped in a pit about 3 metres square and 1.5 metres deep. This was covered with thrash and soil when it got filled up. The rabbit and poultry droppings were applied fresh, but had been collected and heaped in the open for periods ranging from 1-4 weeks. The manures were applied to the plots about a week before planting time.

The nursery soil was composited from 3 parts of black virgin top soil to 1 part of compost manure. This was heat-sterilized by roasting. The vegetables were nursed in bamboo trays. The seedlings were watered daily. Nursing took approximately four weeks to complete. Transplanting, in each case, was done after manure application. In the dry season, the vegetables were watered regularly using buckets of water from the Yensi Stream. The water was sprinkled on the plants with perforated bamboo cups and calabashes. In the major season, the tomato was completely rainfed.

The crops were also mulched with dry grasses and maize stalks in the dry season. The onion was, however, not mulched. The tomatoes were pruned to two stems per plant and staked. Weeding was regularly done. The onion beds were also regularly stirred with bamboo forks.

The onion was generally free from pests and diseases. The pepper and garden eggs were, however, attacked by nematodes later in the season, resulting in premature deaths

175

of some of the plants. Leaf-eating insects and caterpillars were controlled by regular spraying of Aldrex 40.

Harvesting was done by hand-picking the fresh, mature fruits. The fruits were weighed fresh. The pepper and garden eggs were harvested weekly while the tomato was harvested twice weekly. The onion was harvested in bulk and dried for about a week before weighing.

Results

The okro could not survive the dry season as a result of a severe harmattan condition at the planting time. The experiment on okro was therefore abandoned six weeks after planting. All the other experiments were successfully completed and the results are presented below.

Table 2. Yield Response of the Various Vegetables to Different Manure Treatments
Kg./Ha.

Manure Treatment	Tomato	Pepper	Garden Egg	Onion
Poultry	16,139.52	4,329.3a	855.26	4,268.2ab
Rabbit	13,667.1a	5,349.1a	817.1b	3,659.0b
Compost	9,762.9b	2,206.5b	1,001.2a	2,175.2c
Fertilizer	6,441.0c	1,571.5c	476.4c	3,191.6bc
Control	8,404.0bc	201.2c	531.6c	5,122.7a

Treatments bearing the same letters in a column are not significantly different at 5 percent level (Duncan's Multiple Range Test).

- The following may be deduced from the results:
1. Generally, for all the vegetables except the onion, yields were significantly better when the organic manures were applied.
 2. For the tomato and pepper, the highest yields were obtained by using fresh poultry and rabbit droppings.

176

In the case of the garden egg, compost was much better than fresh droppings.

3. There was no significant difference between the use of fresh poultry and rabbit droppings in growing the vegetables.
4. In the onion experiment, the highest yields were obtained in the poultry and control treatments. The fact that the control outyielded the other treatment is rather anomalous and may need further investigation. In any case, it was observed that the control occurred at a site markedly richer in ash; this might have contributed to the anomaly.
5. Generally, differences between the three rates of application were not significant.

Table 3. Yield Response of the Various Vegetables to Different Rates of Manure Application Kg./Ha.

Rate	Tomato	Pepper	Garden Egg	Onion
10 tons/ha.	8,673.5a	1,752.2b	468.9a	1,132.9a
20 tons/ha.	8,487.4a	2,281.7a	712.3a	1,399.0a
30 tons/ha.	8,098.2a	2,306.3a	580.3a	1,448.3a

Treatments bearing the same letters in a column are not significantly different at 5 percent level (Duncan's Multiple Range Test).

Conclusion

General indications are that for all the vegetables used in the experiments, yields were significantly better where organic manures were applied. This is not surprising, since the soil-improving qualities of organic manures become outstanding and vital when the soils are sandy loams as found in the MVSL. These soils are ideal for crop production but have relatively low organic matter content and low capacity for water retention. Mineral fertilizers lack binding effects on the soil and, therefore, it is expected that vegetables would do less well with their use. This

is more so in the dry season when the water-holding capacity is vital to the growth of crops. This disadvantage of mineral fertilizers could be improved by the liberal application of mulch. However, in conditions of general water scarcity, as occurred later in the minor season, this advantage is largely lost. It may be noted, however, that only one rate of fertilizer was applied.

Generally, the fresh poultry and rabbit manures performed better than compost. This might have been due in part to the mode of preparation of the compost which, for the sake of easy duplication by rural folks, was done rather unconventionally. Also, the compost was a bit too old. Granted all this, however, the fact that the fresh droppings performed better is quite important. The use of fresh droppings is devoid of the added labour and management costs of composting. It also means that the manure can simply be carried from the animal house and directly applied in the field. When this is done, however, the application should be done at least a week before planting (in cases of adequate moisture) and much longer when water is scarce (as in the dry season). This cultural practice is necessary to avoid scorching of seedlings.

The general picture was that there was no significant difference in results owing to the application of the three different rates, *viz.*, 10, 20, and 30 tons/ha. This means that it may not be necessary to use the higher rates with the added labour costs. As a rule of thumb, therefore, 10-20 tons/ha. may be recommended as adequate for the growth of vegetables in the area.

With the exception of the garden egg, expected profits were quite high.* Obviously the highest returns were re-

*Editor's Note: Several tables appended to this report, which showed in great detail the estimated costs per hectare for each of the four vegetables, and the net return to land, labor, and management per hectare for each crop, have been deleted in the interests of space.

corded for the organic manures where returns per hectare ranged from ₦695.00 to ₦7,500.00. The highest return was recorded for the major-season tomato, followed in order by the onion, pepper, and garden egg.

It may be concluded finally that there is a high potential for profitable vegetable farming in the MVSL using organic manures. This expectation is reinforced by the general enthusiasm shown toward the project by local farmers.

Problems of Implementation: The Macro-Level

V. K. Nyanteng

The urgent need to develop rural communities in Ghana was registered about three decades ago by Professor K. Twum-Barima in a 1948 report on the relevance to West Africa of the U.S. Extension Service. It was not until about a decade ago, however, that the concept of rural development was embraced by the Government as one of the important policy priorities for overall national development.

In 1967, a Ministry of Rural Development was established to oversee the rapid development of rural Ghana. About five years later, the Ministry of Rural Development was abolished and, in its place, a Department of Rural Development came into existence under the umbrella of the Ministry of Social Welfare, Labour and Cooperatives.

Prior to 1967, efforts made to develop rural Ghana focused on agriculture, the main occupation of rural folk. The main reason for developing agriculture is to increase rural incomes so as better to enable the rural population to support basic modern amenities. The history of rural Ghana, particularly in the Ashanti and Brong-Ahafo Regions, is full of examples of rising rural incomes being translated into the provision of social amenities and services, such as health posts and clinics, school blocks, community centres, water supply, feeder roads, massive cathedrals, electricity, and so forth. Other rural areas, however, were not in a similar position to provide themselves

with similar social amenities. To correct the resulting imbalance in rural development in the country, the approach to rural development since 1967 has been broadened to brace the provision of social amenities needed to improve the quality of life in rural communities.

Yet a decade of rural development activities in the country does not appear to have resulted in any significant elimination of poverty and improvement in the quality of life in rural areas, particularly in those communities which lack income-generating industries and/or a good agricultural base. A prominent Ghanaian economist—R. K. Gardiner—has indicated that “although the recent approaches to solving the rural development problem are commendable, they do not appear to be going far enough.”¹

The objective of this paper is to examine how rural development programmes in the country have not achieved the expected results. In this exercise, emphasis is placed on problems regarding implementation of rural development programmes, particularly at the macro-level.

Various studies and observations point to the fact that several problems limit an effective implementation of rural development programmes at the macro-level in Ghana. The problems discussed in this paper center around rural development policy, planning, coordination, funding, follow-up, commitment to the programmes, and project location.

Rural Development Policy

Although the Government fully appreciates the urgent need to develop the rural sector as a prerequisite to overall national development, it is argued by a number of people that there has never been a national policy for a nation-wide rural development programme with a consistent strategy and ideology. The result is that emphasis on various aspects of rural development has shifted with

¹See Gardiner, R. K., “Keynote Address at the Conference on Rural Development and Regional Planning” (Kumasi: 12th April, 1977), p. 2.

each change in government. Some areas where rural development policies in successive Governments have shifted are highlighted in the introduction. The changes in policies and/or priorities are often accompanied by an abandonment and neglect of programmes already started.

Oftentimes policies designed to achieve rural development are not consistent with the main objective of rural development, namely, to improve the lot of rural folk. This point can be illustrated by a statement of R. K. Gardiner, Commissioner for Economic Planning, with regard to some of the programmes designed to increase agricultural production in Ghana as well as some other African countries:

During the current Five Year Development Plan for Ghana, we plan to increase agricultural output through organized farm groups like Crops Associations, Young Farmers Group, Nnoloo Groups, Nucleus Farms, the Block-Farming Group of the National Reconstruction Corps, etc. All these are admittedly working efforts at finding new organizational structures for agricultural production. We recognize the fact that these innovations will only enable a small proportion of the rural population to actively participate in the massive agricultural programmes envisaged in the plan.²

By bypassing some of the rural folk in income-generating projects, the plan renders them ineffective in funding and maintaining rural development projects.

Planning Rural Development Programmes

The planning and design of development programmes in the country—including those in rural development—have essentially followed the “topdown” approach. By this approach, agents involved in rural development plan and design programmes in their Head Offices and pass them on to their field staff for implementation. Development programmes formulated in this way often do not involve the people who are to implement them, and thus they often

²See Gardiner, R. K., *Ibid*, p. 2.

turn out to be incompatible with the needs and aspirations of the target people.

It is realized that farmers in the country are not adequately consulted in planning agricultural development programmes. Consequently, many such programmes fail to gain roots in rural communities. A classic example occurred in the early 1960s when the Government decided to modernize our so-called traditional agriculture through mechanization. A large number of tractors and various implements were imported. Besides being the wrong model tractor and implements for our soil and vegetation, farmers could not economically use them due to the small size of their farms. In the meantime, cutlasses, which they needed, were in short supply.

Literature is full of allegations that farmers in the developing world resist change. Definitely they are not going to change or contribute to a successful implementation of a development programme if the programme is incompatible with their needs and aspirations. The problems of rural areas are essentially internal problems, and solutions to them can only be found internally, within the rural communities themselves.

Coordination of Rural Development Programmes

The problem of rural development has several inter-related dimensions. Finding a solution to the problem has therefore involved a variety of organizations, including government ministries and departments, private organizations, and both local and foreign institutions. Oftentimes these organizations plan and implement programmes in isolation. Consequently, development projects tend to be sporadic and have little appreciable impact on the development of rural areas.

There are, however, several instances where organizations concerned with rural development have joined together to tackle various dimensions of the problem in an

182

integrated manner. Examples of the integrated approach to rural development are the MVSL and the Tawkwa IRD Project. Both projects involve several government ministries and departments, local institutions, and foreign organizations. It is believed that the integrated approach provides the coordinated action needed to make an impact on the rural scene.

However, a study of a few integrated rural development programmes in Ghana shows that this approach still has problems. A few months after initiating the integrated project at Tawkwa, some of the participating organizations began to make and implement decisions contrary to the overall working policy of the project. This, without doubt, can lead to an ineffective implementation of the entire integrated project.

Funding of Development Programmes

Some rural development programmes are initiated with the expectation that the target people will contribute part of the capital, labour, and other resources needed for its successful implementation. It is a common observation that such expectations are often not realized. This happens mainly with projects which the target people consider less a priority than other projects. Thus, when it comes to contributing funds for the proposed project, participants prove to have competing demands for their meagre incomes, such as paying school fees, buying food, or paying for marriages and funerals. They are therefore not in a position to contribute their quota towards successful implementation of the projects.

Follow-up of Development Projects

Many rural development programmes lack systematic plans for follow-up. Consequently the achievement of such programmes has deteriorated or they have died prematurely. The countryside is full of health clinics with

inadequate staff and drugs, farm machinery with no spare parts, roads which have deteriorated to such an extent that they cannot be used, electricity plants which are not functioning, broken down pipe-borne water systems, etc.

Oftentimes when a project is completed, the providing agent withdraws and expects the target people to maintain it. Invariably the target people are not organized or trained well enough to maintain the operation. Maintenance of projects always requires funds which, it is assumed, the target people can generate. But, when these funds do not materialize, the project falls into oblivion. Rural communities are full of such cases.

Popular Commitment

Similarly a number of rural development projects have not succeeded because those who were to implement the projects had no commitment to them. One factor which gives rise to non-commitment is the "top-down" approach to the planning and design of projects. The people who are expected to implement such programmes have not been involved in their planning and therefore do not care very much whether or not they are successful.

Programme Location

A necessary condition for the successful implementation of well-planned and designed projects is that each project be located at the most economically advantageous point. If a project is wrongly located, its successful implementation becomes a problem. A project may be wrongly located to rectify a natural imbalance in the development of several rural communities. On the other hand, some projects are wrongly located because they are located on the basis of the political power of individuals or groups of people who manage to lobby for such projects, even though on economic grounds the proposed projects are inappropriate.

185

Suggested Corrective Actions

For the effective implementation of rural development programmes at the macro-level, the following should be noted:

1. The government should be consistent in its policy towards rural development programmes.
2. The planning and design of programmes should reflect the needs and aspirations of the target people by involving them at the planning and design stages of the programmes. Junior officers in the field, who are essentially responsible for project implementation, should also be invited to participate fully in the planning and design of programmes. By this decentralized approach to the planning and design of programmes, a local commitment to their successful implementation will be encouraged.
3. The target people should be adequately trained to take over the project after the withdrawal of the agencies who helped in its initial implementation.
4. The availability of funds and other resources required for the project, and for follow-up or maintenance, must be certain. Programmes should be located in rural communities which have the needed resources for an effective operation. If the goal of rural development is to correct an imbalance in the differential development of various rural communities, the way to do it is to plan and design programmes for the various communities on the basis of what resources are available.

Utilization of Research Results

K. Dua-Opore

A research scientist may conduct research to seek knowledge for its own sake or to seek solutions to practical problems. In deciding on the type of research to conduct, the researcher's decision is influenced by many factors.

There is an honoured academic tradition which indicates that knowledge should be sought not for practical reasons but for its intrinsic value. It seems society and institutions of higher learning place a high premium on research which seeks knowledge for its own sake. Sometimes a researcher may seek a practical solution to a problem (say, how to grow good quality pepper on the Accra plains). Such a researcher is not rewarded or encouraged because a reviewer may say that the research is not of academic depth; thus the researcher does not get his promotion. There is conflict between practitioners and basic researchers, since practitioners feel that the ultimate outcome of research should immediately benefit people in improving the quality of their lives. Such practitioners look on basic research as unimportant and sometimes a waste of time.

The links between the practitioner and the consumer are mainly through extension education (farm schools, farm visits, meetings, shows, etc.). In most countries, this link does not exist and, even when it does exist, it is

rather weak and ineffective. Thus the consumer does not fully benefit from research.

Improving the Linkage Between Researchers, Practitioners, and Farmers

A good linkage system between researchers and practitioners (extension officers) and consumers (farmers) is the *sine qua non* of progressive rural development. Without this linkage, rural development will continue at a slow rate. In Ghana, we cannot depend on users receiving research information by chance. This would slow our rural development. We have to accelerate the utilization of research findings.

For a moment, let us look at the production, dissemination, and utilization of knowledge in the United States and Brazil. The success of agricultural production in these countries is the result of farmers benefiting from up-to-date research findings.

The United States Agricultural Extension Services is based at its Land Grant Universities. Both Extension Officers and Researchers are under one university umbrella. Agricultural Extension Officers act as links between researchers and farmers. Farmers' problems are conveyed to the researchers at the universities; when the problems are solved by the researchers, farmers quickly receive the benefit of the research through Extension Officers. There are also links (joint projects) between the various institutions interested in rural development and the farmers.

A similar arrangement is used in Cocoa Extension in Brazil. A cocoa farmer receives research information and inputs from one organization (CEPLAC). This organization has under it a Training Division, Credit Division, Research Division, Extension Division, and Communication and Information Division. This arrangement makes it possible for farmers to gain quick access to research findings, inputs, and credit.

In contrast to the American and Brazilian systems, most research done in Ghana does not reach the user. For research to benefit the user at this point in Ghana's development, the bulk of research should be based on his needs. The problems of the user would be sent through practitioners (extension officers) to the researcher (applied researcher) for a solution. The applied researcher may need an input from the basic researcher in order to come up with an answer. A solution found could then be sent back to the farmer via his local extension officer.

In order to effect a smooth flow of information in Ghana, there should be links connecting Researchers, Practitioners, and Farmers. This would involve:

- a) One organization in which Basic Research, Applied Research, and Practitioners are all under one umbrella.
- b) An expanded number of outreach programmes to help diffuse research findings.
- c) Joint technical consultations and joint research projects so as to involve researchers and practitioners in solving a common problem.
- d) Requiring Extension Officers, Public Health Nurses, and Social Workers to teach users, not just provide services and disseminate information.
- e) Utilization of mass communication techniques, such as bulletins, radio broadcasts, demonstrations, and shows.
- f) Involvement of consumers (farmers) in research projects.

In conclusion I will once again stress that: (a) Knowledge-building by itself cannot help rural development; knowledge should be useful to man. Application-oriented research is what is most needed in Ghana; (b) Knowledge should be highly accessible to users (farmers); and (c) An effective system should be established to convey research findings to users and to motivate them to use the findings.

As someone has said, "Pursuing knowledge for its own sake is like keeping tools locked up in a tool chest. Tools must be used. So, too, knowledge must be put to work."

Implementation Problems in the MVSL

I. K. Appiah

B. A. Quarcoo

It is widely accepted that in any attempt to solve problems, new ones are created. This has been shown to be quite true since field operations started in the Mampong Valley Social Laboratory. What we consider dangerous is for the new problems to become more complex than those which initially we are attempting to solve.

Our problems are both general and specific ones. Among the general ones are those relating to administrative procedures, civic responsibilities, finance, and the human factors affecting development. Problems of a more specific nature involve the physical environment and livelihood.

Administrative Procedures

Though the MVSL is a young organisation, it is clear to every worker that its objective is to help rural people raise their standards of living. The means to achieve this noble objective have not been spelt out in a form which gives sufficient guidance to officers not well versed in the principles and techniques of rural reconstruction. Their procedures have sometimes fallen out of step with those acceptable to the administration.

An example of this is the style of preparing project proposals. The time and money which is lost in preparing proposals which are rejected outright give cause for great

concern. A day's course was run last year on procedures for preparing proposals at the University of Ghana by an expert in the subject, but it seems that much more remains to be done. Well-established funding agents, including USAID and CUSO, have carefully designed all-purpose formulae for proposals for rural development projects. A more practical approach for the GhRRM, however, is to develop its own general formulae so as to meet the various requirements of our funding sources. This will make for uniformity, too.

Sometimes, too, certain steps taken by some officers in the field have not met with the approval of the administration. In some cases, this has resulted in conflicts that take time to settle, while the rural people, for whose welfare our programmes are designed, are left in the background until things get sorted out. The Board and field staff alike would do well to develop programmes which can be revised in the light of field and other practical experience.

Human Factors

Human problems in the implementation process may be caused by the staff, but also it is with the people. Let us begin with staffing problems. Programmes of such a magnitude as rural reconstruction call for special training, special devotion, special dedications, and special sacrifice. Organizations which operate under difficult conditions like the GhRRM have managed to attract a high calibre of professionals and technicians by offering attractive conditions of service. If it has staff of the right calibre, the organization stands a good chance of achieving maximum success. Some of the specialists who were trained in the Philippines and who nevertheless left the GhRRM in the first year of field operations did so partly because of poor conditions of service. A critical study of service conditions in the Philippines, Thailand, and Guatemala supports the

need for good service conditions in order to obtain good work. Ghana can take a cue from this.

Another aspect of the human problem is that the rural people have been more interested in immediate gains than long-term ones. We have seen three types of people—those ready to try our methods, those who wait to try them when the results of other people's experiments have been seen, and those who are complacent with what they already know. Therefore some people wash their hands with soap before they eat while others flatly refuse to do so. Education has done the unexpected in a number of cases, thereby fulfilling Dr. Yen's assertion that a programme designed for the good of the people will fail if it does not fulfill what they themselves want. Compulsion, even for their own good, will simply defer the hope of peace. If people, being ignorant, want what is not for their good, then education and guidance—not compulsion—are required.

We organise educational programmes not only for the staff but also for the people, so that we can come to a common understanding. But education cannot be confined only to the people and the staff—the Board, and, indeed, the Ghanaian public need it.

Civic Responsibility

At the onset of field operations in the MVSL, only a few of the towns and villages had chiefs. Others had a two-tier authority structure with the traditional Council and the Development Committee running their affairs. It is common knowledge that these two authorities did not agree. Kwamoso is a case in point, where one faction of the people was summoned together by a handbell whilst the other was summoned by a gong-gong.

The position today is that law and order is maintained by a traditional authority composed of chiefs and elders. At the same time, the Village/Town Development Legis-

lative Instrument, which provides for an elective Committee with the Chief or an elected person as the chairman, is gradually being implemented. Implementation of this Instrument is made difficult because no effort has been made to educate the people concerning its provisions. Also, the Instrument empowers the Committee to levy taxes for specific development projects, but does not give it the power of enforcement. The people do not even know the procedures for elections and so naturally cannot implement it.

Some places have implemented it. In one case, some prominent persons among the village people, who expected to be elected but were dropped by their own people, go along with us, but do everything to frustrate the efforts of the Committee. In another case, the Secretary of the Development Committee at Sokoda Guaso is using his position to the disadvantage of the majority. One of his sheep was let loose and was consequently caught and sent to Adawso by the sanitary overseer in charge of the area. The matter was reported to the Mampong Police who, through lack of knowledge of the Instrument, subjected the loyal civil servant to persecution. The obvious result was for him to deny these people his services. And today, Sokoda Guaso, once an almost model village, has gone back to square one.

To educate the people on government policies and topical issues, we have organised the chiefs into a Council of Chiefs which meets every three months to discuss government policies concerning metrication, the change of old Cedis into new, and the change from left to right popularly referred to as *Nefanifa*, and the government's "Operation Feed Yourself" programme.

Finance

It is without doubt that any organisation, including even a national government, needs funds at one time or

194

other. The problems are generally bigger if the organisation is a private and non-profit one like the GhRRM.

Although we get some support from friendly organisations like the International Institute of Rural Reconstruction and the U.S. Agency for International Development, support of any size in this inflation-ridden world cannot be said to be adequate. So grave has the situation been at times that workers have had to wait weeks after the end of the month for their salaries. Staff members, at one time or other, have had to forgo their increments in order for the administration to be run. And, until a year ago, our funds were only enough to pay for staff salaries and nothing more. The demands on our services are great and, unless funding agents increase their support for us, our pace of progress will slow down considerably.

Physical Problems

The laboratory, as you know, is situated in a valley flanked on the east by the Akuapem Ridge and on the west by the Cherepong Hills. In addition, there are occasional rises here and there. Thus the undulating nature of the terrain makes mechanised farming difficult. However, the people have been able to farm the slopes and valleys successfully with their hoes and cutlasses. The result had been destruction of the forest cover. The area is gradually becoming a grassland.

The question of accessibility is also of paramount importance. The villages are linked by numerous foot-paths and in some cases feeder roads. Apart from the main Mamfe-Koforidua highway, the feeder roads which join the main population centres become impassable when it rains. Even the main road which leads to the Centre becomes a death trap after any rainfall. If the standard of these feeder roads could be raised to that of third class roads, communication would be greatly helped during the rainy season.

The valley area has become a melting pot with many tribes trying to work together. About 40 percent of the people are aliens. Most of them thus have no substantial investment in the area. After they have made their money, they send the proceeds home. They don't bother about where they stay; most of their dwelling houses are thus unplastered mud-and-thatch structures. If these people could be persuaded to plaster their houses, it would enhance the beauty of the villages.

Basic Infrastructure

It is a fact that rural work is difficult. We are all aware of rural-urban migration. Among the factors which make people go to urban areas are good drinking water, the presence of health facilities and decent accommodations and transportation. Thus it would not be far-fetched to provide for these facilities before any other meaningful rural work is done. The provision of rainboots and rain-coats [for staff] should be on the priority list. I hope nobody would risk his dear life in an encounter with snakes—or wild animals, for that matter.

A clean and decent accommodation is a must for any worker. The pathetic situation is when one has to be pushing his tables and chairs around when it rains in order to save valuable records. In addition, one has to return to a semi-dark room to rest his tired limbs after a hard day's work. Needless to say that such a person would not be able to work efficiently the next day. There should be a crash programme to provide staff quarters and other facilities so that there won't be cause to worry about this need.

The need for good drinking water cannot be ignored; especially if one transplants somebody from an urban environment to a rural setting, you don't deny him his good water. Nobody is saying there should be a multi-million dollar water supply project, but bore-holes or a well where

the people can get clean clear water is especially important where the climatic conditions are harsh and all the streams and ponds dry up during the dry season.

It is said that an office is the nerve centre of any organisation. For effective coordination and supervision there should be an office block where most (if not all) of the operations can be centrally controlled. A situation where different office functions are spread over the whole place and communication is difficult affects administration very much.

There may be good and laudable programmes which the average worker would like to pursue. But if there is no basic equipment like boards and slates or audio-visual aids (at least for demonstrations), then how do you get the programme through to the villager? If clearcut guidelines are given, they should be accompanied by the procurement of the necessary tools to carry them out.

Livelihood

This multi-purpose department has a lot of problems with its running. However, with good planning most of these problems could be overcome.

Crops Production: Among some of the problems here are lack of adequate rainfall, reliable labour supply, and farm inputs like improved seeds, fertilizer, and insecticides. If the rains don't come and there are wells, the water could be used to water the crops. In case of an unreliable labour supply, those who are there should be adequately paid in order to attract others; if their remuneration is below the rate prevailing at other places, potential labour might not be attracted.

The supply of farm inputs has a telling effect on the teachings of the Movement. If a farmer is taught the essence of improved seeds and the effectiveness of insecticides, imagine what will happen if he goes to buy them

197

and he does not get them. It will be greatly appreciated if the Movement would have the courage to procure these things and sell them to the farmers.

Livestock: The introduction of a simpler method of rearing poultry has made many people aware that they can earn a lot if they give it the proper attention. However, the supply of day-old chicks leaves much to be desired. Imagine booking birds three months ahead and, on the appointed date, you go and are told there aren't any. The position of the feed is no better. One has to wait for a long time before one can get it. In the interval, what does one expect the birds to eat? They will die and a lot of money would go just like that. The poultry drugs, too, are nowhere to be found.

A long-term programme to rekindle interest in poultry-raising is for the Movement to start a hatchery on its own. Then and there the farmers would be assured of a regular supply of chicks. A standing agreement could be signed with the poultry-feed manufacturers so that we get a regular supply of feed for our own use and that of the farmer.

Marketing of birds sometimes presents a problem. Because the chicks supply is not regular, one cannot enter into a firm contract with anybody which assures a weekly or monthly supply. Thus, when birds are raised off-season, their sale becomes a problem. A lot of sheep and goats are reared in the area. These animals die on-and-off even though the veterinary people are brought in when the need arises. Sometimes the animals die even before we hear of it. If the Movement can arrange with the Veterinary Department to send one of their men to the MVSL at regular intervals, this would go a long way to ameliorate the situation.

Rural Industries: Most of the villagers know one or two crafts which, if taken seriously, would yield additional income. But because of the imported crafts on the market

198

they are not interested in making them. However, with the recent squeeze on the market, the need to revive these crafts has become very pressing. The trend now is that they would like *us* to do some of these things—like soap-making, basket-weaving, and carving—before they try it.

Cooperatives: Cooperative effort is believed to be the central core of the livelihood programme, for it tends to bring all its efforts together. However, there have been some obstacles emanating from both the villagers and the government agency in charge of this. Some of the villagers are very apathetic to the whole issue, and would not like to hear of it at all. Some of them do not want to pay their share of capital; others attend meetings only irregularly. Furthermore, the registration of a society takes a century to accomplish. How do you think an ordinary farmer can afford to wait such a period for its registration? His interest dies out, and fast.

There is a need for education to disabuse the farmers' minds of any fears they may entertain in getting involved in the task of cooperation. In addition, those who are in charge of registration should endeavour to finish the registration process as quickly as possible in order to give credibility to the government's policy of inviting as many people as possible to form cooperative societies.

* * *

The problems are many and the resources are limited. It is the wish of the field staff to work hard, but when some of these problems rise like mountains before them their spirits are dampened and nothing concrete can be achieved. They therefore need material and moral support, patience and understanding in the herculean task of helping one help himself.

Problems in the Health Programme

D. A. Ampofo

In implementing any rural development programme there are always a number of problems. Several problems have arisen in the health programmes undertaken in the MVSL.

Adverse Climatic Conditions

I begin with this problem because very often people who debate on rural development propound theories on what should be done for the rural people from air-conditioned rooms. The climatic conditions in the rural area are always a problem for non-natives of a particular area who have decided to reside and work with rural people. The conditions prevailing in urban areas are quite different from those in rural areas; adjustment is essential before any officer can be of use.

Whenever I visit MVSL or Danfa on a typical sunny day I find the environmental conditions unpleasant. The circulating air becomes hot in the scorching sun and, coupled with high humidity, the atmosphere becomes almost unbearable. We anticipated these harsh conditions, but the initial staff had to adjust to them as quickly as possible and be sufficiently dedicated to accept them. Two officers left at the initial stages because their health could not stand up to these living conditions.

In the past two years the rainfall has been inadequate and this has added to the difficulties of living. A water

shortage hampered the building programme of the Centre. It also affected crops both on the experimental farm and on the farms of people in the project area.

Tendency of People to Recidivism

Recidivism is the habit of people to fall back into their bad ways after an initial change for the better. Most people in the MVSL—like those in most parts of rural Ghana—either have their own notion about causation of disease or no definite view at all. On account of this, health education on causes of disease and the motivation of people to improve their environment has become the prime concern of the health team. But recidivism is a continuing problem. For example, when we started operations in the area we stressed the need for controlled tipping of household refuse. A number of households tried this method of refuse disposal. But when the pits filled up, a majority of the converts were not sufficiently motivated to dig new pits and went back to their old habit of dumping refuse above ground. (One factor which did not encourage pit digging was the drought, which made the ground hard to dig.) To counter recidivist tendencies, propagators have been urged to keep reminding the people of the need to sustain a hygienic environment.

Poverty of the Rural People

The income of many rural people is low. In addition, most people give a low priority to spending money on health. When people are asked to carry out health-related activities which involve the expenditure of money, they are unable to purchase what is recommended. For example, at the clinics, baby foods, drugs, and special diets are seldom purchased when recommended. People are also disinclined to send a sick child to the district hospital when the case has been referred there. The introduction of wooden louver windows and the water-sealed toilet have not made much headway, partly because of lack of money.

Health Staff

The Movement lost its Health Specialist over a year ago because she was too old to carry out her arduous clinic and environmental health duties. It has not been possible to recruit a replacement in spite of advertisements. The Regional Ministry of Health has generously supplied the Movement with two Community Health Nurses and two Assistants who have worked for the past two-and-a-half years. These have been the mainstay of the health programme, and have been responsible for maternal and child care activities in the area. Without this help from the Ministry, it would have been impossible to conduct our health programmes.

Logistic Support

The GhRRM has only one vehicle. This truck is expected to convey officers of the various departments—including health officers—to their place of work in the field, to collect supplies, to serve the administrative staff, and to be used as an ambulance in emergencies. The demands on this vehicle are obviously great. Because of this, occasionally the health team, having been deposited in one village to hold clinic, either has had to stay in the village until collected in the evening or to walk long distances to the Centre, over difficult terrain in the sun or rain.

Once, when I visited the Centre, the self-reliance and enthusiasm of the nurses was impressively demonstrated. The vehicle was not available to the nurses that day. Early in the morning the big box containing drugs and food supplements was deposited in the village where the clinic was to be held. At about 9 o'clock in the morning the nurses, in their broad brim hats, left in the drizzling rain to hold clinic in this particular village, going by way of a short-cut bush path, a walk of about 25 minutes. I later arrived in the village by car over the motorable road to find that the nurses had already arrived at the clinic

202

and started work. Inadequate means of transport reduces the effectiveness of the Movement in the field and slows down progress.

These stated problems, especially that of staff shortage, has rendered the health programme deficient in three areas of preventive health: family planning, prophylactic measures against malaria, and the training of village health workers.

203

Section V | **The GhRRM's
Performance
in the MVSL**

An Evaluation Survey Report

**N. O. Addo, D. A. Ampofo, D. N. A. Nortey, C. K. Brown
and E. A. Gyasi**

The GhRRM's actual field operations in the MVSL began in 1974. A Baseline Survey was conducted in 1975 to take an inventory of the conditions in the social experimental area before any extensive inputs were introduced. One of the most essential requirements of any social experimentation is how to monitor the utilization of these various inputs, both human and material. It is therefore necessary to conduct periodic evaluation studies to determine how such a programme is moving, the direction of change, the degree of receptivity and impact on the general state of the communities. These will assist the programme's management in reviewing and (if necessary) modifying the strategies they are adopting in the implementation of their programmes.

The GhRRM's Board of Trustees therefore commissioned a four-man research team¹ to conduct an evaluation survey in the MVSL to highlight some of the developments that have taken place in the field since the programme's inception. Results were to be discussed at a seminar to be held in June/July, 1977.

¹The members of the Research Team were: Professor N. O. Addo, Professor of Demography, ISSER, Legon; C. K. Brown, Research Fellow, ISSER, Legon, and Dr. E. A. Gyasi, Lecturer, Dept. of Geography, Legon. Assistance was provided this team by Prof. D. A. Ampofo, D. N. A. Nortey, I. K. Appiah and B. A. Quarcoo.

Because of time constraints, limited financial resources and other reasons, only a partial evaluation study—related to the opinions, attitudes, and impressions of the target population in the MVSL—was undertaken. It is expected that, in the near future, the evaluation will be extended to include other specific areas (such as staff performance in the field, the scientific evaluation of actual field programmes by relevant specialists [educationists, agronomists, agriculturists], and an analysis of the multiplier effect of the GhRRM's operations in the MVSL).

The Evaluation Survey was conducted in February and March, 1977. Field technique was based on a full census of different population groups engaged in various activities in the area. We interviewed these people on various aspects of their life and work, and attempted to document their views, impressions, and opinions regarding GhRRM's influence on their activities. A total population of 1,117, comprising 521 males and 596 females, was interviewed; the total number answering each particular question, however, differed. Most of the data in this analysis therefore refers to the actual number of persons who responded to a particular question.

An evaluation is usually designed to measure changes against what a previous baseline survey had shown to be prevalent in an experimental group. Our Evaluation Survey was not able to meet most of the criteria one would normally look for; unfortunately, not all the answers could be related to baseline data. Where data for both the Baseline Survey and Evaluation Survey are available, we have tried to determine the nature of the change and assess the factors which were probably responsible for it.

This paper attempts to highlight some of the results of the 1977 Evaluation Survey, particularly as they relate to the following subjects: (a) Livelihood (crop production, livestock, and credit facilities); (b) Environment and

health; (c) Cooperatives; and (d) Education, culture, and sporting activities.

I. LIVELIHOOD

The Baseline Survey of 1975 indicated that agriculture was the main form of economic activity in the MVSL. The situation now shows a slightly higher proportion of males in the field of agriculture (63.7 percent compared with 60.1 percent at the time of the Baseline Survey); with females, a slight decline in proportion occurred (ie., 62.7 percent compared with 65.8 percent at the time of the Baseline Survey).

Both seasonal crops (notably maize, cassava, and cocoyam) and perennial crops (such as cocoa and oil palm) are cultivated. Some farmers also keep livestock, principally as a subsidiary economic activity.

The Baseline Survey also revealed that agriculture tended to be peasant in character: small-sized farms and relatively low yields. For example, crop farming followed the age-old practice of land rotation or bush fallowing, with little deliberate attempt being made to improve the fertility of the soil through artificial means. The rather low-yielding species of livestock were not given any systematic attention. By and large, the farmers remained very slow in adopting modern agricultural practices.

In order to improve the situation, in 1974 the GhRRM started introducing new and better techniques of farming, including row or line planting, the treatment of seeds and seedlings with insecticide before planting, the application of fertilizer, and relatively modern methods of raising livestock. The GhRRM's impact forms the theme of the subsequent analysis which examines the changes that have occurred in agriculture since the GhRRM started field operations in the MVSL. This is done by comparing data from the Baseline Survey with data from the Evaluation Survey. The principal objective is to determine the in-

fluence exerted by the GhRRM in the three years it has been operating in the MVSL.

Crop Production: Modern Practices

At the time of the Baseline Survey, 8.6 percent of the farmers were estimated to be practising row or line planting, which renders weeding less difficult; 2.7 percent applied fertilizer, mostly chemical, to improve soil fertility and yields. Maize and cassava were the two main crops planted in rows, while fertilizer was most often applied to vegetables, cassava, and maize.

Some modest changes have taken place since then. By March, 1977, the proportion of farmers practising row planting and farmers using fertilizer had increased to 13.0 percent and 12.5 percent, respectively. The remaining groups had not adopted either technique. Thus, measured against the Baseline Survey, a significant proportion of farmers had adopted scientific methods of improving the soil by the use of fertilizers. As high as 98 percent of those applying fertilizer were using chemical fertilizers; the remaining 2.0 percent were using either compost, or a combination of chemical fertilizer, compost, and animal manure.

Other modern practices being pursued in 1977 were: (a) the use of improved seeds, seedlings, or planting materials to increase yields; and (b) the dressing of seeds with insecticide prior to planting to prevent damage by pests. Although only 7.2 percent of the farmers were using the former, and only 7.6 percent were applying the latter (the rest failing to adopt either practice), the 1975 Baseline Survey had noted that almost none of the farmers in the MVSL then used these forms of modern practice. Equally significant is the fact that the majority of respondents, 46.8 percent, were now growing improved species of maize; 19.2 percent said they were growing new varieties of pepper and different types of legume; 17.4 percent

new varieties of cassava; and 16.5 percent cocoyam, orange, peas, plantain, banana, yam, and other crops.

The Evaluation Study indicated that row planting was the most popular, followed closely by soil improvement through fertilizer application. Next in order of popularity was the dressing of seeds with insecticide and the planting of improved seeds.

In an attempt to determine the role of the GhRRM, the farmers were asked whether they had been influenced or not by the GhRRM to adopt these four modern planting practices. In all cases the GhRRM appears to have exerted considerable influence. On the average, 59.3 percent of the respondents who had adopted these new practices stated that they had been influenced by the GhRRM to do so, while 40.7 percent had not been so influenced. The absolute figures were not high, but the proportions of those responding are fairly significant. The implication is that if the Movement's efforts were to be intensified and strengthened, other things being equal, a positive trend is assured in the future.

Reasons for Adoption

A pertinent question is whether the farmers have good reasons for adopting the modern planting practices propagated by the GhRRM.

Thus, farmers, who, at the time of the Evaluation Survey, were applying fertilizer, and those treating seeds with insecticide before planting, were asked to state their reasons for adopting these practices.

Fertilizer Use

As might be expected, the majority (44 percent of those applying fertilizer) responded that they were using fertilizer to improve soil fertility, while 35 percent said they were doing so in order to accelerate plant growth.

About a fifth of the group said they were using fertilizer to increase production. Only 1 of the respondents (1 percent) gave the unreasonable answer that he/she was applying fertilizer to render his/her crops less susceptible to disease. The obvious conclusion, therefore, is that virtually all the farmers adopting fertilizer practice understand the rationale for its use.

Insecticides

Most of the respondents (83.5 percent) stated that they were treating seeds with insecticide before planting to get rid of insects and other pests, and 9.6 percent said they were doing this in order to accelerate plant growth. A small percentage of the group (5.5 percent) responded that they were using insecticide with a view to preventing or minimizing the decay of seeds. Only one respondent, representing 1.4 percent of the total, gave the obviously unreasonable answer that he/she was using insecticide in order to increase soil fertility. Here again, most of the farmers appear to have understood the rationale behind the adoption of a modern planting practice.

Nevertheless, a majority of respondents were observed not to be treating their seeds with insecticide prior to planting. When asked why they had failed to adopt the practice, nearly half of the 601 respondents (48.4 percent) mentioned lack of insecticide as the problem, while 1.7 percent cited lack of money as the reason. But a very significant percentage (32.4 percent) indicated that they were not aware of the practice; 13.3 percent stated either that they were not interested or did not recognize the need to follow the practice; and 3.7 percent had no opinion. These figures suggest that a substantial proportion of the farmers in the MVSL remain either ignorant about modern planting practices or are reluctant to adopt them. This finding may suggest a direction for the deployment of the GhRRM's extension and agricultural education service in the future.

Improvement in Crop Output

Farmers were asked to state whether or not there had been any improvement in their crop output since the time the MVSL experiment started. Of the 811 farmers responding to the question, 359 or 44.3 percent replied: No. The remaining 452 representing 55.7 percent of the total said: Yes. These respondents were then asked whether the presence of the GhRRM contributed to the improvement in output: 20.1 percent of them responded in the affirmative while 79.9 percent replied: No.

It must be recognized that factors other than the presence of the GhRRM—notably natural ones, such as favourable rains—may have contributed to the improvement in crop production. Therefore, in order to assess more reasonably the role of the GhRRM, farmers were asked to list any three factors which, in their opinion, contributed towards the improvement in their crop output. In all, 12 factors were mentioned by the farmers. Constant weeding emerged as the most important. Although this may not have been an innovative idea of the GhRRM, the Movement's extension service had greatly emphasized the need of constant weeding to the farmers, who may have acted on this recommendation. Hence it is possible that a large proportion of the 41 percent who cited constant weeding as contributing to the higher output on their farms had been, in fact, disciples of the GhRRM. After constant weeding, favourable rains were mentioned 220 times (i.e., by 30.7 percent of the respondents). Next, in order of importance, was good soil (7.3 percent), followed by the application of insecticide or pest control measures (5.4 percent), and then, in percentages of less than 5 percent, a variety of factors such as hard work or increased labour input, fertilizer application, row/line planting, and early planting.

Even though advice from the GhRRM was specifically mentioned as a factor by only 0.9 percent of the respon-

211

dents, this does not necessarily belittle GhRRM's position among the factors which led to an improvement in crop production since GhRRM's influence is implied in some of the other, higher ranking factors (e.g., constant weeding, fertilizers, row/line planting, improved seed/planting materials), which the GhRRM has been actively encouraging in the area since it arrived.

GhRRM's Contribution to Crop Output Improvement

We requested that the 20.1 percent of the farmers who stated that the GhRRM's presence had contributed to the improvement of their crop production indicate the specific ways in which the GhRRM had helped them. Respondents were asked to indicate three ways. The results showed that the main areas in which help was received were: (1) improved innovation; (2) the supply of improved seeds and advice in planting; (3) advice to weed frequently; (4) advice to plant in rows; (5) advice to apply fertilizer; (6) advice on backyard gardening; and (7) advice on how to store crops. The influence of the GhRRM in the field of marketing, a crucial aspect of agriculture, was shown to be virtually nil. It must be understood, however, that the Movement cannot spread itself too thinly at this early stage, and must move gradually. The Baseline Survey showed that the majority of the population believed that they had no marketing problems: People, they say, buy their foodstuffs as soon as they are sent to the market, etc.

A large number of respondents indicated that the increase in their crop output had not been influenced by GhRRM's presence and attributed their increased output to good rainfall and good soil. Those who specifically said that the GhRRM had been of no help were asked to give their reasons. Interesting enough, a small group of people in this category felt that they needed no help at all from the GhRRM; some of them felt that the time was not ripe for them to consult the GhRRM (probably

2/12

they are waiting to see how the Movement does before they make up their minds); others felt they had no time to consult the Movement. However, a majority of the group either had not received any help from the Movement in planting their crops or they did not know about the presence of the GhRRM. A few had just refused to participate, whilst a sizable number could not give any specific reason.

Sources of Information

Communication media is crucial to the dissemination of innovations. We therefore enquired about the sources from which the farmers obtained information about three modern planting practices: Adoption of improved seed for planting; dressing of seeds with insecticide before planting; and the application of fertilizer to improve soil fertility.

A majority (37.3 percent) of the respondents stated that they had learned about the use of improved seeds from the GhRRM, 18.7 percent obtained the information from friends, and a comparable proportion obtained the information through the Ministry of Agriculture or its agents. These sources are followed by relatives (12.0 percent); other sources (5.3 percent); other local farmers (4.0 percent); the cooperative union (2.7 percent); and radio or school (1.3 percent).

Like the practice of using improved seed, the majority of those using insecticide to dress seeds prior to planting (38.4 percent) stated that they had learned of this practice from the GhRRM; 26.9 percent obtained the information from relatives, while 17.9 percent learned about it from friends. These are followed by the Ministry of Agriculture (10.3 percent); radio or school (2.6 percent); local farmers (1.3 percent); and the Afiencya Youth Leadership Training Centre (1.3 percent).

A substantial majority of the farmers practising soil improvement through fertilizer application (47.5 percent) responded that they obtained information about this new practice from the GhRRM. Another 17.5 percent learned of it from friends, while 10.8 percent obtained the information from the Ministry of Agriculture. The rest is distributed as follows: radio or school (10 percent); State Farms Corporation (6.7 percent); relatives (3.3 percent); and other local farmers (3.3 percent).

From the preceding it is evident that the GhRRM constitutes the most important source from which farmers learned about the three modern planting practices fostered by the GhRRM. Aggregating the source data covering all three practices, it is shown that 41.8 percent of respondents obtained information about the three practices through the GhRRM. This is followed by friends (17.5 percent); the Ministry of Agriculture (13.2 percent); relatives (12.1 percent); radio or school (5.5 percent); other local farmers (3.3 percent); State Farms (3.3 percent); other sources (2.2 percent); and the cooperative union (1.1 percent).

A number of respondents (27-16 males and 11 females) said that their source of information regarding improved varieties of planting materials was not the GhRRM; instead, their source was either friends, the Ministry of Agriculture or "old farmers" (presumably, more established and experienced farmers). (Incidentally, five farmers, representing 18.5 percent of the group, also said that they had been influenced by Yensi Centre/GhRRM which, if this is correct, is a contradiction in terms. Perhaps some of the people in this particular group had learned of these new planting varieties before the GhRRM arrived.)

From the above responses, it is reasonable to say that what little progress has been made in the MVSL in terms of the introduction of the above innovations is substantially attributable to the GhRRM. This obviously has provided

a supplement to the Ministry of Agriculture's own efforts in the area and underscores the fact that cooperation between change agencies can accelerate the acceptance of agricultural innovations.

II. LIVESTOCK PRODUCTION

It has been noted that some of the farmers in the MVSL keep livestock, usually as a subsidiary economic activity. Among their livestock are poultry, sheep, goats, turkeys, pigs, rabbits, and ducks.

The Evaluation Survey sought to learn the number of respondents involved in the raising of each of the various types of livestock and when they started raising them. It was hoped these data would indicate the changes that have occurred since 1960 and especially those which have occurred during the period 1974-76, when the GhRRM was operating in the MVSL. During this time, the number of farmers entering livestock production has been increasing rapidly.

Out of the total number of 249 respondents keeping poultry at the end of 1976, only three (1.2 percent of the total) were in the business before 1960. Two of the 249 respondents joined in the period between 1960-62 while one started in 1963-64. Three others (or 1.2 percent) joined during 1965-67. Since then the number joining has accelerated at an increasingly faster rate, attaining a peak in the period 1974-76, when there were 194 entrants, representing 77.9 percent of the total number of poultry-keepers at the end of 1976. Significantly, 1974 marks the beginning of field operations by the GhRRM in the MVSL.

Changes are even more pronounced with respect to sheep and goats. Only one person among respondents keeping sheep at the end of 1976 had been in the business before 1960. There were no new entrants between 1960 and 1964, and only two between 1965 and 1967, and six in the period 1968-70. The period 1971-73 witnessed a modest

215

increase of 18, but during 1974-76 there were 73 additions (i.e., 73 percent of the total).

A similar trend is exhibited by the number of farmers starting to rear goats. Out of a total number of 100 respondents who were recorded as keeping goats, only one started doing so before 1960. No new entrants were recorded in the period between 1960 and 1964, and there were only three starters between 1965 and 1970. Between 1971 and 1973, however, an appreciable increase of 14 occurred, these representing 14 percent of the total number of goat-keepers at the end of 1976. In 1974-76 the number of new entrants rose significantly to 82.

The survey indicated that no respondents had kept turkeys, pigs, or ducks before 1970. However, one of them (representing 14.3 percent of the total number of 7 respondents rearing turkeys at the end of 1976), took to this kind of subsidiary economic activity in the period between 1971 and 1973. By the end of the 1974-76 period, the number of new entrants had increased by six (or 85.7 percent of the total of seven).

Out of the total number of nine respondents who were rearing pigs at the end of 1976, two of them (corresponding to 22.2 percent of the total) started in the period between 1971 and 1973. In the following two years, 1974-76, seven more respondents (representing 77.8 percent of the total) started raising pigs. Thus there was an annual increase of 15.6 percent in the number of respondents taking to pig rearing in the period from 1971 to 1976.

Up to the end of 1973, none of the respondents was keeping rabbits. Like poultry farming, however, the GhRRM has been giving special encouragement to this through the introduction of better species and advice on proper feeding practices, sanitation, medication, and housing. It is therefore significant to observe that all 9 respondents keeping rabbits started this activity between 1974 and 1976 when the GhRRM started field operations.

A total number of 27 respondents stated that they were keeping ducks at the end of 1976. Out of this number, six (22.2 percent of the total) started in the period between 1971 and 1973. The remaining 21 (representing 77.8 percent of the total) started in 1974-76.

Only five of the respondents kept other kinds of livestock, including guinea fowls. One of them (representing 20 percent of the total) started in 1963-64. From then on no new entrants were recorded until 1974-76 when the first one was joined by four others.

Number of Livestock

The Evaluation Survey also enquired about the numbers of livestock that the farmers started with, and the numbers that they held when the survey was conducted. Most of the respondents who were engaged in livestock production maintain less than ten units of livestock. This indicates that generally livestock-keeping is a very small-scale activity in the MVSL.

Even so, certain significant changes are discernible. Of poultry farmers, 230 started with less than 10 birds. From then to the time of the survey, there has been a percentage decrease of 33.5 percent in the number of keeping less than 10 birds. By contrast, the number of poultry farmers keeping between 10 and 49 birds showed a significant increase of 83.2 percent between the starting period and the survey. Likewise, the proportion keeping between 50 and 99 has risen by 66.7 percent (from 2 persons to 6 persons), while 3 persons have since been keeping over 500 birds, a most significant development in the field of commercial poultry. The general conclusion is that poultry-keeping has been stepped up gradually and that the GhRRM has greatly influenced this particular development.

Concerning sheep, 140 of the farmers started with a stock of less than 10; however, this number has since

217

shown a decline of 20 percent. On the other hand, the proportion keeping between 10 and 49 sheep has increased appreciably from 1 at the start to 16 at the time of the survey; i.e., a 93.8 percent increase. None of the sheep-keepers started with a number between 50 and 99. Presently, however, there is one sheep-keeper within the 50-99 range. A similar trend is exhibited in other types of livestock production.

On the average, the proportion of livestock-keepers with less than 10 animals has declined by 20.2 percent. On the other hand, the number with between 10 and 49 units of livestock has increased by 78.1 percent. The increase in those with units of livestock above 49 has not been as large.

It would appear from the preceding that an expansion is taking place in the scale of livestock production. This is especially marked in poultry production. However, it must be pointed out that, overall, there appears to have been a decline of 3.8 percent in the number of persons engaged in livestock production.

We have singled out poultry-keeping for special discussion in the section which immediately follows. One important aspect of an Evaluation Survey is that it provides an opportunity to measure the degree and directions of change which are taking place in a social laboratory. We have done this by comparing the average number of animals that were kept by farmers in 1975 with averages at the time of the Evaluation Survey in 1977. The same has been done for poultry, sheep and goats, turkeys, rabbits, and ducks. Some changes occurred in the two-year interval. For example, the averages for sheeps and goats declined slightly, whilst in the case of ducks the decline was substantial (from 7 to 5.1). But regarding turkeys and rabbits, the increases were quite significant (from 5.0 to 5.7 and 6.7 to 10.2, respectively). When the detailed distribution is considered, the indications are that a few

218

larger farmers now operate in the area on a commercial basis through the GhRRM's encouragement.

One of the objectives of the Evaluation Survey was to ascertain the relative success of various types of livestock ventures. Towards this end, farmers were asked to indicate in order of success which of the ventures, in their opinion, had been most successful.

Poultry farming ranked as the most successful livestock venture with a weighted score of 209, representing 45.1 percent of the total score. Next was goat-rearing with a score of 144, equivalent to 24.1 percent of the total score. These are followed in decreasing order of success by sheep, duck, rabbit and turkey-raising; guinea-fowl and pig-rearing tied for seventh place.

Influence of the GhRRM

The most fundamental aim of the Evaluation Survey was to assess the GhRRM's influence in the MVSL. Livestock farmers were therefore requested to indicate whether or not the presence of the GhRRM has had any effect on their livestock production. There were 228 responses out of which a modest number of 28 (representing 12.3 percent of the total) stated "yes" while the remaining 200 (ie., 87.7 percent of the total) stated "no". Subsequently, the livestock keepers who responded "yes" were asked to indicate more specifically how the GhRRM has influenced their livestock production. Good feeding practices were mentioned 20 times (28.2 percent of the total number of times mentioned). Vaccination of chicks against disease was mentioned 18 times (equivalent to 25.4 percent of the total number of times mentioned). These are followed in decreasing order of importance by: help or advice in the construction of a new, specially-designed coop (17 times or 23.9 percent of total number of times) and other kinds of advice or help (10 times or 14 percent).

219

III. POULTRY FARMING

Poultry-farming is singled out for closer examination because more people are involved in it and because the GhRRM has been giving special encouragement to it. To further its aims in poultry-farming, the GhRRM has initiated the Farmer Scholar programme whereby each farmer who is taught the new method of poultry-keeping by the GhRRM is expected to teach five other farmers who, in turn, are each expected to teach five other farmers, etc.

Livestock farmers raising poultry were asked to indicate when they started or entered this business. Two of the respondents (2.6 percent of the total of 76 at the end of 1976) stated that they started poultry-farming before 1976. One entered the business in 1960-1961, another in 1963-1964 and two in each of the periods 1965-1967 and 1966-1970. There was an appreciable increase in 1971-73 when 11 persons (14.5 percent of the total number at the end of 1976) took to poultry-farming. But the figure then rose dramatically, by as much as 75 percent, in 1974-76 at the time of the GhRRM's work, when 57 new farmers entered the business.

Changes in the Stock of Poultry

Poultry raised in the MVSL are of three types: (a) the local or traditional, (b) the exotic or improved, and (c) a cross breed of the local and exotic. Although the local types are relatively more resistant to disease than the exotic, the latter are much more productive if proper medication and sanitation practices are pursued. When the two types are crossed, the product is at once fairly resistant to diseases and quite productive. The GhRRM has been encouraging the raising of both the exotic and cross breeds.

In order to obtain an idea of the relative changes that might be taking place in the stock of poultry, we requested that farmers state the type and number of poultry that

220

they started with, and the type and number that they held at present, i.e., when the Evaluation Survey was being conducted. It became evident from the responses that the majority of poultry farmers continue to keep local birds, although some have taken to the rearing of the exotic and cross breeds. Certain alarming changes are also evident in the numbers of poultry kept.

While 56 of the respondents started with a stock of less than 10 local birds, the present number stands at only 2 (i.e., a percentage decline of 96.4). Similarly the number of respondents having between 100 and 499 local birds shows a decline of 100 percent, from 1 to zero. The situation however remains unchanged with regard to those having the number of local birds in categories 10 to 49, 50 to 99, and over 500. Overall there is a decline of 84.6 percent in the number of respondents keeping the local breed of poultry.

The picture remains substantially the same with regard to the production of the exotic breeds and the crossed. One of the respondents started with a stock of less than 10 exotic birds. Presently there are none in this category. Likewise the number of respondents who started with between 100 and 499 exotic birds, and the number with over 500, show a decrease of 66.3 and 50.0 percent respectively. There are no changes in the categories 10 to 49 and 50 to 99. Overall the number of respondents involved in the raising of exotic birds shows a decline of 66.7 percent. The same holds true with regard to the crossbreed.

It is apparent from the preceding that the total number of poultry and the number of people involved in all the three types of poultry farming have declined dramatically. This problem, which appears to derive largely from the current serious shortage of poultry feed in the country, is most unfortunate. That the adverse feed situation has something to do with the negative trend in poultry pro-

duction is given further credibility by the large number of people who were entering the business between 1974 and 1976 before the on-set of the present feed shortage.

The above observations refer to the period before 1960 and the period between 1974 and 1976; as already stated, it is even more relevant to measure some of these changes against the baseline data which were collected in 1975. The period 1975 to 1977 is relatively too short a period to observe and expect any dramatic changes; nevertheless, in a micro-situation, once the people begin to accept the rationale and strategy of a programme, they are likely to sustain efforts in the desired direction.

In the field of poultry, comparing the baseline data with the evaluation data, the overall situation shows that there was a substantial increase in the average number of birds per farmer in 1977. In absolute terms, however, the number in 1977 (7292 birds) declined slightly relative to the figure in 1975, when it was 7384. The absolute decline is due to the large decline in the number of persons keeping these birds (520 farmers in 1975) compared with the number keeping birds in 1977 (269 farmers).

In the average terms also, the overall position shows that for all the 269 farmers, the average number of birds kept in 1977 was 23.2 compared with 14.2 birds in 1975. But the situation in 1977 has been distorted by the few farmers who were keeping very large numbers of birds on a commercial basis. Thus only 2 farmers, representing 0.7 percent of the total number, were keeping over 1,000 birds each, and yet they produced 28.1 percent of the entire produce. At the opposite end of the spectrum, one-third of the poultry-keeping farmers (33.8 percent) kept only 3.1 percent of the total bird population.

Hence a proper interpretation of the situation is that two things have happened:

222

- a) The total number of farmers keeping birds has declined; so has the average number of birds being kept by these farmers.
- b) Few large-scale farmers have emerged, producing poultry on a commercial scale in the area.

Interesting enough, the above pattern resembles the income distribution pattern in many developing countries; it is an asymmetrical U-shaped relationship, whereby only a small group own the greater portion of the poultry produce in an area.

Three possible reasons have been given by the field technical officer in charge of the MVSL's poultry section why some apparent declines were indicated by the Evaluation Survey.

In the first place, there have been increases in the cost of rearing poultry. It is clear that costs have doubled for most of the items required to start poultry work, whether for the construction of coops, for the purchase of chicks, or for feed. Indeed, some of the essential materials, such as feed, drugs, and the day-old chicks are hard to come by, whatever their cost. The field officer in charge of poultry estimates that the farmer needs to invest at least ₱1,000 at the start in order to raise 100 exotic broilers for three months. This is obviously beyond the resources of the average rural farmer. In 1974, according to this officer, a farmer would have needed only around ₱400 to raise the same number of birds.

Another reason is that the Evaluation Survey was conducted at a time when animals had been sold out by the farmers (especially for the 1976 Christmas Season). The lesson is that to evaluate programme areas like livestock production, which is a subsidiary occupation, it is necessary to perform evaluations seasonally, i.e., at the start of the poultry season and at the end of it, when sales begin. In an area like the MVSL, technical officers

223

can in fact keep monthly records for such evaluation exercises.

Influence of the GhRRM

The poultry farmers were asked certain questions about how the GhRRM has influenced their production. One question concerned the type of structure used in housing poultry. Six of the respondents (85.7 percent of the total of 7) house their poultry in structures modelled on the improved bamboo types introduced by the GhRRM at the Yensi Centre. The one remaining respondent continued to house his birds in the traditional manner. It is pertinent to note that the Yensi coop is inexpensive to construct because it is made of bamboo which is abundant in the MVSL.

Another way in which the GhRRM has been encouraging poultry production is to teach farmers the proper type of feed to use. Farmers were therefore asked to indicate the types of feed they use and to rank them in order of frequency of use. Their responses showed that most farmers give their birds any feed that they can provide. This kind of feeding practice ranks first with a percentage score of 53.1. The next most frequently pursued practice is to let the birds forage and fend for themselves (25.5 percent). The other practice, which ranks third with a percentage score of 16.3 is to give the birds specially-prepared commercial feed, as the GhRRM has been encouraging. Balanced Feed, specially prepared at the Yensi Centre, ranks last with a score of 4.1 percent.

A traditional poultry farmer could be influenced to adopt the GhRRM's modern programme of poultry-farming either directly by the GhRRM, or by other farmers. An attempt was made to isolate the two influences by asking farmers to rank the influence of the GhRRM as opposed to that of other farmers who have already adopted the new method of poultry-farming. The GhRRM ranked first

with a percentage score of 81.8. Other adopter/participating farmers ranked second with a score of 18.2 percent.

Finally the Evaluation Survey wanted to know the specific manner in which the Yensi Centre/GhRRM has contributed towards increased poultry production in the MVSL. Farmers were asked to rank seven factors in order of importance. The ranked responses were then weighted and re-ranked to arrive at a composite picture. "Increase in output or increase in the number of birds being raised" ranks first (27 percent), followed by "increased income" (24 percent), "improvement in marketing outlet" (17 percent), "improvement in transportation" (14 percent), and "lowered incidence of disease" (11 percent). The Yensi type of improved bamboo coop occupies the last but one position with a score of 5 percent, followed by "others" (2 percent).

IV. COOPERATIVES

Cooperatives provide an effective mechanism through which socio-economic development can be carried out on an extensive scale and through which the benefits of the development effort can reach a broad range of people. This is especially the case in developing countries where resources are scarce and small-scale operators predominate. The evaluation study therefore explored the extent of involvement of local people in the cooperative movement in the MVSL.

The question we asked: "Do you belong to any cooperative organization?" Only 142 or 12.7 percent replied in the affirmative; 78.8 percent said "no"; and 8.5 percent gave no response. Those not belonging to any cooperative organization gave various reasons for this. The most important, "It has not been started in my area" (24.3 percent); "I have not heard of it" (20.3 percent); "I am not interested" (16.4 percent); "I have no funds to pay dues" (10 percent); "My husband/wife is already a member"

225

(9.3 percent); and, "I have no time" (7.9 percent). About half of these however, said they had plans to join some form of cooperative in the near future.

The majority of those who had joined cooperatives belonged to consumer cooperatives (41.4 percent); farming cooperatives (20.4 percent); and credit unions (15.4 percent). Most of the cooperatives which they joined were located in their own village (47 percent) or a nearby village but within their own community (23.8 percent). About 75 percent who had joined cooperatives stated that they had done so between 1974 and January 1977. The major reasons given for joining a cooperative were: to procure essential commodities (31.4 percent); to get financial help in times of need (27 percent); and to help develop the village (12.4 percent).

The study then sought to determine whether those who had joined cooperatives had been influenced to do so by the GhRRM. The results indicated that 41.2 percent of those answering the question had in fact been influenced by the GhRRM. Asked to indicate what other types of cooperative societies they would like to have formed in their communities, respondents mentioned the following: Consumer Unions (46.8 percent); Farmers' Unions (38.5 percent); Drivers' Unions (7.7 percent); and Credit Unions (6.3 percent).

The data on cooperative organization therefore indicate that the idea of cooperation is still in its embryonic stage in the MVSL. However, it can be inferred from the fact that over half of the people had intentions to join cooperatives in the future that this is a fertile area for the GhRRM to exert its influence. Thus the Movement should be encouraged to intensify its educational efforts and impress upon local people the benefits of membership in cooperatives.

226

V. COTTAGE INDUSTRIES

There is now a growing recognition that small-scale industries are not just an urban phenomenon, but are also an important component of rural development. It is generally believed that rural or cottage industries can create additional job opportunities for unemployed and under-employed rural folk, reduce the outflow of labour from rural areas to urban centres, and encourage the efficient and optimum utilization of local raw materials and rural resources.

Our survey showed that basket-weaving was the single most important cottage industry in the MVSL (49.6 percent of respondents engaging in this activity), bamboo craft was next (18 percent), and then mat-making (11.5 percent) and knitting (9.4 percent). It appears, however, that these industries are a secondary occupation or a spare-time activity. This is because about 70 percent indicated that for the whole of the previous year (1976) they spent, on the average, less than 50 days engaged in these industries. Only 12.2 percent of those who were engaged in some form of cottage industry stated that they had marketing problems. Those with marketing problems mentioned the difficulty in getting transport (15), the poor state of the roads (1), and the low prices for finished products (1).

VI. CREDIT FACILITIES AND UTILIZATION

The importance of credit in any programme of rural agricultural development is obvious. One of the cardinal objectives of rural development is to increase agricultural production and productivity. This can take place only if adequate relevant inputs and improved methods are provided and utilized. In a developing country like Ghana, where average holdings are small and capacity to save is extremely limited, provision of credit assumes added significance. Indeed, it is often argued that the level of earn-

227

ings of most operators in Ghana is so low that unless some form of credit scheme is available to help them financially, they will not be able to adopt modern practices. Thus credit provision should be effectively coordinated with effective supervision and extension services to enable the small operator to increase his productivity.

The present study therefore sought data on the efforts of villagers to obtain credit, the extent of borrowing or lending, the terms and conditions on which credit operations were conducted, and the sources of credit.

To the question, "Did you borrow any money last year?" only 44 (3.9 percent) of the respondents replied in the affirmative. According to the Baseline Survey only 8.1 percent of the 544 persons interviewed on the subject had borrowed money during the year previous to the survey. This would suggest that only a small group of people borrow money, and that this group is declining. As a check on these figures, farmers were asked in both the Baseline Survey and Evaluation Survey to indicate whether they themselves lent money to someone. Their responses confirmed that borrowing was rarely resorted to in the area. Only 9.2 percent of the Baseline Survey respondents had lent money to someone in the previous year and only 2 percent had done so at the time of the Evaluation Survey. In both surveys, however, the non-response rate was high, indicating that many villagers do not care to discuss the matter.

Of the 44 persons who had borrowed money at the time of the Evaluation Survey, 56.8 percent indicated that the amount borrowed was less than one hundred cedis; indeed, only one person had borrowed more than five hundred cedis. The average amount borrowed was ₵117.6. The majority (65.9 percent) of the farmers who had borrowed money the previous year stated that they had secured the loan for farming; 9.1 percent indicated that they had used the money to repay an old debt. Since the Baseline

228

Survey showed that only one-fifth of respondents had used their loans for farming, the Evaluation Survey indicates a significant change in borrowing purposes. Similarly, the proportion using loans to settle personal problems and debts had declined from 27.5 percent during the Baseline Survey to 9.1 percent at the time of the Evaluation Survey. Only one person indicated that the money was used to build a house, and (incidentally) no one said specifically that he had borrowed to pay for a funeral.

The majority of these respondents had received their loans from friends (36.4 percent) and relatives (29.5 percent), just as was found by the Baseline Survey (i.e., 50.0 percent friends, and 32.7 percent relatives). Only two respondents stated that they had secured their loans from the Agricultural Development Bank (A.D.B.). For about half of the borrowers, the loans were interest-free. For the remaining 50 percent who had to pay interest on their loan, 54.5 percent paid less than 10 percent interest on their loans and the remaining 45.5 percent had to pay an interest of more than 10 percent. Most of the loans could be called short-term loans because 92.1 percent indicated they had to repay the loan within a year (usually at the end of the crop season). With regard to the mode of repayment, 87.8 percent stated that they would pay in cash; 4.9 percent would pay in kind, and 4.9 percent would pay partly in cash and partly in kind. About 21.2 percent indicated that they had to give some kind of collateral before the loan was granted; the securities given were a cocoa farm and land.

The result of this study therefore revealed that credit utilization in the MVSL is minimal. Traditional, non-institutional sources of credit continue to be the major source of loans for business purposes. Perhaps the GhRRM should seek to educate the people of the MVSL on the important role credit can play in their business activities and inform them of the various credit institutions which

229

exist in the country to cater to the needs of the small-scale, low-income farmer.

VI. EDUCATION AND CULTURE

Literacy Classes

Literacy classes are held in only one village in the MVSL. These classes are organized by the GhRRM at Sokoda Guaso. The class was started in January, 1977, only one month before the Evaluation Survey was conducted. It had an initial enrollment of 20 students. Only 7 percent of respondents knew of the existence of these classes, which are held weekly in the evening. Few students (only 6.4 percent) attend classes regularly, a situation which if allowed to persist might ruin the classes.

Respondents gave several reasons for not enrolling: 38.6 percent cited the distance between their village and the place where classes were held; they would be willing to enroll if classes were organized in their own village or nearby. Others said they already could read and write and so did not require further education; a few said they were too old to benefit from reading and writing or that they were simply not interested in adult literacy classes. Another group said they could not afford the time; after a hard day's work they needed to attend to domestic matters. The percentage distribution of persons who attend classes was 6.6 percent for males and 7.4 percent for females.

When those who attend classes were asked about their expectations or what they hoped to gain from them, 94 percent could not give any specific reason. Twelve respondents said they hoped to be literate; one person said he hoped to be self-reliant as a result of the acquisition of reading and writing skills; and two hoped to be able to teach others so as to raise the level of literacy among the rural folk. A few of those who attend literacy classes consider themselves as more useful citizens of their com-

munities because they can now read and write. They have acquired more knowledge through association with their teachers and fellow students and are now able to teach others.

Respondents were asked to list other educational facilities needed in the MVSL. The majority (23 percent) said more school buildings are needed; 5.3 percent mentioned cultural and recreational facilities; 6.7 percent asked for other educational facilities, for example, day nurseries for young children, more middle schools, and a secondary school to serve the area; 12.6 percent suggested mass education classes which would cater to functional education; 5.0 percent asked for facilities at which they could acquire trade and technical skills; and 0.5 percent mentioned agricultural extension services.

The list of requests shows that the people want more knowledge and skills than just the ability to read and write.

Cultural and Sporting Activities

The Evaluation Survey showed that during the past two years 37.9 percent have joined cultural groups. The breakdown is 41.2 percent males and 35.1 percent females. Although 54 percent have not joined any group, it is not clear whether this includes persons who were already members of various *agoru* (cultural) groups before the Evaluation Survey as well as persons who have never been members of any group. The 1975 Baseline Survey found 38.1 percent respondents as members of cultural groups. Assuming these persons have retained their membership, then we may conclude that about three-fourths of the persons in the MVSL belong to *agoru* groups.

An interesting feature of the new membership in these groups is that the percentage share of female membership has increased. The distribution between the sexes in the Baseline Survey was 43.9 percent males and 33.0

percent females; in the Evaluation Survey the distribution became 41.2 percent males and 35.1 percent females. Assuming old members are still active, this would suggest a considerable increase in the number of women involved in cultural groups.

Dancing continues to be the most attractive and popular cultural activity among the inhabitants of the MVSL. Fully 34.6 percent of 540 respondents who joined *agoru* groups during the period under review are dancers. The percentage of drummers shows a slight increase over what existed during the Baseline Survey. Among the 540 new members listed, 20.4 percent joined as drummers, whereas drummers in the Baseline Survey accounted for 18.1 percent. Dancers and drummers together represent a little over half of the 540 new membership of the *agoru* groups.

Another increase is noticed with the number of musicians. In the Baseline Survey, only 3.1 percent of respondents were said to be musicians; i.e., persons who can play indigenous and foreign musical instruments. In the Evaluation Survey 11.3 percent of the new membership of *agoru* groups play various assortments of foreign and indigenous musical instruments. This shows a percentage point increase of 8.1 percent. It appears from this picture that relatively a greater proportion of people are now tending to show interest in the playing of musical instruments as a result of the impact of the GhRRM activities in the field of cultural activities. The former situation might be due to a lack of teachers, a deficiency which is now being corrected by the GhRRM.

In the field of sports and games, football appears to have attracted more enthusiasts than other activities. During the past two-year period, football attracted 40.8 percent of 441 respondents. Football is one area where the impact of the GhRRM has been strongly felt. New football teams have been established and regular matches are organised, especially on Saturdays and Sundays. Play-

ers and their supporters at times walk long distances to engage in these competitions and the matches attract many spectators.

Organized Youth Movements.

In the Baseline Survey it was discovered that no organized Youth Movements existed in the MVSL. Members of such movements joined them in towns outside the MVSL. The Evaluation Survey shows that the situation remains unchanged because these movements still have no branches in the MVSL. Less than 5 percent of 1114 respondents in the Evaluation Survey have joined youth organizations since 1975. The percentage distribution is as follows: Boy Scouts (2.6 percent), Red Cross (0.7), Village Youth Association (0.7), and other groups (0.2).

The Village Youth Association appears to be an organization of recent origin. It was not in existence at the time of the Baseline Survey. Some of the organizations discovered in the Baseline Survey have not attracted any appreciable number of new members: Girl Guides, St. John's Ambulance Brigade, Y.W.C.A., Voluntary Work Camp Association. The Boy Scouts Association remains the most attractive organization for boys, possibly because of its paramilitary structure and because it engages in adventurous activities. Eight persons had joined the Red Cross; four females had joined the Girl Guides; 29 boys had joined the Boy Scouts; and eight persons had joined the Village Youth Association.

Respondents gave a number of benefits they derive from membership in these associations, but the two most important ones are recreational and companionship. Others include the acquisition of useful knowledge (e.g., first aid). One female got a husband through joining an association; two persons had cultivated the spirit of courage; 23 persons had experienced a spirit of unity and love; 33 had benefited from recreational activities; two had acquired

233

more knowledge; two had got to know more people; one had learned first aid lessons; and 13 persons said they had gained nothing.

Civic Responsibility

People in the MVSL generally hold positive attitudes towards self-help projects and communal labour. Only 1.3 percent of all respondents appeared indifferent to them, and another 4.8 percent held negative attitudes. The rest of the 1114 respondents (93.9 percent) strongly supported the traditional idea of offering free labour for development projects.

During the past two years, 75.5 percent of 1116 respondents participated in communal labour. The sex distribution was 78.3 percent males (520) and 73.2 percent females (596). The percentage for male participants was slightly higher than that for females, owing to the home-orientation of women and the fact that men do other things for the community. Both males and females seem to be equally attracted to communal labour.

The projects undertaken by participants were largely directed towards the improvement of the sanitary conditions in the villages. These activities included keeping the village clean (weeding, sweeping, burning of litter and other rubbish, and picking up empty tins and broken bottles), cutting down bush around the village, and keeping the sources of water clean.

Among respondents who did not take part in communal labour, 14.3 percent explained that they were simply not interested in the projects undertaken; 12.7 percent said they would not receive any direct benefit from such projects; 12.7 percent stated that such projects wasted time and they could ill afford to spend their time unprofitably; 14.7 percent said they were unable to take part because of their age; i.e., they were either too young or too old; and 11.1 percent said they did not have the oppor-

tunity to engage in them because such projects were not organised in their villages. On the whole, apart from those who did not have the opportunity to participate, and those who could not participate on the grounds of age, the reasons given by the others reveal an attitude of civic irresponsibility.

VII. ENVIRONMENT AND HEALTH

One of the main objectives of the GhRRM is to find ways to improve the environmental and health conditions of the people of the MVSL. Under the health programme, the aim is specifically to combat disease through immunization, health education, clinics, family planning, nutrition, maternity and child care, and environmental sanitation. The evaluation study therefore tried to find out the environmental and health conditions of the people of the MVSL, their health behaviour in times of illness, their attitude towards fertility and family size, and their knowledge and practice of family planning.

GhRRM Health Inputs

Before we discuss the results of the survey, some of the health inputs introduced to the MVSL by the GhRRM in the past two to three years should be indicated.

The GhRRM has introduced Health Centres in the following seven villages of the MVSL: Yensi Centre, Kokormu, Otwetiri, Mampong-Nkwanta, Adanya, Bewase, Kwamoso. The Movement health team has also operated partially at Yensiso village.

Clinics are held twice a month in each village; in addition, the health team, consisting of two community health nurses and two assistants, also visit each village twice a month to offer health/sanitation/environmental extension services. The GhRRM team is training its own health nurses; in due course they will be available to strengthen the team now in the field. A medical doctor (Professor

D. A. Ampofo, the Movement's Vice-President) occasionally visits the clinics. The GhRRM clinics are intended to be no more than health posts; serious cases are referred to the Tetteh Quashie Memorial Hospital at Mampong.

The Evaluation Survey organized health data under five broad categories: (a) Environmental Aspects; (b) Water Facilities and Use; (c) Utilization of Health Services; (d) Health Education; and (e) Maternal-Child Health and Family Planning.

Environmental Aspects

The study investigated several aspects of the state of the home environment of the population in an attempt to identify changes which may have occurred since GhRRM entered the area. The main areas considered were: housing, ventilation, the toilet system, bathroom, kitchen, compound, backyard, and the storage and disposal of household refuse.

Housing. In order to assess the changes villagers had made to their housing structures, we asked them to indicate whether they had made any renovations to their house during the past two years. A little over 27 percent of the respondents had done so. About 5 percent of the 299 respondents had added louvres; while 45 percent of 307 respondents had added more rooms to their houses. Of 295 respondents, 32 percent had cemented their floors, 17.6 percent of 295 respondents had roofed their houses with corrugated iron sheets, 18.1 percent of 299 respondents had painted the walls of their houses, and 3.4 percent of 294 respondents had ceiled [sic] the roof of their sleeping rooms.

Ventilation. There is no denying the fact that good ventilation in one's place of abode is necessary to maintain good health; correspondingly, poor ventilation can be a serious cause of the spread and perpetuation of respiratory disease within the household. The data from the evalua-

236

tion study, however, indicated that only 15.8 percent of the houses had windows which were considered to be airy and well-constructed. Most of the houses had neither windows nor vents (61.8 percent); in those having windows, the windows were small (13.8 percent), barred (2.7 percent) or always closed (3.5 percent).

The situation with small and closed windows had not changed much from the time of the Baseline Survey. The proportion shown to be without windows or vents, however, has risen considerably (61.8 percent compared with the Baseline Survey's 45.9 percent). One cannot assign any particular reason to this: Does this reflect the true position or only the subjective observation of the interviewers? Whatever the case, it is clear that ventilation still is not adequate in many of the rooms of people in the MVSL and that this should affect their health.

The Toilet System. The most widely used type of toilet system in the MVSL is the pit latrine, which is communally used by the inhabitants of a particular village. Only 73 persons, representing about 6.6 percent of 1114 respondents, had toilets for the exclusive use of their household (54.8 percent in the house and 34.2 percent outside the house with 11 percent not answering); the rest shared toilets with other households. On the whole (79.6 percent), the hygienic conditions of the public latrines were considered clean; this result is to be compared with the 1975 Baseline Survey, where 65.8 percent of pit latrines were considered clean.

Bathroom. The Baseline Survey of 1975 had reported that 70.3 percent of households in the MVSL had bathrooms which were considered clean but that only 3.6 percent of households had their own bathrooms. In this Evaluation Study the results indicate that 89.5 percent of the households were considered as having bathrooms which were clean and only 17.2 percent had their own bathrooms. It

would seem that the usual practice is for all households in a house to share one bathroom.

Kitchen. An index of the standard of hygiene of a people is the cleanliness of their kitchens. This study indicates that most (81.1 percent) of the kitchens in the MVSL were kept clean (in comparison with the 1975 Baseline Survey's 78.1 percent). About 68.8 percent were roofed (versus 75.6 percent in the Baseline Survey) and about 49.6 percent were enclosed (versus the Baseline Survey's 55.2 percent). Almost 75 percent of the kitchens were constructed as part of the main body of the house or were located somewhere in the house (in contrast with the Baseline Survey's result of 80.5 percent), although only 35.8 percent of the households had their own kitchen (the Baseline Survey's result was 59.6 percent).

Household Surroundings. The surroundings of households were generally considered to be satisfactory and clean. The results indicate that the compounds of 96.6 percent of the households were considered to be clean (versus the Baseline Survey's result of 86.7 percent), with an equally high percentage (96.8 percent) of the backyards of these households also reported to be in similar clean condition (The Baseline Survey result was 74.5 percent).

Refuse Disposal. Another indicator of the health status of a people is the way they dispose of their refuse. Respondents were therefore asked to indicate where they stored their refuse before final disposal. The data indicate that more than half (55.4 percent) stored refuse in an uncovered receptacle or container (the Baseline Survey's result was 48.3 percent); 16 percent stored it in covered containers (the Baseline Survey's result was 10 percent), and 19.8 percent kept it on the floor around the house.

With regard to the final disposal of refuse, 62.6 percent of respondents indicated that the refuse was thrown around [i.e., nearby] the house or somewhere in the village; 21 percent disposed of the refuse by putting it in a pit

specifically dug for the purpose; and 11.3 percent disposed of it in a public incinerator. The disposal of refuse by the households in the MVSL is almost a daily activity; 96.9 percent of the households empty their receptacles daily (as compared with a Baseline Survey result of 77 percent in 1975).

Water Facilities and Use

Good drinking water is generally a problem in Ghana's rural areas and the MVSL is no exception. The results of the Evaluation Survey indicate that only 1.8 percent of respondents in the survey area had access to pipe-borne water. The majority of the respondents used their river or stream water (41 percent as their first water source; 6 percent as their second water source; 2.7 percent as their third). Other sources were: public well (29.8 percent as their first source; 10.4 percent as their second source; 3.1 as their third source); borehole with pump (6.9 percent as their first source and only 0.8 and 0.9 percent as their second and third sources); and pipeborne water in house or from public stand (2.7 percent as their first source; 0.1 percent as their second source).

On the whole it can be said that the source of water supply in the MVSL is not safe because the water has not been treated; the inhabitants are therefore prone to water-borne disease. Most of the respondents (79.2 percent), however, indicated that they stored their water in covered receptacles to avoid being contaminated. This may be compared with 18.3 percent who stored it in open or uncovered containers.

Boiling of Water. As part of the GhRRM's health programme, field staff have been educating the inhabitants of the MVSL in the importance of maintaining a high standard of hygiene in order to prevent communicable diseases. One of their activities has been to encourage the people to boil water before drinking. However, as the results in-

239

dicade, only about 15.8 percent of 1117 respondents have so far adopted this practice; 80.5 percent have not, and the rest (3.7 percent) gave no indication one way or the other.

Getting Water from Container. Another practice which is being promoted by the GhRRM in the MVSL is that drinking water should be either poured out from the container in which it is stored or drained through taps affixed to these containers. As the GhRRM sees it, the traditional method of dipping a cup or calabash into the container to fetch water is not hygienic, since a dirty cup may pollute the water. Unfortunately, however, the great majority of respondents (92.1 percent) continue to follow the old practice; nevertheless a start has been made and 19 of the 1117 respondents say they drain out the water from a tap and 10 respondents say they pour out the water.

Washing of Hands Before Eating. To the question, "Do you wash your hands with water before eating?", 97.3 percent of the respondents replied in the affirmative. Asked to indicate the source of the adoption of this practice, the great majority of them indicated that they had learned it during infancy, through their parents and grandparents and/or through their school teacher. When specifically asked whether they had adopted this practice because of the GhRRM's health programme, only 2.3 percent replied in the affirmative, with 94.1 percent indicating an emphatic "no".

Utilization of Health Services

The Evaluation Survey considered various aspects of the utilization of health services, such as the choice of medical care in the event of illness, the types of illness normally referred to hospital or clinic, and how these illnesses are treated.

The data indicate that the vast majority (91.9 percent) preferred going to the hospital or clinic when they got sick (the Baseline Survey's result was 88 percent). Indeed, only 5.3 percent indicated that they would first consult a traditional medical practitioner such as a native doctor, herbalist, or fetish priest in the event of illness. For the treatment of most diseases, the first reaction for most respondents was to seek hospital treatment. However, in the case of a bone fracture or mental disturbance, the majority of respondents indicated that they would normally seek traditional therapy from herbalists and fetish priests.

The general influence of the GhRRM on the health practices of the households was quite pronounced: Of 715 respondents, 460 said that the GhRRM had had an influence on the health practices of their households. The remaining 35.7 percent said that the Movement has not had any influence. Asked to indicate the type of influence the GhRRM has had on the health practices of their households, the most frequently mentioned influences were: medical treatment for children (29.7 percent); environmental sanitation (15.8 percent); better medical treatment (9.3 percent); neatness or personal hygiene (8.8 percent); and balanced diet for both adults and children (8.4 percent).

Health Education

The GhRRM considers health education as an important element of its health programme. In this connection, the Movement has mounted programmes aimed at educating MVSL inhabitants on various aspects of sanitation through baby clinics, mothers' classes, and health education talks. The Evaluation Survey therefore sought to determine how effective these activities have been and the extent of local involvement in them. This inquiry was limited to women aged 12 years and over.

Only 20.8 percent of the 596 respondents indicated that they had heard about the Mothers' class organized by the

241

GhRRM. Out of the 124 respondents who had heard of the class, only 35 (27.2 percent) had actually registered for the class.

About 70 percent stated that they had heard of the baby clinics. However, only 25.3 percent of the respondents indicated that they had heard of the health education talks organized by the GhRRM and, at the time of the Evaluation Study, only 12.8 percent of the respondents had attended these talks. Asked to indicate why they did not attend the talks, over half (51.7 percent) stated that they were not aware of the existence of the talks. Perhaps the GhRRM should take a cue from this and intensify its field operations, especially with regards to the organization of the Mothers' class and the Health Education Talks.

Maternal-Child Health and Family Planning

In times of pregnancy, the great majority of the respondents (83 percent) were looked after by doctors, midwives, and nurses at the hospital and clinic. A few, however, still went to traditional health practitioners such as the traditional midwife (1.8 percent), the native doctor or herbalist (9 percent), and the fetish priests (2 percent). Only 0.6 percent reported that they went to spiritualists to solicit help in their period of pregnancy.

The mode of delivery of the babies in the MVSL was typical of rural Ghana. The data indicate that only 29.7 percent of deliveries were conducted by trained midwives and hospital staff. This result is virtually identical to the result obtained by the Baseline Survey in 1975, which reported a figure of 29.8 percent. As in 1975, much of the responsibility for the delivery of babies is still being shouldered by the traditional birth attendant or relatives of the pregnant woman.

Family Planning Practice and Interest

Prolific child bearing is encouraged in traditionally-oriented Ghanaian society, where the social and political

242

institutions make it not only possible, but also desirable and praiseworthy, for a woman to bear children all through her reproductive years. The Evaluation Survey therefore tried to find out the size of family most persons in the MVSL would prefer. The results indicated that 51.3 percent of the respondents would like to have between four and six children. Indeed, only 13.7 percent would like to have "up to three" children. The average number of children women would like to have worked out to be 5.4. As was reported in the Baseline Survey, it seems that the concept of the small family has not yet been accepted by women in the MVSL.

Evaluators also inquired: "Have you heard about family planning? Of 591 respondents, 51.6 percent answered in the affirmative. However, when asked whether they were interested in family planning, only 30.3 percent out of 577 respondents indicated their interest in the practice, and even a smaller proportion (16.5 percent) indicated that they were actually practising family planning. The results could be compared with those of the Baseline Survey which reported that 44 percent of respondents were interested in family planning and 10.6 percent were actually practising it. Of the 218 people who were asked whether they were actually practising family planning, only 36 answered "yes". The majority of these (67.6 percent) had started doing so between 1975 and January 1977.

Asked to indicate the source of their information on family planning, 27.4 percent indicated that they had heard about it from the hospital; 21.4 percent had learned about it through the radio; and 19.8 percent had learned about it from friends. The findings of this study are in agreement with those of the 1975 Baseline Study which reported the figures of 37.2 percent, 30.2 percent, and 20.9 percent for hospital, radio, and friends respectively. This study therefore endorses the earlier observations that (a) person-to-person communication of family planning is

243

the best method; (b) where illiteracy level is high the newspapers in English are most ineffective, and (c) one of the effective ways of disseminating information on family planning is the radio.

Health Services Required

In order to find out from the people what should be the essential elements in the GhRRM's health programme in the MVSL, they were asked to indicate which services they would like the GhRRM to provide in their communities. The facilities most frequently mentioned were: hospital/health-post/clinic, 59.5 percent; good drinking water, 15.8 percent; and the provision of qualified midwives, 8.8 percent.

The 1975 Baseline Survey observed that people made extensive use of the modern hospitals/clinics at the nearby towns of Mampong and Koforidua. It would seem from the Evaluation Study that people now want these health facilities in their own communities to facilitate attendance. The implication is that proximity to these clinics will increase use of the facilities.

VIII. THE IMPACT OF THE GhRRM

The attitude of the recipient population towards any projects or programmes designed to improve their working and living conditions should be assessed in any evaluation or monitoring exercise. Indeed, the effective use of local development capacity and supportive behaviour can in the long run prove to be the most important factor in the successful implementation of development projects. In the final analysis it is the recipient population who are either the victims or the beneficiaries of any development project. Therefore, an attempt was made to find out what the villagers thought has been the impact of the GhRRM's programme in their communities.

244

The Impact of the GhRRM Programme

The respondents were first asked to indicate whether they had heard of the MVSL: 83.8 percent stated that they had. In order to determine how familiar they were with the MVSL, respondents were asked to indicate some of the GhRRM's activities in the Social Laboratory. The most frequently mentioned activities were: The teaching of poultry farming, 38.8 percent; reconstruction of what is in the area, 23.5 percent; provision of health services, 12.7 percent; and teaching of livestock farming, 10.1 percent. Only 1.4 percent of those who had heard of the MVSL did not have any idea what the GhRRM was doing in the area. It is clear that the Movement's poultry and livestock programmes have caught the eye of more people than the other programmes, although its health programme was often mentioned.

Respondents were next asked to indicate whether the various activities introduced by the GhRRM in the MVSL had had any impact on the working and living conditions of people in the area. About 68.5 percent felt that the GhRRM had made an impact in their local community. On the other hand, about 19.6 percent said that the Movement had not had any impact. Asked to explain why they thought the GhRRM had not had any impact, almost half of this group could not give any plausible explanation. However, the most frequently mentioned reason given was that they had not derived any personal benefit from the establishment of the MVSL. Indeed, 45.7 percent of the responses gave this reason. The implication is that studies should distinguish community impact from the impact which a programme has on the individual respondent.

Among those who stated that the GhRRM had had an impact in the area, 83.9 percent stated that the impact was positive. The most frequently mentioned positive effects of the GhRRM's programme were:

245

Provision of health services	31.8 percent
Assistance to farmers to adopt better methods of farming	20.3 percent
Establishment of cooperative societies	9.4 percent
Introduction of literacy classes for farmers	8.4 percent
Improvement in their civic responsibility	5.0 percent

Only 1.7 percent of the respondents (i.e., 15) were categorical in their assertion that the MVSL had had a negative impact on the lives of the villagers. Of these, eight were able to mention a specific negative effect: (1) "They don't care of [about] any farming advancement of the villagers"; (2) "Poultry farming has not been provided"; and (3) "Livestock has not been provided." These respondents should be a target group for more education and extension service so as to make them more aware of the GhRRM's programmes and their benefits.

The evaluation study further tried to find out from the population which aspects of the integrated four-fold programme of the GhRRM were felt to have been relatively unsuccessful. Respondents were asked to rank (on a scale of one to four) the various aspects of the programme in order of success, first for the individual inhabitants and then for the community as a whole. In order to clearly establish rankings for the various programme components, weightages were assigned to the various responses as follows: Those ranked highest on the scale were given a weight of 4, progressively descending to those ranked last (fourth) on the scale of success, which were given a weight of 1. These weightages were then multiplied by the number of scores in each rank and a total rank score for each activity was obtained. Results in the table below indicate the various scores that were obtained for the activities both for the individual inhabitants and for the community as a whole.

246

Success Rankings for the GhRRM Programme Components

Programme	For Individual	For Community	Average
Livelihood	2,035	1,685	1,860
Health	3,027	2,855	2,941
Education	1,723	1,814	1,768.5
Civic Responsibility	1,317	1,656	1,486.5

These results suggest that the Movement's health programme is adjudged to be the most successful. This was followed by the programmes for Livelihood, Education, and Civic Responsibility, in that order.

Future GhRRM Activities

In order to ensure that the GhRRM continues to play an important role in the MVSL, respondents were asked to suggest what other services they would like the GhRRM to perform in their localities. The results indicated that an overwhelming majority wanted various social services and amenities in their localities, such as more schools and markets (28.9 percent), good drinking water (18.9 percent), hospitals/clinics (21.2 percent), and other infrastructure like roads.

The use of local knowledge and expertise as well as individual contributions of all kinds are known to have contributed greatly to the successful implementation of rural development projects and programmes in many places. In this evaluation exercise, an attempt was made to find out what the respondents thought they as individuals could do to help further the work of the GhRRM in the MVSL. The most frequently mentioned contributions were: voluntary services, 22.8 percent; communal labour, 22.6 percent; provision of food, 13.8 percent; the contribution of funds toward projects, 13.3 percent; and work in the GhRRM's poultry farms, 9.6 percent. A few (8.6 percent) offered to serve as voluntary agents to in-

form, educate, and propagate the message of the Movement to others in the area; this is significant in light of the aims and objectives of the GhRRM and the spirit behind the offer.

Respondents were also asked to indicate what they thought their local communities should do to help further the aims of the Movement. Again, the provision of voluntary services (61.9 percent), communal labour, (13.2 percent), the contribution of funds (12.8 percent), and the supply of foodstuffs (2.2 percent) were the most frequently mentioned contributions.

Finally, respondents were asked to make suggestions which they thought would help the GhRRM to improve the assistance it was giving to their communities. The major suggestion was that more social services and amenities be provided. In this regard, the most frequently mentioned amenities were health posts and good drinking water (22.5 percent), schools and post offices (20.9 percent), and better transport facilities (8.8 percent). Significantly, about 16.1 percent of the respondents said they would like GhRRM field operators to live together with them (presumably in order to improve their assistance to the people). This last suggestion is in consonance with the famous motto of the GhRRM which states:

Go to the people;
Live among them;
Plan with them;
Start with what they know;
Build on what they have.

248

1. Integrated Rural Development

The workshop discussed at length the concept of integration, with special reference to rural development, and agreed on the following definition:

Integrated rural development is the multi-sectoral or the fully comprehensive approach which purports to deal with every aspect of rural life. The basic assumption underlying this approach is that rural programmes should be planned and implemented at the local, district, and regional levels within the framework of an overall national development plan.

Objectives

Integrated rural development aims generally at the attainment of the following objectives:

1. **Economic Development, which aims at:**
 - (a) Increasing productivity;
 - (b) Increasing income;
 - (c) Ensuring equitable distribution of income, participation in economic activity, and productive employment by all sectors;
 - (d) Proper utilization of local resources including the management of land improvement and basic social and economic infrastructure; and

249

- (e) Popular participation in decision-making, planning, implementation, and evaluation by all sectors of the community.
2. **Social Development**, which aims at:
 - (a) Improving the social conditions of the people; and
 - (b) Bringing about desirable social change commensurate with the development of material resources.
 3. **Educational and Cultural Development**, which aims at equipping the rural population with the means to attain the goals of economic and social development. This requires a clear understanding of the environment.
 4. **Political Development**, which aims at awakening their political consciousness and releasing them from their civic inertia.

Prerequisites

The following prerequisites are necessary before the aims and objectives enumerated above can be achieved, *viz*:

- a) **Philosophy and commitment**: There should be a national policy stating clearly how the nation plans to help raise the standard of living of her rural folks.
- b) **Coordination**: There should be coordination at all levels of the various agencies involved in rural work. Since each agency has its own priorities and limitations, constant meetings among the various agencies will facilitate coordination and joint action.
- c) **All the agencies involved in rural development should be mobilized for the purpose of development with the full participation of the local people.**
- d) **Rural development should not be treated in isolation, but should be viewed as an integrated part**

of the whole national development process. However, due to the existing serious imbalance between the urban and rural areas, greater emphasis should initially be placed on the rural areas.

Recommendations

For any viable integrated rural development programme to function properly, the workshop recommends the following:

1. That man should be the focal point in the whole process of development and all available resources should be geared towards this objective.
2. That the rural folks should be involved at all levels of decision-making, planning, implementation, and evaluation.
3. That there should be interdepartmental cooperation which can be achieved through regular meetings and consultations among the various departments. In addition there should be orientation courses for those involved in the programme. To further enhance community spirit, all agents or officials should be involved in decision-making, planning, implementation, and evaluation.

2. Strategies of Rural Development

The workshop defined rural development operationally as the elimination of the "unholy quartet," *viz.*, poverty, disease, ignorance, and illiteracy. It was noted that measures directed towards the reduction or elimination of these four problems should, therefore, be the strategies of Rural Development.

Goals

Specifically, the goal of rural development is to reduce

or eliminate poverty, disease, ignorance, and illiteracy in the rural areas.

The aims of rural development could, however, be generally stated as follows:

- i) To raise the quality of life of the people.
- ii) To reduce the inequality in the standard of living between the people in the rural areas, on the one hand, and people in urban or more developed areas, on the other.
- iii) To reduce the inequality in the standard of living among the rural people themselves by providing equal opportunities to all in self-determination and development.

Strategies

The main approaches or strategies to rural development observed were: i) the Social Amenity Approach, and ii) the Increased Productivity Approach.

These two approaches were found not to be suitable because they were thought to be one-tier strategies which did not take into account the multi-faceted nature of rural development.

It was observed that for any meaningful development to take place in the rural areas, a multi-faceted approach should be adopted to tackle all the spheres of human activity. The workshop therefore recommended that an integrated approach to rural development should be adopted covering the spheres of poverty, disease, illiteracy, low-level of consciousness, and apathy. All these should be tackled concurrently and together, for the whole is greater than the sum of its parts.

The approach should be *not* to solve the problems for the people, but to create in them the motivation and capacity to solve their own problems.

252

It was also suggested that this approach would work only when the problem was tackled at the grass-roots level; that is, at the local or community level. This, however, should not compete with an overall national policy or a government decision to implement certain development projects at the rural areas from the top. Decisions could be taken anywhere and at any level, but the people whom the projects would affect should be consulted before any decisions were taken and should directly participate in the implementation of any project.

Even though it is suggested that rural development should be planned and implemented at the local level, it should form part of an overall national development policy with a consistent ideology.

The following should be given special emphasis in the development plan:

- 1) Increase in productivity through the teaching of better methods of production and the introduction of new and simple rural industries.
- 2) Improvement in the health status of the people with emphasis on environmental sanitation, personal hygiene, and health education.
- 3) Introduction of literacy and civic education.
- 4) Improvement in transport and communications.
- 5) Improvement in housing conditions.
- 6) Provision of social amenities and basic necessities like good drinking water, electricity, and clinics.
- 7) Introduction of cooperatives.

3. Problems of Rural Development Programmes in Ghana

The workshop identified many areas which, in one way or another, constitute constraints in the implementation of rural development programmes in the country. The

25??

problems were subdivided into five major categories:

1. Administrative Constraints

- a) A lack of a national policy with a consistent strategy and ideology.
- b) Top-bottom planning and design procedures which do not involve the target population.
- c) A large number of institutions, agencies, and organizations being involved in rural development which results in isolated programmes which fail to achieve the desired objectives.
- d) Poor coordination and conflicts among the many agencies involved in rural development.
- e) Incompetent and inadequate personnel to implement rural development programmes.

2. Political Constraints

- a) Political decisions resulting in locating projects in wrong environments.
- b) Changes in Government which are accompanied by an abandonment and neglect of programmes already started owing to changes in policy priorities.
- c) The youths, and women, who are called upon to contribute their labour to the implementation of projects, are often not included in decision-making at the local level.

3. Social Constraints

- a) Rural development workers do not show adequate commitment to the programmes being implemented.
- b) Attitudes and values, as well as the needs and aspirations of the target people, tend to conflict with projects and their design.

254

- c) The target population are often not educated enough as to their role in the implementation of programmes in their localities.

4. Economic Constraints

- a) A considerable part of the funds needed for rural projects are expected to come from contributions made by the target people themselves. Most of the time, however, the rural folks are unable to generate the required funds.
- b) Where funds are available, implementation of rural projects is often constrained by a lack of logistic support, particularly materials from the urban-industrial sector.

5. Physio-technical Constraints

- a) It is noted that oftentimes efforts are made to plan, design, and implement rural projects without adequate study and understanding of the physical environment.
- b) There is usually a big gap between traditional technology and the modern technology being implemented under a development programme.
- c) The local population is often not trained adequately to carry on with the programme after the implementing agents have withdrawn.

Recommendations

1. There should be a clearly defined and consistent policy for rural development in the country.
2. Rural development programmes should be planned and designed with the full participation of the field staff and the target population.
3. At the local level, the youths and women who participate at the stage of implementing projects should

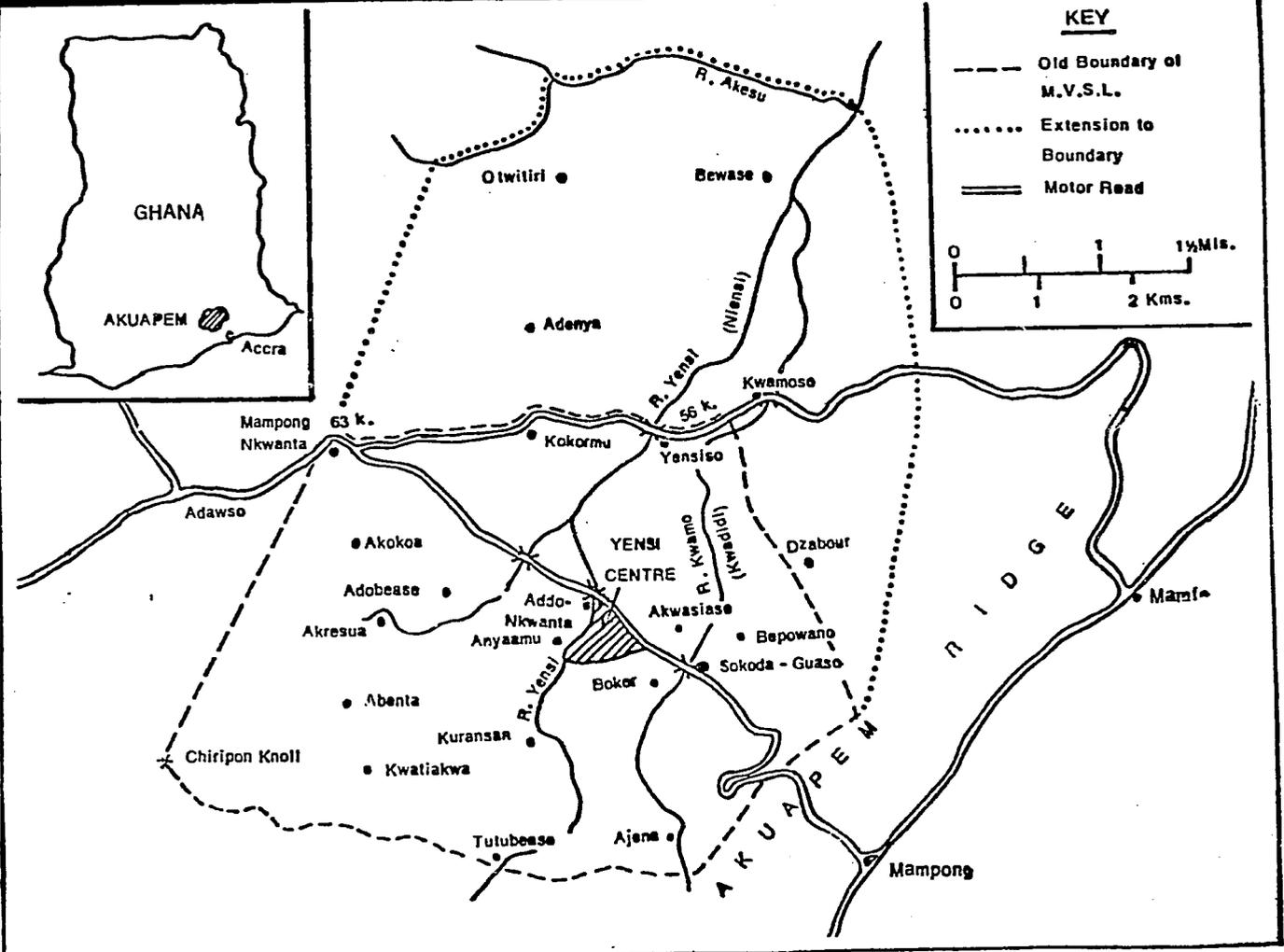
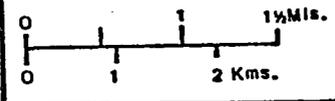
be involved in decision-making at the planning and design stages.

4. The integrated approach to rural development should be adopted; for the implementation of projects, all participants from different ministries, departments, and agencies should be brought under one project head from whom instructions regarding the project would be taken.
5. To eradicate burdensome bureaucratic procedures, government machinery with regard to rural development should be completely decentralized. This should especially be the case with the budgetary system.
6. To solve the personnel problem, there should be an effort to recruit and train local people for implementation of rural development programmes.
7. The target people should be educated adequately as to their responsibilities in the implementation of rural projects.
8. Projects should be located, not on the basis of political power or in order to balance rural development in the country, but on the basis of resources and physical endowments.
9. Prior to planning and design of rural development programmes, the physical environment, attitudes, values, needs, and aspirations of the rural communities should be adequately studied.
10. Finally, for a successful implementation of programmes in the rural areas, there should be an unquestionable availability of funds and other resources required for the projects and for follow-up or maintenance.

256

KEY

- Old Boundary of M.V.S.L.
- Extension to Boundary
- == Motor Road



257

● ● The boundaries are approximate.
Based on topographical maps by the Survey Dept. and maps and description by the Gh.R.R.M.
Drawn by S.B. Duodu under the direction of Dr. E.A. Gyasi, Dept. of Geography, U.G. Legon, July, 1976

Dr. John R. Schott has studied at Haverford College and Harvard University. He also attended Oxford University and was a Fulbright Scholar in East Africa. He has taught at Harvard, Wellesley College, and the Fletcher School of Law and Diplomacy of Tufts University, and has travelled extensively throughout the Third World. After several years on the policy planning staff of the United States Agency for International Development, he has been a private consultant in international affairs and rural development.

258