

**The Verification Study  
on  
Small Scale Horticultural Development Project for Poverty Alleviation to Farmers  
in  
Coast Region, Tanzania**

**Main Report**

**Table of Contents**

Preface	
Location Map of the Project Area	
Photographs	
Abbreviation and Terminology	
Summary	
Chapter 1 Introduction .....	1-1
1.1 Introduction .....	1-1
1.2 Background of the Verification Study .....	1-1
1.3 Objectives of the Verification Study .....	1-2
1.4 Study Area .....	1-2
1.5 Scope of the Verification Study .....	1-3
Chapter 2 Background of the Study .....	2-1
2.1 Recent Situation of Tanzania .....	2-1
2.1.1 National Economy .....	2-1
2.1.2 Socio-economy .....	2-1
2.1.3 Agriculture .....	2-2
2.1.4 National Development Plan .....	2-3
2.2 Recent Situation of Coast Region .....	2-3
2.2.1 Natural Conditions of Coast Region .....	2-3
2.2.2 Socio-economic Situation of Coast Region .....	2-6
2.2.3 Agriculture in Coast Region .....	2-8
Chapter 3 Framework of Master Programme and Action Plan .....	3-1
3.1 Constraints to Development .....	3-1
3.1.1 Structural Constraints .....	3-1
3.1.2 Problems in Agriculture .....	3-2
3.2 Development Potentials .....	3-3
3.2.1 Zoning by Farming Systems in Horticulture .....	3-3
3.2.2 Vegetable Development .....	3-4
3.2.3 Fruit Development .....	3-5
3.3 Development Concept .....	3-5

3.3.1	Profit-oriented Development .....	3-6
3.3.2	Bottom-up Development.....	3-6
3.3.3	Vertical Development .....	3-7
3.3.4	Structural Poverty .....	3-8
3.4	Development Strategy .....	3-9
3.4.1	Development Strategy of Horticulture.....	3-9
3.4.2	Improvement Measures for Marketing of Horticultural Crops.....	3-11
3.4.3	Development Strategy of Related Infrastructure .....	3-12
3.5	Framework of Master Programme .....	3-14
3.5.1	Development Approaches .....	3-14
3.5.2	Formation of Master Programme.....	3-15
3.6	Framework of Action Plan .....	3-17
3.6.1	Selection of Priority Sites .....	3-17
3.6.2	Action Plans in the Priority Sites.....	3-17
Chapter 4	Verification Study.....	4-1
4.1	Process of the Verification Study.....	4-1
4.1.1	Basic Concept of Implementing the Verification Study.....	4-1
4.1.2	Micro Projects in the Verification Study.....	4-2
4.1.3	Implementing Organisation of the Verification Study .....	4-3
4.1.4	Implementing Schedule of the Verification Study .....	4-4
4.2	Process and Evaluation: Input Credit .....	4-5
4.2.1	Project Design Matrix.....	4-5
4.2.2	Process of Inputs.....	4-6
4.2.3	Process of Activities .....	4-7
4.2.4	Achievement of Objective of Project and Outputs .....	4-16
4.2.5	Evaluation.....	4-17
4.2.6	Lessons Learned.....	4-19
4.3	Process and Evaluation: Improvement of Watering .....	4-24
4.3.1	Project Design Matrix.....	4-24
4.3.2	Process of Inputs.....	4-25
4.3.3	Process of Activities .....	4-25
4.3.4	Achievement of Objective of Project and Outputs .....	4-28
4.3.5	Evaluation.....	4-29
4.3.6	Analysis and Lessons Learned.....	4-31
4.4	Process and Evaluation: Capacity Building for District and Extension Officers .....	4-34
4.4.1	Project Design Matrix.....	4-34
4.4.2	Process of Inputs.....	4-34
4.4.3	Process of Activities .....	4-35
4.4.4	Achievement of Objective of Project and Outputs .....	4-36

4.4.5	Evaluation .....	4-37
4.4.6	Analysis and Lessons Learned.....	4-39
4.5	Process and Evaluation: Capacity Building for Community.....	4-40
4.5.1	Project Design Matrix.....	4-40
4.5.2	Process of Inputs.....	4-41
4.5.3	Process of Activities .....	4-41
4.5.4	Achievement of Objective of Project and Outputs .....	4-51
4.5.5	Evaluation.....	4-52
4.5.6	Analysis and Lessons Learned.....	4-55
4.6	Process and Evaluation: District Seedling Farm .....	4-59
4.6.1	Project Design Matrix.....	4-59
4.6.2	Process of Inputs.....	4-61
4.6.3	Process of Activities .....	4-61
4.6.4	Achievement of Objective of Project and Outputs .....	4-66
4.6.5	Evaluation.....	4-67
4.6.6	Analysis and Lessons Learned.....	4-69
4.7	Process and Evaluation: Model Sites .....	4-75
4.7.1	General.....	4-75
4.7.2	Viziwaziwa .....	4-76
4.7.3	Vigama.....	4-79
4.8	Summary of the Verification Study .....	4-83
4.8.1	General.....	4-83
4.8.2	Input Credit.....	4-84
4.8.3	Improvement of Watering.....	4-84
4.8.4	Capacity Building for District and Extension Officers, Farmers' Training and Group Leaders' Training .....	4-85
4.8.5	Capacity Building for Community .....	4-85
4.8.6	District Seedling Farm.....	4-86
4.8.7	Others.....	4-87
Chapter 5	Master Programme .....	5-1
5.1	Community Based Horticultural Development Programme .....	5-1
5.1.1	Feedback of Verification Study Result.....	5-1
5.1.2	Objectives .....	5-1
5.1.3	Input Credit.....	5-2
5.1.4	Watering.....	5-8
5.1.5	Crop Protection.....	5-10
5.1.6	Quality Control of Produce.....	5-11
5.1.7	Crop Diversification .....	5-12
5.1.8	Soil Management .....	5-13

5.2	Participatory Development Capacity Building Programme .....	5-14
5.2.1	Feedback of Verification Study Result.....	5-14
5.2.2	General.....	5-14
5.2.3	Part 1: Training for District and Extension Officers .....	5-16
5.2.4	Part 2: Training for Group Leaders.....	5-17
5.2.5	Part 3: Community Awareness Creation .....	5-18
5.3	District Seedling Farm Programme .....	5-20
5.3.1	Feedback of Verification Study Result.....	5-20
5.3.2	Outline of District Seedling Farm Programme .....	5-20
5.3.3	District Seedling Farm.....	5-21
5.3.4	Group Seedling Farm.....	5-23
5.3.5	Experimental Plot .....	5-24
5.4	Rural Transport Improvement Programme.....	5-25
5.4.1	Objectives .....	5-25
5.4.2	Promotion of Road Rehabilitation Work through External Supports .....	5-25
5.4.3	Promotion of Participation in Maintenance Work .....	5-26
5.5	Environment.....	5-27
5.5.1	Environmental Assessment.....	5-27
5.5.2	Protective Measures for the Conservation of Environment.....	5-27
5.6	Action Plan.....	5-31
5.6.1	Implementation Schedule .....	5-31
5.6.2	Cost Estimate.....	5-33
5.6.3	Implementing Organisation .....	5-34
5.6.4	Implementing Procedure.....	5-36
Chapter 6	Conclusion and Recommendations .....	6-1
6.1	Conclusion.....	6-1
6.1.1	Effect of the Verification Study .....	6-1
6.1.2	Feedback to the Original Master Programme .....	6-1
6.1.3	Application to the Cooperation Studies of Agricultural Sector in Tanzania.....	6-3
6.2	Recommendations .....	6-3
6.2.1	Implementation of Master Programme.....	6-3
6.2.2	Marketing.....	6-5
6.2.3	Rural Transport Improvement Programme .....	6-5

## Attachment

Participatory Development Capacity Building Programme: Sub-programmes.....	A-1
Project Design Matrix.....	A-17
Plan of Operations and Implementation .....	A-22
Evaluation Design and Result .....	A-27
Scope of Work .....	A-42
Minutes of Meetings.....	A-49

## List of Tables

Table 1.4.1 Basic Information of Study Sites .....	1-3
Table 1.5.1 Implementation Schedule of the Verification Study .....	1-4
Table 2.1.1 Major Economic Indicators of Tanzania .....	2-1
Table 2.1.2 Data of Household Budget Survey 2000/01 .....	2-2
Table 2.1.3 Production Data of Major Crops in Tanzania in 2002 .....	2-2
Table 2.2.1 Flow Characteristics of Drainage Systems in Coast Region.....	2-4
Table 2.2.2 Demographic Data by District in 2002 .....	2-6
Table 2.2.3 Human Development Index and Human Poverty Index .....	2-7
Table 2.2.4 Distribution of Road Network in Coast Region.....	2-7
Table 2.2.5 Features of Horticulture by District .....	2-10
Table 3.2.1 Zoning by Cropping System in Horticulture.....	3-4
Table 3.4.1 Applicability of Development Strategies of Horticulture by Horticultural Zone.....	3-9
Table 3.4.2 Basic Measures in Irrigation Development.....	3-13
Table 3.6.1 Action Plan for Horticultural Development in Viziwaziwa .....	3-18
Table 3.6.2 Action Plan for Horticultural Development in Mwanabwito.....	3-19
Table 3.6.3 Action Plan for Horticultural Development in Vigama.....	3-20
Table 3.6.4 Action Plan for Horticultural Development in Mwanambaya .....	3-21
Table 4.1.1 Micro Projects and Sites .....	4-3
Table 4.2.1 List of the Items Revised and the Reasons .....	4-6
Table 4.2.2 List of Conditions Revised.....	4-8
Table 4.2.3 Final Repayment Rate.....	4-15
Table 4.3.1 Comparison between Ruvu Darajani and Mwanabwito .....	4-32
Table 4.5.1 Area and Function of Multi-purpose Shed.....	4-46
Table 4.5.2 Area and Function of Mill House.....	4-49
Table 4.6.1 Comparison of Sites of Group Nurseries .....	4-72
Table 4.6.2 Comparison of Sites of Experimental Plots.....	4-73
Table 5.4.1 Components of Rural Transport Improvement Programme.....	5-25
Table 5.6.1 Contents of Components by Horticulture Zoning.....	5-32
Table 5.6.2 Priority of Programme by District .....	5-33

Table 5.6.3 Unit Cost of Each Programme .....	5-34
---	------

### **List of Figures**

Fig. 2.2.1 Salient Climatic Features of Coast Region (1979-1998).....	2-4
Fig. 3.1.1 Problem Tree .....	3-2
Fig. 3.3.1 Profit-oriented Development Concept.....	3-6
Fig. 3.3.2 Bottom-up Development Concept.....	3-7
Fig. 3.3.3 Vertical Development Concept.....	3-8
Fig. 3.5.1 Relationship of Development Approach and Programme .....	3-16
Fig. 3.5.2 Relationship among Projects under the Master Programme .....	3-16
Fig. 4.1.1 Relationship with Master Programme and Verification Study .....	4-1
Fig. 4.1.2 Implementing Organisation of the Verification Study.....	4-4
Fig. 4.5.1 Organisation of CPMU.....	4-44
Fig. 4.5.2 Layout of Multi-purpose Shed .....	4-46
Fig. 4.5.3 Layout of Mill House .....	4-49
Fig. 4.6.1 General Layout of Zegereni Farm.....	4-61
Fig. 4.6.2 Monthly Sales Record of Fruit Seedlings at Zegereni Farm .....	4-63
Fig. 4.6.3 Monthly Income and Expenditure of Zegereni Farm .....	4-70
Fig. 4.6.4 Forecast of Accounting Balance of Zegereni Farm.....	4-71
Fig. 5.1.1 Operation Flow of Stage I in Input Credit.....	5-5
Fig. 5.1.2 Operation Flow of Stage II in Input Credit.....	5-6
Fig. 5.3.1 Proposed Functional Structure of District Seedling Farm Programme .....	5-21
Fig. 5.3.2 Proposed Organisational Structure of District Seedling Farm .....	5-23
Fig. 5.6.1 Overall Implementing Organisation Plan.....	5-35
Fig. 5.6.2 Community Implementing Organisation Plan.....	5-36
Fig. 5.6.3 Procedure of Implementation .....	5-37

### Composition of Reports

<u>Report</u>	<u>Language</u>
Main Report	Japanese
Main Report (Volume I)	English
Annexes (Volume II)	English

### Currency Exchange Rate

	TShs	US\$	¥
TShs	1.00	0.00095	0.1084
US\$	1,053	1.00	114.15
¥	9.2247	0.0088	1.00

(As of November 2003)