

Baseline Data on the Food Security and Household Income for Smallholder Farmers Research Projects

Volume Two General Data by Research Projects and Themes

The Food Security and Household Income for Smallholder Farmers
Applied Research with Emphasis on Women
TARP II – SUA Project

June 2002

Prepared by

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PREFACE

This report contains baseline information from the survey that was undertaken at the commencement of activities by all the research projects under the project Food Security and Household Income for Smallholder Farmers in Tanzania (TARP II-SUA Project). As will be elaborated further in the report, the information has been organized in three volumes – the current one (volume one) containing a description of the methodology and a summary of the main findings and their implications, the second one (volume two) containing the complete data set from the survey, and the third one (volume three) containing the sub-project specific technical baseline data.

The baseline survey was undertaken as part of implementation of the TARP II-SUA project. The immediate objective of the project is to develop and put to use “Gender-sensitive and appropriate on-farm technologies for improving food security and household income for smallholder farmers in the Eastern and Southern Highlands zones”. To achieve this objective, the project set out a number of outputs which have to be attained during project implementation, one of which being to assess the impact of the research undertaken by the project. The collection of baseline information was done in order to establish benchmark indicators to be used during impact monitoring and during impact assessment at the end of the project period.

In recognition of the enormity and specialized nature of the activities under this component, the Project Implementation Team (PIT) assigned the tasks under the component to the Impact Assessment Team (IAT) consisting of members from Sokoine University of Agriculture (SUA), Ministry of Agriculture and Food Security (MAFS) and the Agricultural University of Norway (NLH) drawn from the different research subject areas covered by the researches being undertaken.

To equip IAT and PIT with the requisite knowledge to undertake these tasks, a training workshop on Impact Assessment Methodology was organized by PIT in December 2000. The workshop was followed by other two workshops involving project leaders – in January 2001 for the first batch projects (totaling 21) and in September 2001 for the second batch projects (totaling 14). Apart from imparting knowledge on impact assessment to the project leaders prior to the start of their activities, the workshops produced a comprehensive analysis of baseline information requirements under the different thematic areas under which the projects fell. The information was organized into a manual on Baseline Data Collection that has been quite useful in guiding the collection of the information presented in this report.

Apart from providing benchmark indicators for impact monitoring and for impact assessment of the on-going researches, the information contained in this report can be used in other endeavors. The overview presents valuable indicators that are useful in their own right giving highlights on the situation in the two zones on key issues. Development agents and researchers can use the detailed database to identify priority areas for their work.

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LIST OF ACRONYMS AND ABBREVIATIONS.

CEC	Cation Exchange Capacity
CN ratio	Carbon-Nitrogen ratio
DAT	Draft Animal Power
ECF	East Coast Fever
FHH	Female Head Household
IDM	Integrated Disease Management
KRB	Kilombero River Basin
MAFS	Ministry of Agriculture and Food Security
MHH	Male Headed Household
N	Nitrogen
ND	New Castle Disease
NGO	Non-Government Organization
OC	Organic Carbon
P	Phosphorus
PRA	Participatory Rural Appraisal
RYMV	Rice Yellow Mottle Virus
SUA	Sokoine University of Agriculture
TBD	Tick Borne Disease

ACKNOWLEDGEMENTS

The Project Implementation Team (PIT) of the TARPII - SUA project along with the Impact Assessment Team (IAT) wish to thank all individuals who provided information and ideas during the implementation of these studies. In particular, they appreciate the contributions of all farmers and sub-projects members.

Last but not least acknowledgement is made to all individuals who in one way or another made this task a success. Special thanks go to Mr. N. Madalla, Mr. O. Mtinda and Mr. L. Nyato for technical assistance in preparing this report.

INTRODUCTION

This report forms one part of a series of reports comprising the baseline survey for the TARP II – SUA Project on “Food Security and Household Income for Smallholder Farmers in Tanzania: Applied Research with Emphasis on Women”. TARP II - SUA is a collaborative effort between the Division of Research and Development (DRD) in the Ministry of Agriculture and Food Security (MAFS), Sokoine University of Agriculture (SUA) and the Agricultural University of Norway (NLH) with financial support from the Norwegian Government through NORAD. The project is under day-to-day management of SUA and hence referred to as TARP II – SUA Project.

To achieve its main objective, the TARP II – SUA project set out five outputs that need to be attained during the project implementation period. Among these outputs is assessing impact of agricultural research under the project. The key activities related to this output are as follows: (i) study on-farm impact of earlier research (done during the last 20 years); (ii) use existing baseline data and conduct a study on use of farm technology; (iii) conduct an end-line study of impact of the current project; (iv) disseminate findings to the international research community; (v) disseminate findings to extension agents and farmers; and (vi) communicate findings relevant for policy making to the Government of Tanzania and other stakeholders.

This report on baseline data addresses directly the second activity under the output, while at the same time contributes to the third fourth and fifth outputs dealing with dissemination and communication of results.

The baseline survey was comprised of two main data collection activities. The first involved the production of Village Profiles for each of the sub-projects where participatory, qualitative data collection methods were employed. These Village Profiles are produced under separate cover by sub-project.

The second data collection activity involved an extensive household questionnaire survey where both general and sub-project specific data was collected. Volume I contains an overview of the general part of the questionnaire survey giving details on the objectives of the survey, the methodology used and a synthesis of the major findings and implications of the work.

The main body of the report is based on aggregate baseline survey data from all of the sub-projects. Volume II – the current report - contains the complete data set from the general questionnaire survey. The data in this volume is presented in 17 tables. In all there are 35 sub-projects, which are grouped under 19 thematic areas.

Volume III presents the project-specific data collected by each of the sub-projects. This data varies by sub-project, although some of the data may be relevant for the other sub-projects within the same thematic area.

METHODOLOGY

2.1 Sampling

The sample size and definition of the target groups for each of the sub-projects varied substantially according to the type of research being conducted. Some research projects used a very limited number of farmers while others used a large number of farmers. Consequently, the sample sizes per sub-projects range from 16 to 400. The total number of households included in the questionnaire survey is 4320.

2.2 Data Collection

Sub-project teams collected baseline data in collaboration with one or more members of the IAT using data sheets as provided in the “Baseline Data Collection Manual” (TARP II-SUA publication). The household baseline data were collected for each site of the sub-projects. Most of the research projects have more than one village site.

2.3 Data analysis

The collected data were coded and analysed quantitatively using SPSS and Excel software programmes. In general, the document provides information on a number of key issues by individual project and thematic area. In all there are 35 sub-projects, which are grouped under 19 thematic areas. Data for the individual sub-projects are presented under their respective columns with the sub-project number shown on the top of the column. A key is provided to indicate the sub-project code and title corresponding to the sub-project number used in the database. Values at the thematic level are presented as averages and totals in the last column in the tables.

Limitations and deficiencies within the baseline data contained in this volume as in the other two volumes (volumes 1 and 3) arise mainly from the data collection (questionnaire administration) which include the fact that:

Data were collected by individual sub-projects, hence there is chance of bias due to differing perspectives.

In some cases household questionnaires were administered to a broader base of farmers in the village instead of contact farmers only. This will cause some difficulty in tracing back the people during future surveys for impact monitoring and end-of-the-project study. During these studies, it will be necessary to limit the survey to the contact farmers except where non-contact farmers are included for comparative purposes to get the ‘with’ and ‘without’ comparison for impact assessment.

The data had quite a number of missing values for some of the items. Most notable of these were the items on homegrown food crops and on staple foods. To mitigate the effect of this, IAT has planned to include the items for which information was not adequate in the data that will be collected as part of the impact monitoring. Data to be included in impact monitoring will also include data that is missing as a result of deficiencies in the questionnaire administered.

DATABASE

3.1 Key to the Baseline Data

Theme No.	Theme name	Project number as used in Database	Project code	Project title	No of questionnaires entered
1	Marketing of Crops	1	010	Commercialization of cassava root as a source of energy in commercial livestock feed	40
		2	022	Strategies for improving commodity market and information and market access by farmers and traders in the Eastern and Southern Highland zones in Tanzania	214
2	Marketing of Livestock and Livestock Products	3	027	Development and application of appropriate technologies for milk collection, processing and marketing by smallholder dairy farmers and traditional livestock keepers in the Eastern and Southern Highlands zones of Tanzania	106
		30	036	Development of appropriate intervention to enhance livestock meat marketing, preservation and consumption in rural areas of the Eastern zone	61
3	Dry Season Feeding	4	017	Improvement of dry season feeding for smallholder dairy production in Southern Highlands of Tanzania	48
4	Major Livestock Disease and Pests	5	016	Optimising milk production and quality in smallholder dairy sector through control of mastitis, improved management and reduced post milking microbial contamination	38
		6	130	Optimising of on-farm regimes for control regimes for controlling ticks and tick-borne diseases for smallholder farmers and traditional zebu cattle	37
5	Evaluation of Crop Varieties	8	021	Sweet potato germ-plasm maintenance and evaluation in the Eastern zone	118
		9	011	Soy <i>Glycine max</i> L0 Mernll variety evaluation for yield potential and utilization as human food in Eastern and Southern zones of Tanzania	91
		23	041	In – vitro micro – propagation for mass production of clean planting materials of desirable banana cultivars	61
		24	043	Verification of common bean varieties tolerant to low soil low soil phosphorous and acid conditions (low pH) in Imalinyi division, Njombe district	60
		25	033	On – station and on – farm evaluation of improvement pigeon pea varieties in the eastern zone	297

3.1 Key to the Baseline Data (contd.)

Theme No.	Theme name	Project number as used in Database	Project code	Project title	No of questionnaires entered
6	IPM for Major Crop Pests and Diseases	10	018	Integrated management of Witch weed (<i>Striga spp</i>) in sorghum and maize based cropping system of the Eastern zone	153
		31	042	On – farm development and promotion of integrated disease management measures for rice yellow mottle virus disease control in Kyela district, Southern Highlands of Tanzania	67
7	Management Practices Livestock	11	024	Improved cattle productivity through strategic feeding and reproductive health control in smallholder herds in Eastern zone, Tanzania	122
		12	025	Development of farm-level technologies for improving productivity of small ruminants in Eastern	84
8	Post Harvest Losses, Including Storage and Preservation	13	019	Increasing the development value of fruits and vegetable by reducing post harvest losses through processing and preservation in selected villages in Morogoro and Iringa regions	65
9	Processing and Packaging Technologies for Farm Products	14	029	Development and promotion of improved processing, packaging and storage of sweet potato and cassava for diversification of use and commercialisation of value added under smallholder conditions	130
		15	020	Development, transfer and adoption selected fruit and vegetable processing and preservation developed at SUA and MAFS by smallholder farmers in the Eastern and Southern zones	78
10	Irrigation System and Water Harvesting	16	012	Assessment and promotion of rainwater harvesting (RWH) to overcome water shortage for domestic, livestock and plant growth in semi arid areas of Njombe district	34
		17	026	Design – management interaction in smallholder irrigation system. A case study of Usangu plains	63
11	Cropping Systems for Female Farmers	18	023	Integrated Rice improvement program for women farmers in Kilombero river basin, Morogoro, Tanzania	153
		28	032	Improving food and income security of female farmers through introduction of appropriate cropping system in selected villages of Morogoro	256

3.1 Key to the Baseline Data (contd.)

Theme No.	Theme name	Project number as used in Database	Project code	Project title	No of questionnaires entered
12	Wood – lots and Improved Fallow for Soil Fertility	19	013	Agroforestry technologies for soil fertility improvement and wood production in semi arid – areas of Morogoro and Iringa	97
		26	040	Testing of improved fallow for improving soil fertility: the use of trees and shrubs that enhance the availability of soil phosphorous and firewood	483
		27	037	Improvement of soil fertility in coconut based farming through crop rotation in farmer fields	159
13	Farmer Organizations	20	028	Strengthening farmers' accessibility to information input and market in Tanzania through existing and new forms of farmers' organizations	138
14	Biodiversity	21	014	Development and dissemination of mushroom cultivation and preservation technologies at household and community levels in the Southern Highlands and Eastern zone, Tanzania	73
15	Draft Animal Power	22	039	Promotional of sustainable utilisation of draft animal technologies for the improvement of agriculture productivity for smallholder farms	165
16	Integrated Plant Nutrient Management	29	043	Evaluation of the effect of nitrogen and phosphorous application in conjunction with tillage and residue management of physical and chemical characteristics of soil, weed, microbial population and diversity and on yield of maize	46
17	Structural Adjustment on Input Subsidies	32	034	Impact of macro – economic policy reforms on agricultural productivity, food security and poverty in Tanzania: a case of the Southern Highlands zone	257
18	Human Nutrition	33	031	Development of nutritional guidelines diet improvement in Morogoro and Iringa regions	309
		34	035	Formulation of weaning foods for enhancing household food and nutrition security	49
19		35	044	Evaluation of soil tillage practice and organic mulch on yield of rice and cowpeas grown in sequence under lowland rain – fed rice culture in Kyela and Kilombero districts	87

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