

Food Security in Africa and Asia

Strategies for Small-scale
Agricultural Development

TABLE OF CONTENTS

Preface	ix
Acknowledgements	x
Introduction	1
The premise of the book	1
The contents summarized	2
1 Defining the Food Security Problem	5
1.1 Introduction	5
1.2 The core concept	6
1.3 Basic terms and meanings	7
1.4 Concept pictures	8
1.4.1 The increase of agricultural production	9
1.4.2 Achievement of sustainable landscape stability	12
1.5 The learning process approach	15
2 Evaluating the Resources of Small-scale and Subsistence Farmers	19
2.1 Introduction	19
2.2 Small-scale and subsistence farmers' households	20
2.3 Population pressures	22
2.4 Land use in AFR and SAS	28
2.4.1 AFR	28
2.4.2 SAS	29
2.5 Population density	30
3 Alternative Approaches Examined	33
3.1 Relevant to participatory learning and action (PLA)	33
3.1.1 The acceptance of PLA	33
3.1.2 Setting standards for participation	36
3.1.3 Root definitions and conceptual models regarding a blueprint and a learning process approach	38
3.2 Relevant to ideal type models and 'real world' problem situations	40
3.2.1 The conflict	40
3.2.2 The combined approach	42
4 The Need for a Participatory Approach	43
4.1 Introduction	43
4.2 The process	45
4.2.1 General	45
4.2.2 The methodology followed	45

TABLE OF CONTENTS

4.3	Relevant to agricultural production	46
4.3.1	The potential to increase agricultural productivity	46
4.3.2	Setting standards for participation	49
4.3.3	Root definition and conceptual model.	52
4.4	Relevant to landscape stability	56
4.4.1	The potential to achieve a stable landscape	56
4.4.2	Factors influencing sustainable soil patterns	57
4.4.3	Root definition and conceptual model	69
5	Researching the Situation to Define Strategies	73
5.1	Introduction	73
5.2	Finding out what changes are needed	74
5.2.1	Research questions	74
5.2.2	The questionnaire suggested for the research	76
5.3	The activities to be carried out to implement changes	79
5.3.1	Introduction	79
5.3.2	Activities	79
5.4	The monitoring system	82
5.4.1	Introduction	82
5.4.2	The fundamental strategic steps	82
5.5	Indicators	85
5.5.1	General	85
5.5.2	The subjectivity of indicators	86
5.5.3	Type of indicators	87
5.6	Methods used to collect and register	90
5.6.1	To monitor the stability of the landscape	90
5.6.2	To monitor agricultural productivity	91
5.6.3	Control action	92
6	Challenges Presented by Natural and Man-made Factors	93
6.1	Introduction	93
6.2	Trends of ecosystems	94
6.2.1	Natural and spatial variability	94
6.2.2	Resilience and resistance	94
6.2.3	State factors and interactive controls	94
6.3	Trends of population growth and density	97
6.3.1	Population growth	97
6.3.2	Population densities	98
6.4	Trends of agricultural production and food security	100
6.4.1	Expand the cultivated area	100

	6.4.2	The intensity of land use	101
	6.4.3	The increase of yield	106
	6.5	The impact of internal political instability	121
7		The Competition for Resources for Food Production	123
	7.1	The question of producing crops for food or bio-fuel	123
	7.1.1	Competition between crops for food and energy	123
	7.1.2	Market disturbance	124
	7.1.3	Crops for the production of ethanol	124
	7.2	The potential to achieve objectives	129
	7.2.1	The World Food Summit	129
	7.2.2	The effects of human activities - some examples	132
	7.2.3	Independent control variables and agricultural production	132
8		Monitoring Intervention Strategies in Different Farming Systems	135
	8.1	Introduction	135
	8.2	Definitions described	135
	8.2.1	Farm system	135
	8.2.2	Farming system	136
	8.3	Sub-Saharan Africa	138
	8.3.1	Characteristics of the region	138
	8.3.2	Farming systems in AFR	142
	8.3.3	A closer look at a selection of farming systems in AFR	150
	8.4	South Asia	158
	8.4.1	Characteristics of the region	158
	8.4.2	Farming systems in SAS	159
	8.4.3	A closer look at a selection of farming systems in SAS	167
9		Small-scale and Subsistence Farmers' Households and Selected Farming Systems	177
	9.1	Typical households	177
	9.1.1	Some households in Sub-Saharan Africa (AFR)	177
	9.1.2	Some households in South Asia (SAS)	179
	9.2	Strategic priorities	180
	9.2.1	Sub-Saharan Africa	180
	9.2.2	South Asia	182
10		Liaison of International, National and Local Agencies - Conclusion	185
	10.1	Introduction	185
	10.2	Tensions	186

TABLE OF CONTENTS

10.2.1	Cultural environment and participation	186
10.2.2	Communication	186
10.2.3	Higher education	187
10.2.4	Terms of trade	187
10.2.5	The physical infrastructure	187
10.3	Work together	188
10.3.1	Introduction	188
10.3.2	The process of action	191
10.4	Conclusion	192
10.4.1	Global problems affecting food security	192
10.4.2	Summary of main points	194
10.4.3	Final paragraph	195
	List of tables	197
	List of figures	201
	Abbreviations, Acronyms and Organizations	203
	Glossary	205
	Bibliography	211
	Appendices	217
	Index	231