

Table of Contents

Preface of the editors	i
Acknowledgement	iii
List of Tables, Figures, and Boxes	viii
Acronyms and Abbreviations	x
1. Introduction	1
1.1 Study Background	1
1.2 Research problem	4
1.3 Objectives of the study	7
1.4 Research Questions	9
1.5 Structure of the study	10
2. Theory and concepts	11
2.1 The concept of innovations	11
2.1.1 The business angle	12
2.1.2 The institutional angle	13
2.1.3 The degree of innovation newness	13
2.2 Defining Innovations	13
2.3 Innovation processes	16
2.4 Perceptions, attitudes and decision making	29
2.5 Lewin's model of the psychological field and behavioural change in the adoption of innovations	30
2.6 Knowledge and information in innovation decision making	31
2.6.1 Knowledge management (KM) in agriculture and the innovation process	32
2.6.2 The role of communication in innovation decision making	34
2.7 Communities of practice and farmer's innovativeness at the group level	36
2.8 The functional theory of groups	37
2.9 Biodynamic farming beliefs	38
2.10 Uncertainties and risks during innovation decision making	41
2.11 Explaining smallholder farmer's decision making using an analytical framework	42
2.12 The role of knowledge, perceptions, beliefs, and attitudes in innovation decision making	43

3. Methodology and research process	46
3.1 Introduction	46
3.2 Design of the case study	46
3.2.1 Qualitative and exploratory case studies	47
3.2.2 Grey literature and archival search.....	48
3.2.3 Focus group discussions	49
3.3 Selection of study region and case, roles of the researcher.....	50
3.4 Data collection and questionnaire development to investigate farmers’ expectations and perceptions	51
3.4.1 Pre-testing stage and interviewing phase	51
3.4.2 Data collection and questionnaire development to explore farmer’s practices and the anthroposophical views of BD farming.....	52
3.4.2.1 Expert interviews	52
3.4.2.2 Pre-testing stage and interviewing phase	53
3.4.3 Data collection and questionnaire development to investigate KM activities by the ZOSG group and farmers’ uncertainties	53
3.4.3.1 Focus group discussions (FGDs).....	54
3.4.3.2 Use of the Modified Metaplan technique	55
3.5 Data Analysis.....	56
3.5.1 Investigating smallholder farmers’ expectations and perceptions of BD farming	56
3.5.2 Exploring smallholder farmer’s practices and the anthroposophical views and beliefs of BD farming.....	58
3.5.3 Investigating the cycle of activities in the management of knowledge within the ZOSG group and exploring smallholder farmers’ uncertainties...	58
4. The agricultural sector, natural and political environment of Zanzibar	60
4.1 The Agricultural Sector in the context of Zanzibar.....	60
4.2 The natural environment of Zanzibar	62
4.3 Colonial and Imperial period.....	65
4.4 The Zanzibar revolution and the neoliberal era.....	66
5. Smallholder farmers’ perceptions and expectations of BD farming in Zanzibar	69
5.1 Introduction	69
5.2 Socio-demographic characteristics.....	69

5.3	Smallholder farmers' perceptions of yield, soil quality, harvested produce, and pests and diseases control	72
5.3.1	Smallholder farmers' perception of crop yield	73
5.3.2	Perception of soil quality	74
5.3.3	Perceptions of harvest quality	75
5.3.4	Perception of pests and diseases	76
5.3.5	Farmers expectations and reasons for considering BD farming	77
5.3.6	Farmers perceptions of the standards and the use of preparations governing BD farming.....	80
5.3.7	Non-conformities with recordkeeping	82
5.3.8	Non-conformities with the use of non-permitted materials and on-farm traceability	82
5.4	Discussion	84
5.5	Exploring farmer's and BD expert's perceptions of the BD farming paradigms and anthroposophical beliefs	87
5.5.1	Concept of nature	87
5.5.1.1	ZOSG smallholder farmer's perceptions of nature characterization and farming	87
5.5.1.2	BD expert's perceptions of nature characterization and farming	89
5.5.2	Epistemological beliefs and concepts	90
5.5.2.1	Method of observation, and the existing therapeutic relationship for ZOSG smallholder farmers.....	90
5.5.2.2	Method of observation and the therapeutic relationship for BD experts	91
5.5.3	Ontological beliefs	92
5.5.3.1	ZOSG Smallholder farmer's perceptions of the celestial matrix and the role of farm animals in farming	92
5.5.3.2	BD expert's perceptions of the celestial matrix and the role of farm animals in farming.....	93
5.5.4	Methodological beliefs.....	94
5.5.4.1	ZOSG Smallholder farmer's concept of methodological beliefs.....	94
5.5.4.2	BD expert's concept of methodological beliefs.....	95
5.5.5	Discussion	96
6.	Investigating the smallholder farmers' approach to KM in Zanzibar-Tanzania	99
6.1	Knowledge acquisition and creation	99

6.2	Sharing of agricultural knowledge and its challenges within the ZOSG	102
6.3	Storing of agricultural knowledge by the ZOSG group	107
6.4	Knowledge application by the ZOSG group and its challenges.....	109
6.5	Discussion.....	113
6.6	Smallholder farmers' uncertainties during the innovation process: The case of the ZOSG farmers group.....	115
6.6.1	Production uncertainties	116
6.6.2	Market uncertainties	117
6.6.3	Socio-cultural uncertainties	118
6.6.4	Technological uncertainties.....	119
6.7	Discussion.....	120
7.	Conclusions and recommendations.....	123
7.1	Conclusions	123
7.1.1	Conclusions on smallholder farmers' expectations and perceptions of BD farming	123
7.1.2	Conclusions on the smallholder farmer's and BD expert's perceptions of the BD paradigms and anthroposophical beliefs.....	124
7.1.3	Conclusions drawn from the individual ZOSG smallholder farmers' approach to KM in Zanzibar-Tanzania	125
7.1.4	Conclusions on smallholder farmers' uncertainties during the innovation process: The case of the ZOSG farmers group.....	126
7.2	Suggestions for future research and recommendations.....	127
7.3	Research shortcomings and limitations.....	127
8.	Summary	129
8.1	English summary	129
8.2	Deutsche Zusammenfassung	131
9.	References.....	135
10.	Appendix: Questions used in data collection	145