Beyond Technology Packages: Towards a Farmer-Informed Paradigm for Ethiopian Extension

A Thesis Submitted for the Degree of Doctor of Philosophy of
The University of Queensland

By

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August 2004
Declaration

I declare that the work presented in this thesis is, to the best of my knowledge and belief, original and my own work, except as duly acknowledged in the text, and that the material has not been submitted, in whole or in part, for a degree at this or any other university.
Acknowledgments

This thesis is made possible through the support I received from many people and institutions. Space does not allow me to recount for all of them. Here, I want to acknowledge those who contributed in more than one way to the study. To those unnamed, I say ‘Thank You’.

First of all, I thank my advisors, Dr Donald C. Cameron and Assoc. Professor Jeff Couts, for their untiring scholarly guidance and support. Jeff, as the principal advisor in the initial stages, was instrumental in getting me started with a good grounding of the relevant issues. Later as associate advisor, Jeff continued to play a constructive role by reading the different chapters and offering crucial comments.

I am particularly indebted to Don for accepting his role as principal advisor, which he carried it through with utmost diligence and enthusiasm. Despite his busy work schedules, Don was always ready to accommodate my needs for guidance and support, both at the professional and personal level. Don, please accept my deepest gratitude for the energy and time you sacrificed unstintingly, without which this thesis would not have appeared in its present form. I also thank Mr Allan Lisle for his advice on analysing some aspects of the quantitative data, and Margaret Cooke for editing the final draft of the thesis.

I also thank many people in Ethiopia, some whom are at once mentors, colleagues and friends. I am specially indebted to Dr Yearswork Admassie, who from the beginning showed keen interest in the development of my academic career and for helping me with the design of the survey instrument; and to Professor Belay Tegene for his insightful comments on methodology, for his direction in the planning of the household survey, for his contribution to the production of two location maps for the study woredas and for the congenial time we spent together discussing issues relevant to this thesis. I also thank Getnet Tadele for his unfailing personal support and encouragement; and Drs Melese Getu and Woldeab Teshome for their friendly encouragement.

In terms of my family circles I am delighted to take this opportunity to thank my father, Berhanu Kassegne for believing in me when he first sent me to school, and my brother, Getahun Berhanu for accepting the role of an elder brother by supporting my high school
and undergraduate education financially and morally. With out you, my education would have ended at the primary level. You truly are my ‘big brother’.

The two closest people who shared the good and bad times together with me in the past years are my wife, Azalech and my daughter, Feven. I am grateful to Azalech for accepting the major responsibility in taking care of our adoring daughter. When I showed Feven the final draft her immediate reaction was: Is this the story you have been working on Dad? This I though was a very perceptive observation. After all, a thesis can be seen as telling a story ‘concerning a big idea’. Feven accepted the demands this study placed on the family’s time and continued to give me her unconditional love in a daughterly manner. Feven, I lovingly accept your affection and try to reciprocate it by spending more time with you in the future.

In Australia, I had the privilege of meeting people and befriending some of them. In this latter group are Dr Yiheyis Tadele and his wife, Mulu Gebre Mariam; Ananda Wickramasinghe, and Helen Gamage (from Sri Lanka), and Boka Amenu. To all, I am grateful for their encouragement and support and, specially, to Ananda and Helen whose friendship transcended cultural boundaries.

I was able to commence and finish this study because of the financial and material support I received from the following institutions: The University of Queensland generously provided two international postgraduate research scholarships, which enabled me to realize my dream comes true by financially supporting the study; the School of Natural and Rural Systems Management at UQ, Gatton, has kindly supported the study by providing a congenial academic environment; the Department of Sociology and Social Administration at Addis Ababa University served as a home-institution for the fieldwork; and the Christian Michelsen Institute of Bergen, Norway, gave funding for the fieldwork. I gratefully thank them all.

Finally, I thank farmers, extension workers and local administrators of the study area who spent their valuable time answering and explaining interview questions. Many farmers extended the usual Ethiopian way of treating guests, serving whatever food and drink were available at the time. I also thank Alelign Melaku and Fikru Ayalew, for their role as research assistants and later as interviewers when conducting the household survey.

This thesis is dedicated to my late mother, Bosena Tigabu, who passed away recently. I miss you mum.
Abstract

This thesis uses a contextually grounded research methodology to examine effectiveness of agricultural extension programs in Ethiopia in addressing the food needs of rural households as seen in the eyes of the farmers. By employing both qualitative and quantitative research approaches and drawing data from multiple settings situated in a sub-region of north central Ethiopia, north Shewa, the study has emphasized key issues that need to be considered when planning agricultural extension programs. For extension programs to be useful, it is suggested that planners need to pay attention to the constraints farmers are facing in the areas of land, credit, education, markets, and of agro-physical conditions of plots.

The thesis’ central themes revolve around treating five research questions. These are: perceptions of rural households toward extension programs; how farmers evaluate relevance of extension activities; socio-economic and agro-ecological factors associated with program effectiveness; perceptions of program planners toward farmers, and potential and limitations of indigenous farming methods. These questions are addressed throughout the thesis, comprising of 9 chapters.

Having outlined in chapter 1 the background for the thesis, I proposed in chapter 2 a multi-context analytical framework focusing attention on the social and agro-physical parameters surrounding the implementation of agricultural extension programs. I have indicated that combining social and agro-physical context analysis is to be open to the multiple ways in which farmers try to manage their farms. I then applied the analytical tools of contextual analysis to highlight in chapter 3 major social and physical settings of the study area. This gave way to an examination of the five research questions, starting with chapter 4 through to chapter 8, with the results of both qualitative and quantitative data complementing each other.

The main theme that runs throughout this thesis as emerged from the qualitative data is that the issues agricultural extension deals with are simultaneously social, economic, and agro-physical, and thus it is essential that the planning of extension programs take this dynamism into account. This is demonstrated in farmers’ assessment of extension programs based on a more holistic approach encompassing social, economic, and agro-ecological indicators. The thesis has documented that despite a promising increase in production resulting from increased use of chemical fertilizers, most farmers interviewed noted that the recent package driven extension program has been insensitive to households’ resource needs, indigenous
farming knowledge, seasonal nature of rural markets, and uneven distribution of ecological resources (e.g., soils).

The above qualitative findings of the study have found support from analysis of selected results of the survey data in which mean amounts of fertilizer purchased in a given year by fertilizer-using respondents was affected by literacy level, size and slope of plots. In other words, respondents who had primary schooling and access to reasonable size of flat land purchased more fertilizers than those who did not have these attributes. Although the effects of other socio-economic (e.g., age) and agro-physical (e.g., moisture level) factors on farmers’ decision to use extension inputs were not confirmed by tests of statistical significance, their importance was highlighted in face-to-face discussions held with individual farmers.

Combining results of both qualitative and quantitative findings, this thesis challenges the myth that standard extension packages (mainly fertilizer recommendations) are always beneficial to farmers. There was no evidence in support of the view that subsistence farmers would improve household food supply if they followed uniform rates of fertilizer use. Farmers who adopted a strategy of combining organic and inorganic inputs judiciously might just be as productive as those who relied exclusively on chemical fertilizers. The implication of this is that extension needs to facilitate ways of producing, managing and using local inputs by farmers, rather than devoting limited resources to the current one-sided, fertilizer-dependent package approach.

In trying to make a contribution to the ways of improving the Ethiopian extension service I have suggested, weighing carefully the available evidence presented throughout the thesis, that extension programs in Ethiopia need to base their activities on the socio-economic and agro-ecological profiles of rural households and their communities. It was also indicated that there is a need to assess extension programs’ achievements or failures in terms of their contribution to helping farmers achieve their farming objectives and supporting locally viable strategies of securing food for the household. This requires taking extension closer to farmers and their context – a task that can be achieved by understanding the complementary roles of local farming knowledge and extension science.

This thesis’ contribution to understanding the Ethiopian extension is that the social and agro-ecological contexts were combined systematically and coherently to provide a holistic understanding of the views and perspectives of rural households on the status of extension.
service in Ethiopia. The methodology used in conducting the fieldwork and the methods employed in gathering and analyzing the data are all congruent with the multidimensional approach adopted by this thesis’ theoretical framework and thus all serve to validate the usefulness of the findings contained in this thesis.
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List of Abbreviations

AAU  Addis Ababa University
ADLI  Agriculture Development-Led Industrialization
AEI  Allocative Efficiency Input
AISCO  Agricultural Input Supply Corporation
ANRS  Amhara National Regional State
BOA  Bureau of Agriculture
CADU  Chilalo Agricultural Development Unit
CSA  Central Statistical Authority
DA  Development Agent
EARO  Ethiopia Agriculture Research Organization
EC  Ethiopian Calendar (There is a difference of 7-8 years between the Ethiopian and Gregorian Calendars)
EDOA  Ensaro Woreda Department of Agriculture
EMTP  Extension Management and Training Plot
EPRDF  Ethiopian Peoples Revolutionary Democratic Front
EWA  Ensaro Woreda Administration
FDRE  Federal Democratic Republic of Ethiopia
GOE  Government of Ethiopia
GNP  Gross National Product
IGADD  Intergovernmental Authority on Drought and Development
MOI  Ministry of Industry
MOA  Ministry of Agriculture
NAEPP  New Agricultural Extension Package Program
NBE  National Bank of Ethiopia
NGO  Non-governmental Organization
NRSM  School of Natural and Rural Systems Management
ODA  Official Development Assistance
PADEP  Peasant Agriculture Development and Extension Project
SNNPRS  Southern Nations, Nationalities, and Peoples Regional State
SPSS  Statistical Packages for the Social Sciences
TDOA  Tarmaber Woreda Department of Agriculture
TEI  Technical Efficiency Input
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