

**DAIRY EXTENSION STRATEGIES IN AUSTRALIA:  
APPLICATION TO THE PAKISTAN DAIRY INDUSTRY.**

**By**

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## **Dedication**

This thesis is dedicated to the Extension Professionals in Pakistan and Australia. I entitle these extension providers, the real ‘Change Agents’ in making information and informal education available to farmers, especially to those in remote areas.

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## **Certification of Thesis**

I hereby certify that I am the sole author of this thesis and that the substance of this thesis has not previously been submitted for any other award.

To the best of my knowledge the ideas, results, analysis, conclusions and recommendations reported in this thesis are entirely mine

...  .....

Sheeraz Ahmad

## ABSTRACT

Extension services in Pakistan focus on the application of technology and practices rather than on farmer' needs. This is illustrated by the lack of "dairy-specific" staff employed for dairy extension in Pakistan until the recent introduction of the concept of the 'White Revolution'. Private and public sectors in Pakistan operate "competing and overlapping" agricultural extension programs, and when providing extension information to farmers, they tend to favour those who are educated and own land. Given the large number of poorly educated and tenant farmers in Pakistan, there is a need for reorganisation, redesign and restructuring of dairy extension strategies particularly for the medium size farm sector that contribute some 7 percent of the country's milk production. Extension strategies used in the Australian dairy industry have played an important role in information dissemination of new technologies and have for some time involved participant led and group focused approaches which could possibly be adapted to Pakistan.

This thesis investigated strategies employed by extension professionals (government and private) and dairy farmers operating in New South Wales (NSW) and Victoria. The aim was to identify perceptions of the effectiveness of extension strategies; and thereafter determine if these strategies may be appropriate for use with the Pakistani medium-sized dairy sector. The research involved case studies of 18 extension professionals and seven dairy Farmers across the states of NSW and Victoria. These individuals were interviewed using semi-structured interview techniques and responses were transcribed and then thematically analyzed qualitatively using Nvivo version 9.

The findings revealed that the participants use at least four extension strategies, namely "group", "one to one", "mass-media" and "web-based" with group extension being the most commonly used in both NSW and Victoria. However "one to one" extension was considered to be the most effective extension strategy by all the participants. Respondents highlighted the importance of "web based" extension and considered it to be an emerging effective strategy for the future. Mass media was also considered as a good supportive extension strategy. These findings suggest that there will be a particular need for development of public-private extension collaboration within the Pakistani industry.

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## **List of Abbreviations**

ABAD	Agency for Barani Area Development
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ABARE	Australian Bureau of Agriculture and Resource Economics
AI	Artificial Insemination
AKRSP	Agha Khan Rural Support Program
BADP	Barani Area Development Program
CMP	Crop Maximization Project
DF	Dairy Farmer
DHL	Dawood Hercules limited
ECL	Exxon Chemical limited
ECPL	Engro Chemical Pakistan Limited
EP	Extension Professionals
FFC	Fauji Fertilizer Company
FAO	Food and Agricultural Organization
GDP	Gross Domestic Products
GEP	Government Extension Provider
GTM	Grounded Theory Method
KP	Khyber Pukhtoonkhwa
NARC	National Agriculture Research Canter
NGO	Non Governmental Organization
NSW	New South Wales
NWFP	North West Frontier Provence
NFC	National Fertilizer Company
NRSP	National Rural Support Program
PARC	Pakistan Agriculture Research Council
PDDC	Pakistan Dairy Development Company
PEP	Private Extension Provider
PKR	Pakistani Rupee
PRSP	Punjab Rural Support Program
PTA	Pakistan Telecommunication Authority
RIRDC	Rural Industry Research and Development Corporation
SRSC	Sarhad Rural Support Program
T & V	Training and Visit
TRE	Telecommunication Regulatory Environment
TTU	Technology Transfer Unit
VO	Village Organization