Chapter 8  
Framework for Micro-Level Drought Preparedness

Since the main aim of this research work is to develop a framework for micro-level drought preparedness, sources of agricultural information management (International/National/Extra-Institutional), ICT Enabled RKCs, Open Learning methodologies, and drought early warnings have been identified as key components in developing such a framework (based on the experimental findings discussed in Chapter 3,5,6,7). In the following sections, a clear chain of evidence was established between these components to propose a new framework as mentioned in Chapter 1.

8.1  
Expert-Farmer Information Flows

The farm families that live in drought prone areas have an easy access to the Traditional Knowledge (TK) resources and information resources provided by family friends, neighbours and pesticide shop owners (horizontal information flows), but not information resources provided by the expert systems (vertical information flows from international, national, state and local agricultural agencies). However, the horizontal information flows and TK resources are
not always critical in search for solutions, which require advice and inputs provided by the expert systems developed on the basis of scientific approaches. The research at expert level needs to incorporate farmers’ feedback for defining new solutions and adaptations. Finding practical means for engaging such intensive, ongoing dialogue across time, distance, and cultural gaps remains a challenge; the emergence of contemporary ICTs and RKCs (discussed in Chapters 3 and 5) can make a difference. The experimental findings discussed in Chapter 5 have shown the effectiveness of ICT-enabled RKCs in enabling improved information flows between the scientific community and the village farm community, and further enlarged the canvass for dialogues and discourses. Moreover it has provided new avenues for enabling interactions among farmers from different locations. Hence this has been incorporated as one of the components of micro-level drought preparedness framework (Fig 37).

Figure 37: Farmer-Expert Information flows strengthened through ICT enabled RKCs
8.2 Open and Distance Learning

The processes for capability building and capacity development of farm families that live in drought prone areas are among the components of the new framework on drought preparedness. The traditional approaches of the capacity building are costly and have limited reach. Moreover, given that most stakeholders have limited exposure to the classroom milieu, new methods and techniques for capacity development will be necessary in fostering drought preparedness. It was therefore the new approach to the capacity building envisions a world in which all stakeholders can easily access and share information, knowledge and skills they need – anywhere and anytime – in a cost effective manner. The contemporary situation demands more innovative and efficient access to appropriate information, knowledge, and skills.

The experimental results discussed in chapter 5 and 6 have shown needed arrangements, methods (Open and Distance Learning), and contemporary ICT tools and concepts (for multi modal delivery, learning content sharing and management) to complement and supplement present capacity building initiatives in an affordable way. The evidence has shown that the RKC's act as facilitators in novel learning opportunities; and experimental results suggested that this is feasible and more effective than the conventional systems in terms of cost and wider reach. Hence this has been incorporated as one of the components of the micro-level drought preparedness framework (Fig. 38).
8.3 Early Warnings at Micro-level

The experimental findings discussed in chapter 7 have shown a technique to estimate drought at local level, on the basis of water budgeting technique. The colour coded maps generated based on the proposed technique is proven to be useful, it was therefore the technique has been incorporated as one of the components of micro-level drought preparedness framework. In this approach the ICT enabled RKCs have been identified as new institutional arrangements for collecting local rainfall and generating decisions to cope with drought scenarios at micro-level (Fig. 39).
8.4 Proposed Framework

The hub and spokes model was used for integrating individual components to develop proposed framework for micro-level drought preparedness (Fig. 39). The expert system (or) the local arrangements for collecting information from expert systems hosted at hub, and the spokes (RKCs) are connected to the hub with wide variety of wireless (or) wired connectivity. The hub derives the locale specific information from generic information and disseminate through ICT enabled RKCs. The vulnerable rural families now have the means to estimate their own vulnerability and can use the information available at ICT enabled RKCs to make more informed decisions, which offers a sounder basis for designing drought preparedness and adaptation strategies.