

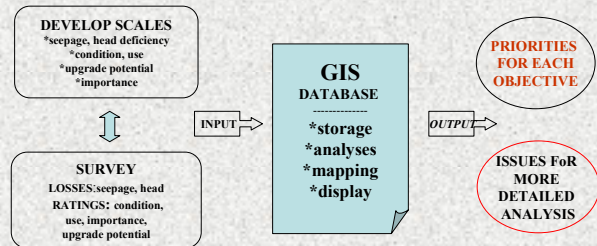
Development of the Rapid Assessment Tool (RAT) for Evaluating Irrigation Network Performances

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Facing the Challenges – Developing Innovative Solutions Rapid Assessment Tool (RAT) for Diagnosing Problems and Developing Priorities in Irrigation Districts



Research Objective:

To develop a Rapid Assessment Tool (RAT) capable of quickly and inexpensively evaluating the performance of irrigation networks.

The RAT

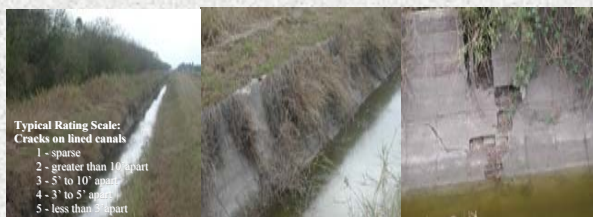
A screening tool that combines condition surveys, GIS mapping and limited direct measurements to provide a cost effective analysis of irrigation network operations. Capabilities when fully developed will include:

- Hydraulic condition rating
- Estimate losses due to seepage and spills
- Analysis of the adequacy of water supply to users
- Aid determination of priority rehab. Projects based on potential water savings.
- Linkage to databases
- Display results using Geographic Information System (GIS)

Some Challenges facing Irrigation Districts

- Deteriorating and ageing infrastructure
- Rapidly increasing Municipal and Industrial (M&I) demand
- How to identify and minimize water losses
- Need to consistently maintain quality service to all users
- How to evaluate system performance in order to decide best investment and management priorities

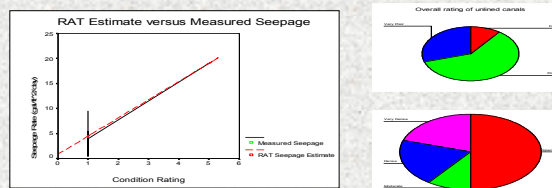
Lined Canal Condition Rating



Combining Seepage Loss Testing and Canal Condition Rating using RAT



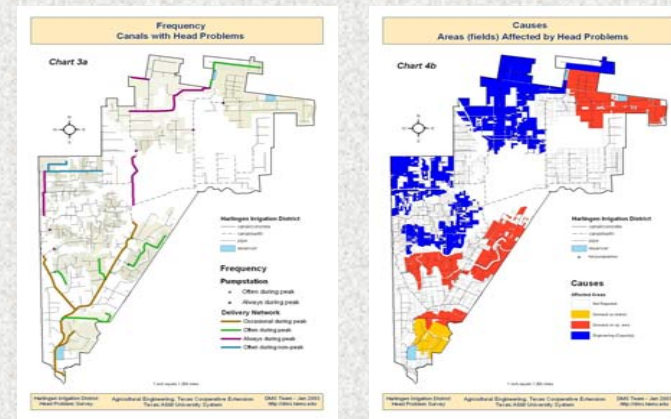
Overall Condition and Seepage Loss Rating using RAT



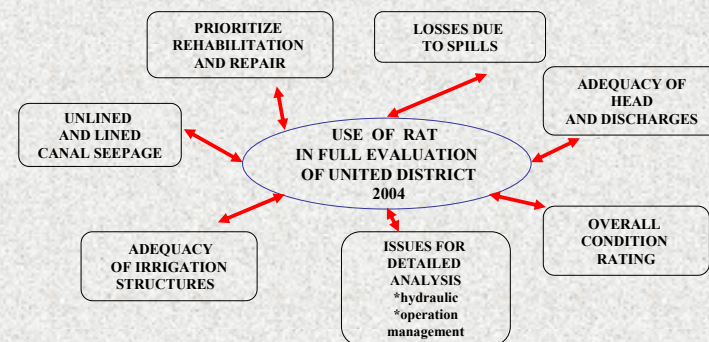
Overall Condition and Erosion Rating using RAT



Head Condition Analysis using RAT



THE NEXT PHASE OF RAT DEVELOPMENT



The Future

Work continues on the development of the RAT products. When fully developed the RAT will be used to exploit the significant opportunities for improving water resource management in irrigation districts. As irrigation systems are spatially located, Geographic Information Systems (GIS) is highly suitable as an innovative tool in irrigation systems planning and management.