

**TERMS OF REFERENCE FOR**  
**EVALUATION OF MICRO IRRIGATION SCHEME**

**I. Study title:** Title of the proposed study is "Evaluation of Micro-irrigation Scheme Implemented by Agriculture Department in Karnataka state."

**II. Background information:** Micro-Irrigation involving Drip and Sprinkler Irrigation has proven advantages in terms not only of saving water but also in saving energy and labour, improved weed management, enhanced productivity, etc. Micro Irrigation Scheme was started as District Sector Scheme during the year 2003-04 extending 50% subsidy. The Ministry of Agriculture, GOI had initiated the scheme for promoting drip irrigation during the Tenth Five Year Plan as a centrally sponsored scheme. The scheme is expected to increase the area under irrigation, optimize water use, enhance the crop yield and contribute significantly to the economic well being of the beneficiaries. The scheme operates mainly through input subsidy because the micro-irrigation systems are expensive and a majority of farmers can't afford it. Over the years, depleting ground water table has become a serious concern. Both the Central and State Governments have been promoting micro-irrigation very strongly to overcome the ground water crisis. During the year 2011-12, about Rs. 90 crore was spent on the subsidy for micro-irrigation. The expenditure continues to rise year on year.

**III. Evaluation scope, purpose and objectives:** Micro-irrigation scheme has been under implementation for more than ten years. The scheme is popular because of the shift in farming towards high value crops which need sustained irrigation in the face of fast depleting ground and surface water resources. However, the scheme coverage is not commensurate with the demand in spite of the fact that other government departments like Horticulture are also supporting the micro-irrigation activity. Several banks, private marketing/manufacturing companies and a few NGOs have stepped in to finance micro-irrigation. Big farmers and agricultural/horticultural companies also make their own investments. Statistics on how much of additional farm land is brought under irrigation by these investments; what is the rate of transition to high value commercial crops induced by the micro-irrigation; what is the actual increase in crop productivity in micro-irrigated areas; how efficient and effective are the micro-irrigation systems, who is benefitting from micro-irrigation etc., are hard to get. But these statistics are important because micro-irrigation is capital intensive and has long payback period. There is big demand but government is not able to meet all of it. Answers to some of these issues are expected to be found from the proposed state level evaluation study of the micro-irrigation scheme. The study should cover the micro-irrigation scheme implemented during the last five financial years. Current year scheme will be used to understand the implementation processes.

**IV. Evaluation questions:** Following are the evaluation questions for the study:

1. What is the effective coverage of micro-irrigation in Karnataka state? What is the contribution of different agencies to this coverage?
2. What is the real world economics of micro-irrigation based on farmers' experience?
3. What is the actual extent to which micro-irrigation needs to be subsidized? How much of potential exists for private investment in the next 5 years?
4. Are the prescribed quality standards in the supply of micro-irrigation equipment maintained? Are the forward and backward linkages satisfactory?
5. What is its proportion duplication or misuse in the scheme implementation?
6. How satisfied are the farmers with the micro irrigation scheme?
7. What factors contributed to achieving/not achieving intended outcomes?
8. Are there any unintended consequences of the scheme and if so what are they?
9. How the scheme could be improved or implemented better in the future?

**V. Evaluation methodology:** The study shall be done by area method in different agro-climatic regions. File tracking and case studies should be used liberally for understanding the dynamics of the scheme. Farmers' satisfaction should be captured through Citizen Report Cards. The study should include appropriate counterfactual to capture the effect size of micro-irrigation at the state level and household level. The sample size shall be minimum and statistically valid.

**VI. Agency for evaluation:** The study was already awarded to the University of Agricultural Sciences, Dharwad by the Agriculture Department at a cost of Rs. 27 lakh.

**VII. Deliverables and timelines:** The Agriculture department will provide the data of district-wise beneficiaries of micro-irrigation scheme for the last five financial years. They will also provide the available data for the current financial year which will be used by the evaluators for observing the practices in implementing the scheme. UAS, Dharwad will adhere to the following timelines and deliverables:

- a. Submission of Work Plan/Inception Report – within 30 days after signing MoU.
- b. Field data collection – within four to five months after the work plan is approved
- c. Draft report preparation – within one month of completing field data collection.
- d. Final report submission – within one month after the draft report is approved.

Thus excluding the time taken for approval, UAS, Dharwad should complete the evaluation study in eight months time.

**VIII. Ensuring quality standards:** The evaluation report and its findings must demonstrate highest professional standards on par with national and international studies.

**IX. Oversight for the study:** Karnataka Evaluation Authority will provide the complete oversight for the study. All technical aspects of the study are subject to their approval.

Approved  
14/6/2015

Chief Evaluation Officer  
Karnataka Evaluation Authority  
Bangalore-560001