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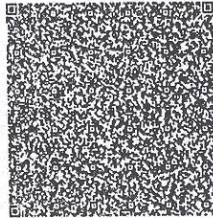


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MEMORANDUM OF UNDERSTANDING

UNIVERSITY OF AGRICULTURAL SCIENCES, BANGALORE PARTNERING
WITH KARNATAKA WATERSHED DEVELOPMENT DEPARTMENT FOR
IMPLEMENTATION OF WORLD BANK FINANCED KARNATAKA WATERSHED
DEVELOPMENT PROJECT II (KWDP II - SUJALA III)
(CREDIT NUMBER 5087-IN)

H. W. ...
20 Jan 2014
REGISTRAR

H. C. ...
Commissioner
Watershed Development Department

UNIVERSITY OF AGRICULTURAL SCIENCES Page 1 of 20
Statutory Office CAMPUS BANGALORE - 560 065

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1. This Memorandum of Understanding dated 30th day of January, 2014 and executed between: **Department of Watershed Development, Government of Karnataka**, having its office in Seventh Floor KHB Complex, Cauvery Bhawan, KG Road, Bangalore – 560 009 represented by its Commissioner or his authorized representative (herein after called as Department of Watershed Development – Client) is the **First party**, which term shall mean and include Executors, Administrators.

and

The **University of Agriculture Sciences, Bangalore** a premier Karnataka State Agriculture University represented by its Vice Chancellor, Bangalore or his authorized representative (herein after called as UAS, Bangalore- Project Partner) as the **Second party** and which term shall mean and include Executors, Administrators.

2. **WHEREAS:**

2.1 The Government of Karnataka, Govt. of India and World Bank, have designed a new Watershed development model to strengthen the GOI sponsored IWMP and its convergence with other developmental programs, particularly NREGS. Such a project would contribute to deeper and more sustainable improvements in productivity and livelihoods of small farmers in rainfed areas. Accordingly GOK proposes to implement the World Bank assisted Karnataka Watershed Development Project-II (KWDP-II) at an estimated cost of 85.70 million USD. The Project will be implemented over a period of six years from 2013-14 to 2018-19 in seven districts of Karnataka State viz Bidar, Gulbarga, Yadgir, Koppal, Gadag, Davanagere and Chamarajnagar in selected 434 Micro-watersheds (Batch 4 and 5 of IWMP) in two Phases covering 2,08,660 ha. The UAS Bangalore will be involved only in Davanagere and Chamarajnagar districts under the KWDP II-SUJALA III Project.

2.2 KWDP-II intends to demonstrate more effective watershed management through greater integration of programs related to rainfed agriculture, innovative and science based approaches and strengthened institutions and capacities of stake holders at different levels through:

- Characterization of natural resources at cadastral level for resource potential and conservation;
- Understanding hydrological dynamics vis-a-vis hydrogeology, climatic variability and develop tools to measure them;
- Establishing state of the art Digital Library, watershed management portal for the decision support system
- Enable and strengthen the local watershed institutions in a participatory bottom up approach for sustained development;

and incorporate the same into the watershed planning and implementation to address the needs of rain fed farmers for sustainable natural resource management for ensuring economic equity.

The project would strengthen the involvement of small and marginal farmers in the existing extension delivery systems, agricultural schemes and value chains, to increase opportunities to adopt new technologies. The project would also strengthen the financial convergence between IWMP and MNREGS and technical convergence through effective integrated watershed planning incorporating the other developmental schemes. Better convergence is expected to result in more science-based targeting and higher quality of resource conservation interventions. The adoption of enhanced systems and new tools should result in measurable incremental investments and subsequent benefits in watershed development outcomes in the project areas for subsequent up scaling.

2.3 Project Components:

- Component 1: Support for Improved Program Integration in Rainfed Areas
- Component 2: Research, Development and Innovation
- Component 3: Institutional Strengthening
- Component 4: Strengthening Horticulture in Rainfed Areas
- Component 5: Project Management and Coordination

2.4 Project Stakeholders:

- Watershed Development Department (WDD), GOK
- Departments of Agriculture and Horticulture, GOK
- State Agriculture, Horticulture and Veterinary Universities
- National Bureau of Soil Survey & Land Use Planning, (NBSS&LUP), ICAR
- Indian Institute of Science (IISc)
- Karnataka State Remote Sensing Applications Centre (KSRSAC).
- Karnataka State Natural Disaster Monitoring Centre (KSNDMC)
- District and Taluk level Watershed Teams and Watershed Committees, and Community Institutions such as, Area Groups / Farmer Groups, Producer Groups, HOPCOMS and Self-Help Groups.
- Local Self Governance Institutions like Gram Panchayath and Zilla Panchayath.
- Raitha Samparka Kendras (RSKs) and Krishi Vignana Kendras (KVKs).

2.5 Project Implementing Agency:

Watershed Development Department (WDD) and Horticulture Department (HD) of Government of Karnataka (GoK) are the implementing agencies. They are responsible for achieving the goals and objectives of the project. The Commissioner - WDD Bangalore will be the Project Director responsible for overall project implementation.

2.6 Project Management and Implementation Arrangements:

Project oversight: The WDD and DoH under the GoK would be the implementing agencies for the project and be responsible for ensuring that the project development objectives are met. Oversight would be provided by the Project Empowered Committee (PEC). The PEC would review progress and approve yearly plans and budgets, and provide policy guidance. The PEC comprises of Secretaries from relevant departments in the GoK, to ensure guidance for the more integrated and convergence approaches that the project will pilot and promote. The PEC would closely work with the SLNA, which monitors the implementation of IWMP.

Project Management - Watershed activities: A Project Planning and Management Unit (PPMU) would be set up within the WDD, which would assume direct responsibility for day-to-day project management, coordination and implementation. The PPMU, made up of key Departmental directors from WDD and partner GOK agencies would take the lead role in planning, coordination and monitoring of the project performance in line with the project implementation schedule, and facilitate regular decision making for implementation of various components of the project and be responsible for inter-institutional coordination. It would also ensure that resources are budgeted and disbursed, and that project accounts are audited.

The PPMU would be led by a full-time Project Director assigned from the WDD, supported by i) a **Project Technical Cell (PTC)** with full-time technical contracted or deputized specialists, who would provide advice and project related support on technical matters for integrated watershed planning and monitoring and hydrology, and overall M&E and reporting; ii) a **Research and Extension Cell (REC)**, with designated officers from WDD and the Departments of Agriculture and Horticulture, and training coordinator who would guide and coordinate project activities relating to delivering research outputs, technology transfer and strengthening local institutions; and iii) a **Financial Management and Procurement Cell (FMPC)** which would be responsible for the accounting, procurement and financial control of the project. The PPMU would be responsible for approving all contracting and procurement across all watershed components, consultancies and specialized agencies.

The PPMU will be working with a range of project partners and existing institutional systems across different components. At District and Taluk levels, the project would provide incremental support manpower, training and equipment to build capacity and strengthen the arrangements already in place, mainly the existing District Watershed Development Teams (DWDTs) and Taluk level Watershed Development Teams (WDT) under the IWMP, and agriculture extension units, especially farmer contact centers (also known as RSKs), so that the local units can access and use a greater range of information products, decision tools, and manage field demonstrations.

2.7 Importance of Component 1 and 2:

The **Component 1: Support for Improved Program Integration in Rainfed Areas** is central to the realization of Project goals and objectives. Under this component, the Natural Resource base of the Micro-watersheds will be characterized and digital library will be established. The information generated will be used in establishing Watershed Management Portal at UAS, Raichur, and disaster recovery unit at UAS Dharwad. The Digital data will be used for developing DSS Applications. The Final Product of this component is to facilitate Community based Micro-watershed Master Planning with the help of new scientific tools and planning processes. It also encompasses concurrent community M & E.

Component 2: Research, Development and Innovation:

The component 2 will focus on developing Tools, Techniques, approaches and identification of best practices for use in Component 1 & 3. Under this component the major activities planned are;

- i) Research for integrated land management and agricultural intensification applied research studies across key thematic areas including integrated land management and agricultural intensification, climate-smart agriculture, and agriculture value chains.
- ii) Integrated Hydrological Assessment and Monitoring, developing best-practice approaches and tools for basic and advanced hydrological assessment and monitoring by financing development of systems to deliver appropriate hydrological data from sub-watershed to micro-watershed scales
- iii) Technology transfer, Demand-driven technology transfer will be strengthened through the development/adaptation of best-practice models and tools for increased adoption by end-users, for use as planning and training tools at micro-watershed level, contingency planning against climatic risks, improved information on markets, post-harvest technology and value addition, and on-farm participatory field trials and demonstrations for specific technologies, for example conservation farming; and
- iv) Strengthening research management, Management of institutional research to address longer-term need-based technology transfer, quality assurance, and coordination of rainfed agriculture and watershed management research under the Ministry of Agriculture.

To accomplish this task, the PPMU/REC will establish close collaboration between/with local universities and research organizations; in particular the three Universities of Agriculture Sciences (UASs) and the Horticultural Sciences and other Indian Council of Agricultural Research (ICAR) institutions currently working in partnership with the Department of Agriculture. It would also ensure collaboration

with other research institutions in India, and where local/national expertise is not available, from specialized research institutions and researchers overseas.

3. **WHEREAS:**

UAS, Bangalore has the necessary expertise and has years of experience to conduct and promote research in various aspects of Agriculture hence considered as well qualified to partner with KWDD for the successful implementation of KWDP-II on a sustainable basis in two of the project districts, namely **Davanagere and Chamarajnagar** in the state. Specifically, the UAS, Bangalore will be involved in carrying out natural resource characterisation including hydrological survey at sub watershed and micro watershed levels in these two districts, establish Digital Library, provide inputs for establishing Watershed Management Portal and DSS, enable WDD in the preparation of Net Plan, Training and Capacity Building of various stakeholders of the project.

The financial outlays for the component for which UAS, Bangalore will be responsible have been worked out in consultation with officials of UAS Bangalore is as follows:

FINANCIAL OUTLAY FOR THE COMPONENTS TO BE IMPLEMENTED BY UAS, Bangalore - BREAKUP (Rs. Lakhs)

Annexure of the Cost Table ¹	Details	Equipment, Tools, Maps etc.,	Operating Cost (Stationary, AMC ²	Man power cost salary ³	TA & DA	Institutional Charges	TOTAL
102	A.1.2. Development of DSS			69.30		10.40	79.70
103	A.2.1 GIS Facilities	113.30					113.30
105	B.1.2. Equipment for Field Soil Survey Operations	37.33					37.33
106	B.2.1 Hardware & Software for Digital Library	123.90	48.00			13.05	184.95
110	B.2.5 Compiling existing datasets, maps, literature, books, reports from various agencies for the Project Area		3.00			0.45	3.45

¹ The Annexure numbers 101, 102 etc. as given in column 1 and the references A.1.1, A.1.2, etc. as given in column 2 of the above table are as per the cost table prepared for the Project in 2012.

² These are in conformity with the definition of Operating costs as given in the Project Agreement.

³ Pertains to the salary of consultants / contractual staff hired by UAS, BANGALORE and not of the regular employees of UAS, Bangalore.

113	B.2.8 Equipment for field verification for Hydrological aspects- includes GPS enabled cameras, computer software for 30 model watersheds	14.29					14.29
115	B.3 Hydrological data acquisition systems	4.00				0.60	4.60
116	B.2.7 Soil Survey Consultancy			86.40			86.40
118	B.2.7 Cost of Field Work		43.20	19.44	45.00	16.60	124.24
119	B.6.2 Salaries for Junior & Senior Researchers			135.00	22.73	25.44	183.17
120	B.6.3 Soil and water analysis /m		11.38			1.71	13.09
121	B.6.4 Stationery and report printing		39.80			5.97	45.77
122	B.6.5 Rental of field project office	3.00	13.92			2.54	19.46
303	B.2 Integrated hydrological assessment & monitoring – Strengthening of Lab facilities	30.00					30.00
304	B.2 Integrated hydrological assessment & monitoring – Equipments for Lab	31.31					31.31
	Total	357.13⁴	159.3	310.14	67.73	76.76	971.06

The above costs have been worked out in consultation with UAS, Bangalore and they are agreeable for the same. The Cost Tables referred to above are attached.

The Abstract particulars of IWMP proposed Watersheds is given in Annexure I

⁴ Out of the proposed total outlay of Rs.971.06 lakhs about Rs 200.00 lakhs worth of equipments is likely to be procured by WDD and hence the net total expenditure to be incurred by UAS, Bangalore would be about Rs.771.06 lakhs

4. NOW THEREFORE THE PARTIES AGREE TO IMPLEMENT KWDP-II PROJECT WITH THE FOLLOWING UNDERSTANDINGS:

4.1 Responsibilities of UAS- Bangalore (Second Party):

The Specific tasks to be performed by UAS- Bangalore will include (but not limited to):

1. Establish a dedicated Project unit at their Bangalore campus to undertake the tasks assigned. The team of scientists shall be from different disciplines such as Soil Science, Remote Sensing and GIS applications, Agronomy, Soil and Water Conservation Engineering, Hydrology, Agricultural Economics and any other discipline as deemed necessary for the effective project execution. The team identified and agreed at the time of Project preparation are as under. In case any of the following is not available due any valid administrative reason, they shall be replaced by equally qualified, experienced and competent personnel.
2. The qualification and experience of the present team as well as the minimum qualification and experience required for the position is given below:

No	Name	Designation	Qualification	Field of Specilisation	Experie nce- years
Lead Scientist					
1	Dr. V.R. Ramakrishna Parama,	Professor and Head, Department of Soil Science and Agriculture Chemistry	M.Sc (Ag), Ph.D	Soil Fertility, Recycling of Organic residues, Environmental Pollution [*]	28
Land Resource Inventorisation					
2	Dr. T. Chikkaramappa,	Associate Professor, Dept.of Soil Science and Agriculture Chemistry	M.Sc (Ag), Ph.D	Soil Fertility, Watershed Management	21
Agronomic / Climatic Inputs and Best Management Practices and Options					
3	Dr. H.S. Shivaramu,	Professor, Department of Agronomy	M.Sc (Agri), Ph.D	Dryland Agriculture and Watershed Management	23

GIS & Remote Sensing					
4	Dr. A Sathish,	Associate Professor (SS and AC), AICRPDA, GKVK	M.Sc (Agri), Ph.D	Remote Sensing & GIS, Nutrient management & climate resilient Agriculture.	9
Hydrology, Soil & Water Conservation					
5	Dr. H.G. Ashoka,	Agricultural Engineer (Res) Division of Agricultural Engineering	M.Sc (Ag), Ph.D	Soil & Water Conservation	23
Socio-Economic Data collection and Interpretation					
6	Dr. M.R. Girish	Assistant Professor (Sr. Scale); Dept.of Agricultural Marketing, Co-operation & business management	M.Sc (Ag), Ph.D	Agricultural Marketing, Co-operation and business management, Cropping Systems	6

Note: The minimum qualification required is a Post Graduate degree in the relevant field and 2 years experience for Assistant Professor, 5 years for Associate professor and 10 years for Professor positions.

3. Participate in stakeholder workshops & community interfacing ;
4. Undertake field surveys (Soil, Hydrology, Land use, Socio economic) and collection of baseline data for all the project micro watersheds in Chamrajanagar and Davanagere districts;
5. Make sub-watershed level assessment in association with NBSSLUP for all the micro-watersheds in Chamrajanagar & Davanagere districts;
6. Establish GIS Lab, Field Facilities and strengthen analytical lab facilities at UAS Bangalore;
7. Conduct hydro-geomorphological survey with technical guidance from IISc for all the micro-watersheds in Chamrajanagar & Davanagere districts
8. Make hydrological assessment for basic parameters with technical guidance from IISc for the micro-watersheds in Chamrajanagar & Davanagere districts

9. Conduct Intensive Hydrological Monitoring for groundwater management with technical guidance from IISc for selected two micro-watersheds in Davanagere district;
10. Collect climatic data analysis in association with KSNDMC;
11. Conduct laboratory analysis of soil & water samples for all the micro-watersheds in Chamarajanagar & Davanagere districts;
12. Conduct data processing & data authentication in association with NBSS&LUP and IISc for all the micro-watersheds in Chamarajanagar & Davanagere districts;
13. Generate GIS based Thematic layers for all the micro-watersheds in Chamarajanagar & Davanagere districts;
14. Establish digital library for all the micro-watersheds in Chamarajanagar & Davanagere districts;
15. Provide inputs for Decision Support System (DSS);
16. Prepare Participatory Micro-watershed Master Plan and develop treatment plans integrating with other Programmes for all the micro-watersheds in Chamarajanagar & Davanagere districts and validate;
17. Prepare landscape based Thematic Studies to identify best practices for Technology Transfer and Upscaling the identified Best Management Practices;
18. Identify researchable issues for Component II;
19. Provide inputs for Project Website & MIS;
20. Conduct capacity building, farmers field schools including development of training modules and training delivery;
21. Prepare Procurement Plan (in consultation with WDD) for the procurement of Works, Goods and Services as may be required for the implementation of Component I and II of the Project and revise the same as necessary at least once a year;
22. Provide the generic, functional specifications for the major equipment to be procured by WDD through International/National Competitive Bidding;
23. Procure minor equipment, tools, field work, laboratory equipment, chemicals as per requirement of the Project by following shopping procedures as prescribed by World Bank Guidelines and Procurement Manual;
24. Maintain all the procurement related documents in a proper and systematic manner so that they can be easily retrieved and produced to the officials of the Bank or their authorized auditors for their review as and when they request for the same.;

25. Shall ensure utilization of funds for approved project activities only and ensure that the underlying records, books of accounts are adequately maintained for the purposes of audit;
26. Freely share/exchange the data (soft and hard copies) generated by them with the entire project partners in the best interests of the project. Confidentiality shall be adhered to while sharing the same with agencies other than the partners unless and otherwise desired by the WDD;
27. Hire necessary manpower by following procedure of UAS-B with concurrence of WDD as regards, the qualification, experience and number;
28. **Submit the following reports/outputs (or any other as may be desired by Bank and or WDD) as per program agreed with WDD;**
 - a) Land Resource Maps at Sub-watershed & Micro-watershed level
 - b) Interpreted Thematic Layers at Sub-watershed & Micro-watershed level
 - c) Watershed Assessment reports at Sub-watershed level
 - d) Hydro geological Assessment Reports
 - e) Meteorological Data, Climatic Analysis Reports and inputs for climate smart agriculture
 - f) Digital Library & DSS inputs
 - g) Training Modules specific to different themes
 - h) Groundwater Management Plans
 - i) Identified Best Management Practices (BMPs) for Technology Transfer
 - j) Treatment Plans including convergence with MNREGS and other line departmental programmes
 - k) Micro-watershed Master/Action Plan
 - l) Alternative Land use plan (Net plan)
 - m) Workshop Proceedings, IEC Products
 - n) Inputs for MIS
 - o) Expenditure reports highlighting the actual expenditure against payments received to be submitted in agreed format on a quarterly basis to WDD.
29. Follow and adhere generally to the following Schedule of Activities:

Sl No	Task	Time Schedule from the date of signing of MOU
1.	Establish dedicated Project unit at Bangalore centre consisting of Subject experts from different disciplines; Assign clear cut roles and responsibilities to the scientists with proper periodic review arrangements to the satisfaction	Within 1 month

	of WDD	
2..	Organize stakeholder workshops in association with NBSS&LUP and WDD	As per mutually approved program during the entire Project period
3.	Develop training modules/capsules/IEC material, audio visuals etc. in association with WDD	Within 6 months
4.	Prepare and submit Procurement Plan for procurement of necessary works, goods and consultancies with guidance from WDD	Within 2 months
5.	Provide the generic, functional specifications for the major equipment to be procured by WDD through International/National Competitive Bidding	Within 3 months
6.	Procure minor works, equipment and other materials as per approved Procurement Plan through shopping procedures	As and when required throughout the Project period.
7..	Submit requirement of man power to WDD for review and conveying approval	Within 1 month
8.	Hire man power as per approval	Within 3 months
9.	Advise on Preparation of bid documents for the required tools and equipment	Within 15 days of WDD seeking such advice
10.	Prepare annual action/work plan/work schedule/report generation etc .in consultation with NBSS&LUP	Entire Project period
11.	Develop standard protocols, Proformae and Manuals for field survey and laboratory analysis for soil & water samples in consultation with NBSS&LUP	Within 4 months
12.	Establish field facilities	Within 3 months
13.	Strengthen laboratory facilities and equipments in consultation with NBSS&LUP	Within 6 months
14.	Establish digital library (GIS) in consultation with NBSS&LUP	Within 9 months
15.	Conduct laboratory investigations on soil and water samples	Up to 36 months
16.	Compilation of secondary data from various sources for their area of operation	Entire Project period

17.	Obtain cadastral and Imagery from KSRSAC and prepare the required base maps	As and when made available from KSRSAC
18.	Conduct periodic review and set up priorities related to field survey, correlation, data interpretation, data integration, generation of thematic layers and authentication	As per mutually agreed program within 36 months
19.	Operationalize Digital library	Within 24 months
20.	Provide inputs to Develop Decision Support System (DSS)	Entire Project period.
21.	Organize and execute field surveys and collection of primary data	Up to 36 months
22.	Organize socio-economic survey and analysis	Up to 36 months
23.	Review of the field survey progress in association with NBSS&LUP	Entire Project period
24.	Data authentication and data processing on GIS platform	9 to 36 months
25.	Preparation of land resource maps at micro-watershed and sub-watershed level	Between 12 to 36 months
26.	Preparation of sub-watershed and micro-watershed assessment reports	Within 12 to 40 months
27.	Finalize land use plans and community validation	Within 12 to 40 months
28.	Organize trainings for WDD/NGO facilitated by Lead Training Agency	Entire Project period
29.	Prepare micro watershed treatment master plans	Entire Project period
30.	Identify the best management practices (BMPs)/indigenous technical knowledge (ITK) for technology transfer for their area of operation	Entire Project period
31.	Conduct hydrological monitoring and modelling in their area of operation under the guidance of IISC	Entire Project period
32.	Develop rainfed agriculture information system	Within 12 to 60 months
33.	Participate in community level monitoring	Entire Project period
34.	Conduct intensive hydrological monitoring and assessment with the guidance of IISc in 2 micro watersheds of Davanagere district under Component II	Entire Project period

The services shall be for the project duration of six years. The service period could be extended on mutual consent.

4.2 Responsibilities of Karnataka Watershed Development Department (KWDD) - (First Party):

To support UAS- Bangalore in performing its activities, the WDD shall:

1. Provide a framework and guidelines to facilitate effective implementation of the KWDP – II;
2. Liaison with Project District ZPs and PRIs for effective program convergence;
3. Provide Financial support, Logistics;
4. Procure all major equipments as may be required by UAS, Bangalore and provide the same timely to UAS Bangalore;
5. Workout a mutually agreed schedule for the outputs to be submitted by UAS, Bangalore;
6. Enable conducive working environment for collaboration between various stakeholders involving Line Departments and Project Partners of the Project;
7. Facilitate the participation of district and taluk WDTs, Watershed Committees (EC) and Various Community Based Organizations (CBOs), User Groups, SHGs including the IWMP-NGO, training coordinators in all the activities of the Project partners;
8. Get involved in the project inception activities like State / District level stakeholder workshops and awareness programs and provide necessary information and clarification;
9. Make necessary modifications from time to time (based on the learning) in the Operations Manual for convergence of IWMP and KWDP II;
10. Undertake periodic review of Project Progress with various groups of Stakeholders & Project partners;
11. Maintain transparency at all levels in financial transactions;
12. Continuously evolve and update the guidelines and recommendations for project implementation, based on the experiences generated by the Project partners and other institutions at the project level;
13. Hold periodic workshops and other consultation processes for mid-course corrections as and when the need arises;

14. Constitute a Review and Co-ordination Committee consisting of members from the WDD, Department of Horticulture including representatives from NBSS&LUP, SAUs, SHU, KVAFSU, KRSAC, KSNDMC and IISC to monitor project progress and undertake mid-term review and to suggest modifications and refinements if any as and when required.

4.3 Payment terms and conditions:

4.3.1 Fund release and audit:

The WDD will release funds to UAS, Bangalore as per schedule given below on completion of tasks as specified here under and to the satisfaction of the review committee (PTC) headed by the Commissioner;

Sl No	Task	Time Schedule from the date of signing of MOU	Schedule for release of funds as % of the Net estimated outlay of Rs.771.06 lakhs
1.	Establish dedicated Project unit at Bangalore centre consisting of Subject experts from different disciplines; Assign clear cut roles and responsibilities to the scientists with proper periodic review arrangements to the satisfaction of WDD	Within 1 month	10 ⁵
2.	Develop training modules/capsules/IEC material, audio visuals etc. in association with WDD	Within 6 months	1
3.	Prepare and submit Procurement Plan for procurement of necessary works, goods and consultancies with guidance from WDD	Within 2 months	1
4.	Provide the generic, functional specifications for the major equipment to be procured by WDD through International/National Competitive Bidding	Within 3 months	2

⁵ The 10% release is to facilitate the establishment of dedicated unit and as an upfront availability of funds to undertake other project related activities.

5.	Procure minor works, equipments and other materials as per approved Procurement Plant through shopping procedures	As and when required throughout the Project period.	3
6.	Submit requirement of man power to WDD for review and conveying approval	Within 1 month	2
7.	Hire man power as per approval	Within 3 months	4
8.	Establish GIS & Lab facilities	Within 3- 6 months	10
9.	Establish field facilities	Within 3 months	4
10.	Strengthen laboratory facilities in consultation with NBSS&LUP	Within 3 months	3
11.	Equipments for lab in consultation with NBSS&LUP	Within 3 months	3
12.	Establish digital library (DL) in consultation with NBSS&LUP	Within 12 months in 2 installments	12
13.	Conduct laboratory investigations on soil and water samples	Up to 36 months in 3 installments	1
14.	Compilation of secondary data from various sources for their area of operation	Entire Project period	0.5
15.	Operationalize Digital library	Within 24 months in 2 installments	1
16.	Provide inputs to Develop Decision Support System (DSS)	Entire Project period.	1
17.	Organize and execute field surveys and collection of primary data	Up to 36 months in 3 installments	5 for 1 st year 5 for 2 nd year 5 for 3 rd year Total 15
18.	Organize socio-economic survey and analysis	Up to 36 months in 2 installments	2
19.	Review of the field survey progress in association with NBSS&LUP	Entire Project period	0.5
20.	Preparation of land resource maps at micro-watershed and sub-watershed level	Between 12 to 36 months in three installments	3 for 1 st year 3 for 2 nd year 3 for 3 rd year Total 9
21.	Preparation of sub-watershed and micro-watershed assessment reports	Within 12 to 40 months in 2 installments	2
22.	Finalize land use plans and community validation	Within 12 to 40 months	0.5

23.	Prepare micro watershed treatment master plans	Entire Project period	0.5
24.	Conduct hydrological monitoring and modelling in their area of operation under the guidance of IISC	Entire Project period in 2 installments	1
25.	Conduct intensive hydrological monitoring and assessment with the guidance of IISc in 2 micro watersheds of Davanagere district under Component II	Entire Project period in 2 installments	1
26.	On Final Review of tasks entrusted and submission of completion reports to the satisfaction of WDD	At the end of the project	10
Total			100

UAS Bangalore shall maintain dedicated Bank account to operate this fund UAS Bangalore shall follow strictly the provisions of the Financial Management and Procurement Manual. All the expenditures, financial transactions shall be subject to internal auditors appointed by WDD under the project and further subject to external audit by C & AG. UAS Bangalore shall render prescribed IUFRR statements to the WDD every quarter to facilitate reimbursement claims by the WDD. The oversight of C&AG audit for WDD is extended to cover these transactions.

4.3.2 Institutional charges:

The project shall provide institutional charges on all the recurring costs/charges from the State's (GoK) share to the Project.

4.3.3 Procurement of Materials, Equipments, Hardware, Software:

WDD shall procure all Materials, Equipments, Hardware, Software and supply to UAS Bangalore.

4.4 Other terms and conditions:

4.4.1 Ownership of tools, equipment/infrastructure procured for the Project;

During the project period, the WDD shall be the owner of all the project assets. However the assets would be utilized by UAS, Bangalore during implementation of the Project. After the completion of the project, a Committee would be constituted by WDD to assess the usefulness or otherwise of the equipment procured, feasibility and utility of the equipment installed, for the component executed by UAS, Bangalore and make recommendations to WDD. Appropriate decision would be taken based on the recommendations of the Committee in consultation with UAS, Bangalore and no-objection of the Bank would be obtained before taking action.

4.4.2 Intellectual Property Rights:

The Intellectual Property rights will be shared between WDD and Project partners. Confidentiality of non-public information will be privy to the project, GOK, WDD and the World Bank.

4.4.3 Modifications to MOU:

Terms and Conditions of MOU may be reviewed and modified by mutual consent as per the requirement of various components / activities as and when the need arises and no-objection of the World Bank would be obtained before modification of the MOU. No over run cost will be permitted with the outlay proposed and Tasks in the MoU.

4.5 Settlement of disputes:

In case of any dispute and/or any difference of opinion, the same shall be amicably settled in a meeting between the Vice Chancellor of UAS, Bangalore and Commissioner KWDD and Project Director KWDP-II. In the case of non-settlement of dispute, the case shall be referred to Additional Chief Secretary and Development Commissioner, Government of Karnataka, whose decision shall be binding for both the parties.

4.6 Termination;

The MOU may be terminated by Mutual consent of both WDD and UAS, Bangalore with one month prior notice by either parties, , due to any unforeseen circumstances or in the event of suspension of loan by the World Bank and / or partner (UAS, Bangalore) failing to perform the specified tasks as mentioned in clause (4.1) of MoU.

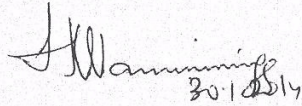
In witness thereof the parties to the MOU have signed and affixed their respective seals to this and on the date mentioned above.

For and on behalf of

For and on behalf of

University of Agricultural Sciences
Bangalore

Watershed Development Department
Bangalore



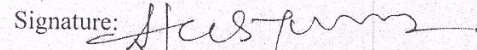
Signature:

Vice Chancellor, UAS-Bangalore

REGISTRAR

UNIVERSITY OF AGRICULTURAL SCIENCES
G.K.V.K. CAMPUS, BANGALORE - 560 065.

Signature:



Project Director and Commissioner,

KWDP, Watershed Development
Department
Bangalore.

ANNEXURE - I

Particulars of IWMP Watersheds proposed (Abstract)

Sl No	District	Taluk	No of Projects	No. Of Gram Panchayats	No, of MWS	Project Area Proposed for treatment (ha)
Batch 4 IWMP Projects						
1	Bidar	3	3	11	26	15750.50
2	Chamrajnagar	2	2	6	23	11267.43
3	Davanagere	3	3	11	29	15390.52
4	Gadag	4	4	15	58	20005.00
5	Gulburga	5	5	14	48	25010.20
6	Koppal	3	3	10	30	14512.00
7	Yadgir	2	2	6	19	10565.66
	Total	22	22	73	233	112501.31
Batch 5 IWMP Projects						
1	Bidar	2	2	9	19	10015.00
2	Chamrajnagar	2	2	8	23	10090.00
3	Davanagere	2	2	7	18	10557.72
4	Gadag	4	4	13	56	20539.94
5	Gulburga	6	6	23	55	29479.55
6	Koppal	1	1	5	10	4990.00
7	Yadgir	2	2	6	20	10486.88
	Total	19	19	71	201	96159.09
	Grand Total		41		434	208660.40