



## **MEMORANDUM OF UNDERSTANDING (MoU)**

**Between**

**Indian Council of Forestry Research and  
Education (ICFRE), Dehradun**

**And**

**Indian Council of Medical Research (ICMR),  
New Delhi**

*bx*

*u. pua*

---

# MEMORANDUM OF UNDERSTANDING (MoU)

between

**Indian Council of Forestry Research and Education (ICFRE), Dehradun**

and

**Indian Council of Medical Research (ICMR), New Delhi**

This memorandum of understanding (MoU) entered into and executed on **October 15, 2013** between Indian Council of Forestry Research and Education (herein after referred to as **ICFRE**), having its office at Forest Research Institute, P.O. New Forest- Dehradun (India), through its authorized signatory **Director General**, which expression unless repugnant to the context or the meaning thereof shall include its permitted assigns and successors.

and

Indian Council of Medical Research (herein after referred to as **ICMR**) with office at Ansari Nagar, New Delhi through its authorized signatory **Director General**, which expression unless repugnant to the context or the meaning thereof shall include its permitted assigns and successors.

Whereas, Indian Council of Forestry Research and Education (ICFRE), an autonomous apex body of Ministry of Environment and Forests, has been undertaking the holistic development of forestry research through need based planning, promoting, conducting and coordinating research, education and extension covering all aspects of forestry. The Council deals with the solution based forestry research in tune with the emerging issues in the sector, including global concerns such as climate change, conservation of biological diversity, combating desertification and sustainable management and development of resources and have the thrust areas *viz*; managing Forests and forests products for livelihood support; biodiversity conservation and management and ecological security; forests and Climate change; and forest genetics resource management and tree improvement. ICFRE with headquarters at Dehradun has eight research institutes and four research centers spread over across the country to facilitate the forestry research, education and extension.

Whereas, Indian Council of Medical Research (ICMR) established in 1911, the apex body in India for the formulation, coordination and promotion of biomedical research. The Council is engaged in conducting and promoting research in various areas of biomedical science through its 32 permanent Institutes / Centres and through Headquarters using task force approach as well as providing financial assistance to adhoc research studies. The Council's research priorities



coincide with the National health priorities such as control and management of communicable diseases, fertility control, maternal and child health, control of nutritional disorders, developing alternative strategies for health care delivery, containment within safety limits of environmental and occupational health problems; research on major non-communicable diseases like cancer, cardiovascular diseases, blindness, diabetes and other metabolic and haematological disorders; mental health research and drug research (including traditional remedies). All these efforts are undertaken with a view to reduce the total burden of disease and to promote health and well-being of the population.

**Whereas**, both the above mentioned parties having signed the Memorandum of Understanding (herein after referred to as MoU), which will lay the foundation of cooperation and joint action for the exploration of forest resources for their bioactive principles (natural products), utilization, promotion and adding value to the industrially valuable non-wood forest produce such as medicinal plants, herbs, shrubs, weeds, trees and medicinal fungi. Utilization of these products is of immense benefits to local and national economy and in particular offers a sustainable livelihood to poor people in rural areas. However, despite many important past contributions from the plant kingdom, numerous plant species still remain to be explored for their bioactive principles. Adding value to natural products through identification, isolation, characterization of novel compounds or agents in treatment of diseases of Public Health importance is the best way to protect the society and thus, efforts need to be focused in this direction to realize the full potential of forest resource.

### **1. Aims and Objectives:**

- Phytochemical and pharmacological screening of Indian medicinal plants and medicinal fungi for two types of biological activities viz. anticancer and antidiabetic activity.
- The preclinical development of bioactive natural products and their analogs as chemotherapeutic agents.

### **2. Strategies:**

- Bioactivity and mechanism of action directed isolation and characterization of active known or novel molecules from plants and fungal resources.
- Testing of compound(s)/extracts/fractions/biomass for clinical applications.
- Rational drug- design-modification and analog synthesis.
- Mechanism of action studies.
- Sharing of research findings and technologies.
- Exchange of academic materials and other information.
- Joint research activities and publications.

ka.





### **3. Roles and Responsibility:**

#### **Indian Council of Forestry Research and Education, Dehradun:**

- Collection and Identification of plants/fungi/other therapeutic/nutritive agents
- Isolation of extracts/fractions/ pure compound (s)/biomass
- Characterization of active known or novel molecules from plants and fungal resources.
- Exchange of academic materials and other information.

#### **Indian Council of Medical Research, New Delhi:**

- Screening and evaluation of extracts/fractions/ pure compound(s) / biomass to cure diseases of Public Health importance
- Bioactivity-and mechanism of action studies of chemical entities
- Rational drug- design-modification and analog synthesis
- Exchange of academic materials and other information.

Components of projects with respective institutes for undertaking above mentioned activities will be developed by concerned scientists and exchanged between collaborating partners. Final draft of the project will be developed with mutual consent.

The knowledge and information emerged out of the project activities among the collaborative partners will be exchanged through:

- i. Six monthly interactive meetings,
- ii. Annual review meetings involving experts from ICMR and ICFRE.

### **4. Monitoring mechanisms:**

A suitable mechanism will be developed between the two organizations for this purpose.

### **5. Finance**

Both parties agree to bear all the necessary expenses for the activities undertaken under the MoU falling in their respective share under clause 3 from their respective budgets.

### **6. Expected outcome:**

This collaborative research programme will help in finding out novel sources of compounds/ products active against cancer, diabetes and other diseases of Public Health importance. Subject to mutual consent, the areas of cooperation will include any program offered at either organization as thought desirable and feasible on either side and that



both sides think will contribute to the fostering and development of the cooperative relationship between the two institutions.

**7. Patent and Intellectual Property Rights:**

The outcome of the joint research activities will be published and patented jointly.

**8. Amendment to the agreement**

During the period of MoU if circumstances arise to call for alterations or modifications of this agreement then these alterations will be mutually discussed and agreed upon in writing.

No amendment or change hereof or addition hereto shall be effective or binding on either of the parties hereto unless set forth in writing and executed by the respective duly authorized representatives of each of the parties hereto.

**9. Validity and Termination:**

This memorandum shall come into effect upon signature of both the parties on the date set forth below and will be in force initially for ten years. It may be extended further in its present form or with modifications as may be agreed upon through mutual consent. This MoU can be terminated at any time through mutual consent on three months notice in writing from either side

**10. Jurisdiction:**

In the event of any dispute arising between the two parties, only the court at New Delhi will have the jurisdiction.

**11. Force Majeure**

Neither ICFRE nor ICMR shall be liable to each other for failing or delay in the performance of any of its roles and responsibilities under this MoU to the extent such failure or delay is caused by riots, civil commotions, war hostilities between nations, government laws, orders or regulations, embargos, actions by the government or any agency thereof, acts of God, storms, fires, accidents, strikes, sabotages, explosions or other similar or different contingencies beyond the reasonable control of the respective parties.



## 12. Matters not provided in

If any doubt arises as to the interpretation of the provisions of this agreement or as to matters not provided therein, parties to this agreement shall consult with each other for each instance and resolve such doubts in good faith.

For ICFRE, Dehradun

For ICMR, New Delhi

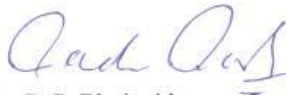


**Sh. K. Jude Sekar, I. F. S.**  
Director General  
Indian Council of Forestry Research & Education  
& Director General (Forests) & Special Secretary  
Ministry of Environment & Forests



**Dr. V. M. Katoch**  
Secretary, DHR & Director General  
Indian Council of Medical Research  
New Delhi

Witnesses



**Dr. P. P. Bhojvaid**  
Director  
Forest Research Institute  
Dehradun



**Dr. Vijay Kumar**  
Deputy Director General  
Department of Health Research  
ICMR, New Delhi

Date: Oct. 15, 2013

Place: Dehradun