

Prof. Raman Sukumar  
Chair

Email: LTEOchair.ces@iisc.ac.in

To:

21<sup>st</sup> August 2020

Dr. Manzoor Ahmed Shah, Associate Professor

Dept of Botany, University of Kashmir

Srinagar-190006, Jammu and Kashmir

Dear Dr. Shah,

**Sub: Project initiation under Long Term Ecological Observatories Programme**

I am writing to convey the approval of the Long-Term Ecological Observatories (LTEO) Programme under the Climate Change Action Plan (CCAP) of the Ministry of Environment, Forest & Climate Change, Government of India, by a consortium of organizations led by the Indian Institute of Science, Bengaluru (Annexure 1). Within this national programme, the project titled "*Long-term monitoring of biodiversity and ecosystem processes in Indian grasslands*", led by Principal Investigator Dr. Mahesh Sankaran (Associate Professor, National Centre for Biological Sciences, Bengaluru), and with yourself as one of the Co-investigators, has been approved. The total budget for this project is Rs. 3.19 crores over a five year period beginning 12 March 2020, and will be released by the Ministry directly to National Centre for Biological Sciences in installments.

The Principal Investigator for your theme will be in touch with you regarding project management, financial arrangements, technical requirements and logistics.

I thank you for your contributions so far, and look forward to your continued support in making this national programme a success.

Sincerely,



R. SUKUMAR,

Chair, LTEO Coordination Cell

CC: Dr. Mahesh Sankaran, Associate Professor, National Centre for Biological Sciences, Bengaluru

## Annexure 2

### List of participating institutions and scientists

#### Team Leader (Principal Investigator), institution and contact details:

**1. Dr. Mahesh Sankaran,**  
Associate Professor,  
National Centre for Biological Sciences, GKVK Campus, Bellary Road,  
Bengaluru 560065  
Email: mahesh@ncbs.res.in  
Phone: +91 80 23666221

#### Team members (Investigators), their institutions and contact details

**2. Dr. Jayashree Ratnam,**  
Associate Director, MSc Wildlife program,  
National Centre for Biological Sciences, GKVK Campus, Bellary Road, Bangalore 560065  
Email: jratnam@ncbs.res.in  
Phone: 080 23666092

**3. Dr. Sumanta Bagchi,**  
Assistant Professor  
Centre for Ecological Sciences, Indian Institute of Science, Bangalore 560012, Karnataka.  
Email: sbagchi@ces.iisc.ernet.in  
Phone: 080 22933528

**4. Dr. Amit Kumar**  
Scientist C,  
Wildlife Institute of India,  
Chandrabani, Dehra Dun  
Email: amit@wii.gov.in

**5. Dr. Navendu Page**  
Scientist C,  
Wildlife Institute of India,  
Chandrabani, Dehra Dun  
Email: navendu@wii.gov.in  
Phone: (0135) 2646208

**6. Dr. Manzoor A Shah**  
*Lead- W Himalayas*  
Senior Assistant Professor  
Department of Botany  
University of Kashmir,  
Srinagar-190 006, Jammu & Kashmir, India  
Email: mashah75@yahoo.com  
Phone: 0194- 2423345 (ext 2145)

**7. Dr. Jayanti Ray-Mukherjee**

Assistant Professor  
Azim Premji University, PES Campus  
Pixel Park, B Block, Electronics City, Hosur Road (Beside NICE Road), Bengaluru, India  
560100  
Email: jayanti.rm@gmail.com

**8. Dr. Advait Edgaonkar,**  
*Lead- C India*  
Assistant Professor,  
Indian Institute of Forest Management  
Nehru Nagar  
Bhopal 462003, MP.  
Email: advaite@iifm.ac.in

**9. Dr. P. V. Karunakaran,**  
Principal Scientist,  
Landscape Ecology Division, Salim Ali Centre for Ornithology and Natural History  
(SACON), Anakatty, Coimbatore 641108 Tamil Nadu  
Email: karunakaran.pv@gmail.com  
Phone: 0422-2203104

**10. Dr. P. Ravichandran,**  
*Lead- W Ghats*  
Professor and Head,  
Department of Plant Science, Manonmaniam Sundaranar University, Tirunelveli, 627 012  
Email: grassravi@gmail.com  
Phone: 94426 - 40072

**11. Dr. Ashalata Devi**  
*Lead- E Himalayas*  
Assistant Professor,  
Department of Environmental Science  
Tezpur University, Napaam - 784 028, Sonitpur district, Assam, India  
Email: kh\_asha@tezu.ernet.in  
Phone : +91 03712 275608(O)

**12. Dr. Sumit Dookia,**  
*Lead- North-western Arid Zone*  
Assistant Professor,  
University School of Environment Management (USEM), Guru Gobind Singh Indraprastha  
University, Sec. 16 C, Dwarka, New Delhi 110078  
Email: sumitdookia@gmail.com  
Phone: (11) 25302372

**13. Dr. Bibhuti Lakhar**  
Aaranyak, 50 Samanwoy Path (Survey), Basistha Raod, P.O. Beltola,  
Guwahati - 781028, Assam, India  
Email: bibhuti@aaranyak.org  
Phone: +91-361-222 8418

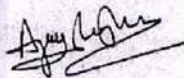
4. The Drawing & Disbursing Officer, Ministry of Environment, Forest and Climate Change is hereby authorized to prepare and submit bills for a total payment of Rs. 5,50,00,000 (Rupees Five Crore and fifty lakh only) to the Pay and Accounts Officer, Ministry of Environment, Forest and Climate Change, New Delhi who will direct Union Bank of India, Sunder Nagar, New Delhi to make payments electronically to following eight Consortium Partner organisations whose bank details are given below:

S. No	Name of Implementing Agency	Address of Implementing Agency	Name of the Bank where account of Agency is held	Address of the Bank branch	MICR code/ IFSC code	Type of account	Account No.	Total Amount (Rs)
1	Indian Institute of Science, Bengaluru	Registrar, Indian Institute of Science, C.V.Raman Avenue, Bangalore, Karnataka-560012	State Bank of India	Indian Institute of Science, Bangalore, I Bangalore, IISc Campus, Bangalore 560012, Karnataka	MICR Code 560002020 IFSC Code SBIN0002215	Savings	31728098170	2,75,00,000
2	Wildlife Institute of India, Dehradun	Director, Wildlife Institute of India, Post Box No. 18, Chandrabani, Dehradun-248001	Union Bank of India	Branch Chandrabani, Wildlife Institute	IFSC Code UBIN0551856	Savings	518502010057802	60,00,000
3	National Centre for Biological Sciences, Bengaluru	National Centre for Biological Sciences, Tata Institute of Fundamental Research, GKVK Campus, Bellary Road, Bangalore-560065	HDFC Bank	Branch-Amruthahalli, 362, Talakaveri Layout, Amruthahalli MN RD, Bangalore-560092	MICR Code 560240154 IFSC Code HDFC0004839	Savings	50100263361695	40,00,000
4	Dakshin Foundation Bengaluru	Dakshin Foundation, 1818, 5 <sup>th</sup> Main, 9 <sup>th</sup> Cross, Sahakar Nagar C Block, Bengaluru0560092	State Bank of India	Branch Sahakar nagar, Bangalore, 236, F Block, Opposite-Cauvery School, Sahakara Nagar, Bengaluru, Karnataka 560092	IFSC Code SBIN0005191	Savings	30568106815	55,00,000

S. No	Name of Implementing Agency	Address of Implementing Agency	Name of the Bank where account of Agency is held	Address of the Bank branch	MICR code/ IFSC code	Type of account	Account No.	Total Amount (Rs)
5	Nature Conservation Foundation Mysore	Administrative Director, 1311, "Amritha" 12 <sup>th</sup> Main, Vijaynagar 1 <sup>st</sup> Stage, Mysore 570017.	Axis Bank Limited	Branch VV Mohalla, Mysore	IFSC Code UTIB0000 151	Savings	912010039076365	30,00,000
6	Zoological Survey of India, Chennai	Scientist E & Officer-in-charge, Southern Regional Centre, 130, Santhome High Road, Chennai-600028	Union Bank of India	Besant Nagar Branch 58, Annai Velankanni Road, Anna Colony, Besant Nagar, Chennai, Tamil Nadu 600090	MICR Code 600026026 IFSC Code UBIN0552 721	Savings	527202010005881	30,00,000
7	Indian Institute of Forest Management (IIFM), Bhopal	Director, IIFM, Nehru Nagar, Post Box No. 357, Bhopal, M.P. 462003	State Bank of India	Nehru Nagar, Bhopal-462003	MICR Code 462002060 IFSC Code SBIN0012 194	Current	30662291254	30,00,000
8	GEER Foundation Gandhinagar	Director, Gujarat Ecological Education and Research (GEER) Foundation, Indroda Nature Park, PO Sector-7, Gandhinagar-382007, Gujarat, India	State Bank of India	Branch-Infocity Gandhinagar, Unit GWGF/2, Ground Floor, Infocity, Gandhinagar-382009, Gujarat, India	MICR Code 380002151 IFSC Code SBIN0012 700	Savings	38100658329	30,00,000

5. Receipts of funds may be acknowledged by way of a letter. Changes, if any, in the bank details shall be communicated to this Ministry immediately.

6. The expenditure of Rs 5,50,00,000 is debit to major heads 3435.03.104.12.01.31-Grants-in-aid (General) Recurring Head, under Climate Change Action Programme (1738) under Demand No. 25 of the Ministry of Environment, Forest and Climate Change for the financial year 2019-20. The above expenditure has been noted at S. No. 29 in the Expenditure Control Register for G-I-A(General).





**"NATIONAL MISSION ON HIMALAYAN STUDIES"**  
**G.B. Pant National Institute of Himalayan Environment and Sustainable Development**  
**(GBPNIHESD)**  
**Kosi-Katarmal, Almora - 263643, Uttarakhand, India**

Ref. No.: NMHS-2017/LG-01/475

Date: 22-12-2017

Speed post/copy by Email

To,  
**Prof. R.K. Kohli,**  
**Vice-Chancellor**  
**Central University of Punjab (CUP)**  
**Bathinda, Punjab**

Subject: Approval of the Large Grant (LG) for the project entitled **"Invasive Alien Plants in Himalayas: Status, Ecological Impact and Management "**

Sir,

I am directed to convey the approval of the Competent Authority for the above- mentioned project at a total cost of **Rs.4,68,39,000/- (Rupees four crore sixty eight lakh thirty nine thousand only)** for a period of three years, as per the break-up given below:

Head	1 <sup>st</sup> year (in Rs.)	2 <sup>nd</sup> year (in Rs.)	3 <sup>rd</sup> year (in Rs.)	Total
<b>A. Recurring</b>				
(i) <b>Salary:-</b> 14 JRF @ Rs.25,000/- per month fix for first two years and 14 SRF @ Rs.28,000/- per month for 3rd year and 07 Field Assistant @ 10,000/- per month fix for three years.	5040000.00	5040000.00	5544000.00	<b>15624000.00</b>
(ii) <b>Travel (Domestic)</b>	2300000.00	2300000.00	2200000.00	<b>6800000.00</b>
(iii) <b>Contingency:</b>	1015000.00	800000.00	800000.00	<b>2615000.00</b>
(iv) <b>Consumables:</b> Chemicals Glassware	700000.00	700000.00	700000.00	<b>2100000.00</b>
(v) <b>Activity &amp; other project Cost:</b> Field work, surveys, monitoring Seminar, Conferences, Honorarium to Consultant/ Advisor if appointed and their travel stay and other expenditure related to the project and software for ecological analysis etc.	3900000.00	2500000.00	2500000.00	<b>8900000.00</b>
(vi) <b>Institutional Charges/ Overhead</b>	Nil	Nil	<b>500000.00</b>	<b>500000.00</b>
<b>B. Non Recurring</b>				
(i) <b>Equipments:</b> Steady State Porometer/ Integrated Photosynthesis- Gas Exchange Instrument, Automated Kjeldal	10300000.00	Nil	Nil	<b>10300000.00</b>

Digester (3), Spectro fluorimeter, cold centrifuge, handheld GPS 1-5 m (3) positional accuracy GLONASS/Galileo capable window embedded, Large capacity oven (400L), Spil respiration meter, Portable Leaf Area, Chlorophy II Fluorescence meter, CNS Analyzer for protein and Organic matter, Photography equipment, Herbarium cabinets, etc.				
<b>Total</b>	<b>23255000.00</b>	<b>11340000.00</b>	<b>12244000.00</b>	<b>46839000.00</b>
<b>Grantee Contribution should be 10% of the project cost</b>				

2. The approval of the project is subject to incorporation of following points:

- The **State Forest Department** should also be involved in participatory manner;
- A **uniform methodology** should be followed by all project partners in tandem;
- The invasive alien plants as a **habitat for some wild animals** need attention and should be studied with the outcomes under the project;
- A **strong monitoring mechanism** is the need of this large coordinated, multi-state, multi-institutional project to be addressed proactively well in time by the coordinator.
- The advice of other reputed experts on the subject like Prof. C.R. Babu from Delhi University may be taken by the PI.
- The Periodic Progress Report of the NMHS Project needs to be submitted and updated on the Online Portal of the NMHS (<http://nmhsportal.org>) by the PI/ Project Proponent **on Quarterly basis** consistently. Monitoring indicators for the project should be able to quantify the difference made on ground.
- Certificates should be provided that this work is not the repeat of earlier work (as a mandatory exercise).
- The roles and responsibilities of each implementing partners should be delineated properly with their budget. The budget allocations to partners should be done in accordance with the MOEF&CC guidelines (Max. 30% for salary, 30% for equipment and 5% contingency). The same should be communicated to NMHS-PMU, before start of project.
- The PI must submit **all the data generated** under the NMHS Project along with the quarterly progress report.
- On completion of the study, a **Seminar/ Conference/ Workshop** should essentially be organized by the PI/ Proponent to discuss and disseminate the findings among the concerned stakeholders.

3. The project objectives, quantifiable deliverables and monitoring indicators will be as below:

<b>Project Objectives</b>	<b>Quantifiable Deliverables</b>	<b>Monitoring Indicators</b>
<ul style="list-style-type: none"> <li>• Identifying established and new Invasive Alien Vascular Plant Species in all the 12 states of the Indian Himalayan Hills and estimating the invasion load;</li> <li>• Characterizing the Invasive Vascular Alien Plants on the basis of their life-forms, lifespan, nativity, status of invasion and purpose of invasion/introduction;</li> <li>• Preparing protocols for prediction, early detection and risk assessment of alien</li> </ul>	<ul style="list-style-type: none"> <li>• New Datasets: Complete inventory, distribution and areas infested by Invasive Alien Species in the Indian Himalayas;</li> <li>• Dynamic model: Rate &amp; mode of spread (including vectors responsible) with GPS &amp; ground truthing;</li> </ul>	<p>Monitoring in comparison to the baseline information to be provided by the proponent:</p> <ul style="list-style-type: none"> <li>• New Database/ Datasets developed (No.);</li> <li>• New Models developed</li> </ul>

<ul style="list-style-type: none"> <li>invasive plant species for each region;</li> <li>Assessment of Ecological &amp; Environmental Impact of invasion and spread with special reference to biodiversity and soil especially in relation to climate change; This will include the level of disappearance of native species;</li> <li>Selection of at least 10 most noxious invasive species from different regions and consolidation of all available information including their biology, itemizing at the same time the knowledge gaps;</li> <li>Identification of a cross-sectoral group to assess the situation in the form of case-studies on these species, and also to formulate workable management strategies aiming to prediction, prevention and control.</li> </ul>	<ul style="list-style-type: none"> <li>Base line studies and Assessment Reports to state agencies of the disappearance of native plant species;</li> <li>Value addition and sustainable utilization of bio-resources for livelihood of local communities;</li> <li>Policy and legislative mechanisms for management / eradication / mitigation will get framed.</li> </ul>	<p>(No.);</p> <ul style="list-style-type: none"> <li>Publication of Assessment Reports (No.);</li> <li>No. of Livelihood Options generated along with no. of Beneficiaries;</li> <li>No. of Policy Guidelines and Legislative Mechanisms: Prepared and Communicated.</li> </ul>
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4. Sanction of the Competent Authority is also hereby conveyed for the release of **Rs. 2,32,55,000/- (Rupees two crore thirty two lakh fifty five thousand only)** towards Grants-in-Aid to **Registrar, Central University of Punjab (CUP), Bathinda, Punjab** for the above NMHS LG project for the financial year 2017-18 Plan/recurring being 1<sup>st</sup> installment of grants as per break-up below mentioned.

Head	Amount
<b>A. Recurring (as Above)</b>	
(i) Salary	5040000.00
(ii) Travel	2300000.00
(iii) Contingency	1015000.00
(iv) Consumable	700000.00
(v) Activities & other project cost	3900000.00
(vi) Institutional Charges / Overhead	Nil
<b>B. Non Recurring</b>	Nil
(i) Equipment ( as Above)	10300000.00
<b>Total</b>	<b>23255000.00</b>

5. The Grants-in-Aid will be regulated in accordance with the provisions contained in the guidelines of the Ministry of Environment, Forest & Climate Change, New Delhi. The Grants-in-aid is also subject to chapter 9 of the General Financial Rules, 2005, as amended from time to time, read with Government of India's decisions incorporated there under and any other guidelines which may be issued in this regard, and in particular to the following conditions:-

I. Separate ledger is maintained for the purchasing of equipments as per the provision of GFRs.



XVI. A separate saving bank account is to be opened for NMHS Project as per the provision Direct Beneficiary Account (DBA) as laid out by the Govt. of India and also facilitate the audit of accounts. The interest earned out of the NMHS project funds should be reported clearly in the Utilization Certificate (UC).

XVII. The Project commissioned under "National Mission Himalayan Studies-Large Grant" would be for the tenure of three years w.e.f. 01.1.2018. If the project proponent/ lead agency is able to produce the desired results after mid-term evaluation/ assessment in terms of measurable and quantifiable deliverables on the ground, the extension can be given for maximum up to 2 years.

XVIII. The amount of Rs.2,32,55,000/- (Rupees two crore thirty two lakh fifty five thousand only) will be drawn by the Drawing and Disbursing officer, G.B. Pant National Institute of Himalayan Environment and Sustainable Development, Kosi-Katarmal, Almora (U.K.) and disbursed to Registrar, Central University of Punjab (CUP), Bathinda, Punjab through bank by ECS. The Grantee will open a new account in nationalized bank and send the following details to NMHS-PMU for release.

Bank Name -  
Account No. -  
IFSC Code -  
Account Holder -

6. The amount will be debited in the Major Head 3435.03.104.11.04.31 Grant-in-Aid-General-NMHS.

7. Please send your acceptance for the terms and conditions of this sanction letter so that above grant could be transferred to the Head of Implementing Agency through Bank transfer on designated account.

8. Please note that following documents must be submitted before the start of the project activities.

1. Quotations for the equipments to be procured.
2. Roles and responsibilities of the partners with the budget allocated to them.
3. Fair copy of Bond duly signed by authorized person of grantee (Rs.100 stamp paper)

**Encl.: Annexure-I**  
**Appendix- A**  
**Appendix- B**

Yours Sincerely,

(Er. Kireet Kumar)  
Director Incharge, GBPNIHESD and  
Nodal Officer, NMHS-PMU

**Copy to:**

1. Registrar, Central University of Punjab (CUP), Bathinda, Punjab
2. Dr. Subrata Bose, Director (Mountain Division), 2<sup>nd</sup> Floor, Vayu Wing, Indira Paryavaran Bhavan, Ministry of Environment Forest & Climate Change, Govt. of India, Jorbagh Road, New Delhi.
3. PS to Director, G.B. Pant National Institute of Himalayan Environment and Sustainable Development, Kosi-Katarmal, Almora, Uttarakhand
4. Finance Officer, G.B. Pant National Institute of Himalayan Environment and Sustainable Development, Kosi-Katarmal, Almora, Uttarakhand
5. Principal Director of Audit, Scientific Department, AGCR Building, IP Estate, New Delhi
6. Guard File - NMHS.



**Centre for Environmental Science and Technology**  
**Central University of Punjab, Bathinda**

(Established vide Act No. 25 (2009) of Parliament)

Prof. V. K. Garg,  
Dean and Coordinator

No: CUPB/EUST/07/05/2018/207

Phone No. : 09812058109

E-mail: vinodkgarg@yahoo.com

Dated 07.05.18

**Subject: Release and breakup of First year grant of the coordinated Research project "Invasive Alien Plants in Himalayas: Status, Ecological impact and Management" to Prof. Zafar A Reshi (Research-partner), Department of Botany, University of Kashmir, Srinagar-190 006, J&K, India**

The details of grant are given below:

Item of Expenditure	Year 1 (2018-19)	Year 2 (2019-20)	Year 3 (2020-21)
Salary- JRF (02) and 01 Field Assistant	7,20,000	7,20,000	7,92,000
Major Equipments	*18,00,000	-----	-----
Travel and Transport	2,00,000	2,00,000	1,00,000
Contingency	1,25,000	1,00,000	1,00,000
Chemicals and Glassware	1,00,000	1,00,000	1,00,000
Activities	3,00,000	3,00,000	3,00,000
Other expenditures: software for ecological analysis etc.	2,00,000		
Institutional Charges	20,000	20,000	20,000
<b>Total ( in Rs.)</b> ( Excluding Major equipment grant)	<b>16,65,000</b>	<b>14,40,000</b>	<b>14,12,000</b>

V.K. Garg

COC PI  
Centre for Environmental Sci. &  
Central University of Punjab  
Bathinda

Memorandum of Understanding (MoU)

*for*

*"NMHS-Himalayan Alpine Biodiversity Characterization and Information System-Network"*

*between*

INDIAN INSTITUTE OF REMOTE SENSING  
Indian Space Research Organization (ISRO), Dept. of Space (DOS)  
Govt. of India, Dehradun, Uttarakhand- 248001

*and*

UNIVERSITY OF KASHMIR  
Srinagar, UT of Jammu & Kashmir -190006

This MoU is entered in to on 28 day of February 2020 at Dehradun

*Between*

The Director  
Indian Institute of Remote Sensing,  
Indian Space Research Organization,  
Department of Space, Dehradun

*and*

The Dean, Research  
University of Kashmir  
Srinagar, UT of Jammu & Kashmir



सत्यमेव जयते

Dr. Hitendra Padalia  
Head, Forestry and Ecology Department

Date: 25/11/2019  
No. IIRS/FED/NMHS/2019/17

Subject: Draft MoU for NMHS - "Himalayan Alpine Biodiversity Characterisation and Information System-Network" Project, Reg.

Sir,

I am pleased to inform you that the collaborative project entitled- "Himalayan Alpine Biodiversity Characterization and Information System-Network", submitted for funding consideration under National Mission on Himalayan Studies (NMHS), MoEF & CC, has been sanctioned (however, NMHS-PMU has been requested for additional funds for revised fellowships and certain corrections in terms and conditions). You are aware that Indian Institute of Remote Sensing (IIRS) is the nodal institute for executing the project activities along with 6 partner Institutes from Jammu and Kashmir, Himachal Pradesh and Uttarakhand.


To initiate the various activities and disbursement of funds under the project, it is mandatory for IIRS to enter in to Memorandum of Understanding (MoU) with your institute with certain terms and conditions as per the rules and regulations of Indian Space Research Organization, Department of Space.

In this regard, I am sending herewith the draft of the MoU with budgetary provisions as per the Project document, different clauses and terms & conditions for the above mentioned project. I request you to kindly go through the draft and clarify if there any modifications needed at your end. Kindly fill the space left blank (dotted) with necessary information needed in this draft. Necessary final vetting before signing the MoU will get done from ISRO-HQ only after receiving your inputs in this draft.

Looking for your prompt action in this regard.

Thanking you

Regards,

  
(Hitendra Padalia)  
Project Investigator

To,

Dr. Anzar A. Khuroo  
Senior Assistant Professor  
Centre for Biodiversity & Taxonomy  
Department of Botany, University of Kashmir  
Srinagar-190006, J&K, India

6. Wildlife Institute of India (INR in Rs.)

Head	1 <sup>st</sup> year (in Rs.)	2 <sup>nd</sup> year (in Rs.)	3 <sup>rd</sup> year (in Rs.)	Total grant
<b>A. Recurring</b>				
(i) Salary: 01 JRF @ 31,000/- + HRA @ 16% per month for first two years and Rs 35,000/- + HRA @ 16% for third year	431520	431520	487200	1350240
(ii) Travel (Domestic):	200000	200000	200000	600000
(iii) Consumables: Field gears, soil sample analysis	150000	150000	150000	450000
(iv) Contingency: Stationery and other contingency	100000	50000	100000	250000
(v) Activities & other project cost: Field sampling for vegetation data, inventory and soil samples, porter hiring for high altitude treks, wages of field/project assistant, charges of mule, camping in high altitudes.	400000	400000	400000	1200000
(vi) Institutional charges/ Overhead:	0	0	0	0
<b>B. Non Recurring</b>				
(i) Equipment: Hand held GPS (1nos), Digital camera (1nos), and other minor field equipment and accessories	100000	0	0	100000
<b>Grand Total A+B</b>	<b>1381520</b>	<b>1231520</b>	<b>1337200</b>	<b>3950240</b>

7. University of Kashmir (INR in Rs.)

Head	1 <sup>st</sup> year (in Rs.)	2 <sup>nd</sup> year (in Rs.)	3 <sup>rd</sup> year (in Rs.)	Total grant
<b>A. Recurring</b>				
(i) Salary: 01 JRF @ 31,000/- + HRA @ 16% per month for first two years and Rs 35,000/- + HRA @ 16% for third year.	431520	431520	487200	1350240
(ii) Travel (Domestic):	150000	150000	150000	450000
(iii) Consumables: Field gears, soil sample analysis	150000	150000	150000	450000
(iv) Contingency: Stationery and other contingency	100000	50000	100000	250000
(v) Activities & other project cost: Field sampling for vegetation data, inventory and soil samples, porter hiring for high altitude treks, wages of field/project assistant, charges of mule, camping in high altitudes.	400000	400000	400000	1200000
(vi) Institutional charges/ Overhead:	0	0	100000	100000
<b>B. Non Recurring</b>				
(i) Equipment: Hand held GPS (1nos), Digital camera (1nos), and other minor field equipment and accessories	100000	0	0	100000
<b>Grand Total A+B</b>	<b>1331520</b>	<b>1181520</b>	<b>1387200</b>	<b>3900240</b>

Corrigendum

Subject: Project entitled "Phytoliths as quantitative indicators for the reconstruction of past environmental conditions in Kashmir Himalayas, India".

PI: Dr. Reyaz Ahmad Dar, Department of Earth Sciences, University of Kashmir, Srinagar, J&K -190006.

Co-PI: Dr. Irfan Rashid, Department of Botany, University of Kashmir, Srinagar, J&K-190006.

In partial modification of this Ministry's Administrative and sanction orders of even number dated 13.07.2021, the project title may be read as:

"Phytoliths as quantitative indicators for the reconstruction of past environmental conditions in Kashmir Himalayas, India".

Instead of

"Understanding Paleoclimate, sea level changes, CO2 sequestration, Reactive Nitrogen, Phosphorous and carbon cycles, Coral reefs and Ocean acidification with reference to Climate Change".

The other Terms & Conditions as mentioned in A.O. dated 13.07.2021 shall remain unaltered.

*Manjula Daniel*  
27/9/2021  
(Manjula Daniel)

Under Secretary to the Govt. of India

To,

The Pay and Accounts Officer, Ministry of Earth Sciences, New Delhi-110003

Copy to

1. The Principal Director of Audit (Scientific Department) AGCR Building, I.P. Estate, New Delhi 110002.
2. The Registrar, University of Kashmir, Srinagar, J&K -190006.
3. Dr. Reyaz Ahmad Dar, Department of Earth Sciences, University of Kashmir, Srinagar, J&K -190006
4. Dr. Irfan Rashid, Department of Botany, University of Kashmir, Srinagar, J&K-190006
5. Cash Section, MoES, New Delhi.
6. Controller of Accounts, MoES.
7. AS&FA / JS / Sec. G (GRI) / Dir (F) / AD (OL) / IED, MoES.
8. PPS to Secretary, MoES.
9. Sanction Folder/ File copy.

*Manjula Daniel*  
27/9/2021

(Manjula Daniel)  
Under Secretary to the Govt. of India

C/C

MoES/CCR/Paleo-8/2019  
Government of India  
Ministry of Earth Sciences

Prithvi Bhavan Lodhi Road,  
New Delhi-110003  
Dated: 13.07.2021

ADMINISTRATIVE ORDER

**Subject:** Project entitled "Understanding Paleoclimate, sea level changes, CO2 sequestration, Reactive Nitrogen, Phosphorous and carbon cycles, Coral reefs and Ocean acidification with reference to Climate Change".

**PI:** Dr. Reyaz Ahmad Dar, Department of Earth Sciences, University of Kashmir, Srinagar, J&K -190006.

**Co-PI:** Dr. Irfan Rashid, Department of Botany, University of Kashmir, Srinagar, J&K-190006.

In Supersession to this Ministry' Administrative Order of even no. 13.03.2020, sanction of the President is hereby conveyed under Rule 18 of the Delegation of Financial Power Rules 1978 for implementation of the above-mentioned project at an estimated cost of Rs. 65,50,430/- (Rupees sixty five lakhs fifty thousand four hundred thirty only) to University of Kashmir, Srinagar, J&K, for a period of three years (2021-2022 to 2023-24).

**2.0 Objectives**

- Date the individual loess-paleosol profiles in order to find the age of the deposited sediments by using radiocarbon and or cosmogenic radionuclide dating methods ( $^{14}\text{C}$  and/or  $^{10}\text{Be}$ )
- Reconstruct paleoecology using phytolith types as diagnostic markers for C3 and C4 plants
- Correlate the identified phytolith morphotypes with respect to their topographic gradients and environmental condition during Late Quaternary Period.

**2.1 Programme:**

Phytoliths are valuable proxies used for tracing the past environmental and past vegetation dynamics associated with the regional tectonic uplift. In this project, it is proposed to use the detailed phytolith records from sediments and loess-paleosol sequences to better understand the paleoecological and paleoclimatic conditions that was prevailing during the late Quaternary Period in the Kashmir Valley, NW Himalayas. Systematic sampling, analysis of phytolith and dating of each individual paleosol profile would provide input for the assessment of paleoclimate and paleoecological changes of the intermontane Karewa Basin of Kashmir Valley during Late Quaternary Period.

**2.2 Implementing Organization:**

The project will be implemented by University of Kashmir, Srinagar, J&K.

**2.3 Estimated Project Cost:**

Total estimated cost of the project is Rs. 65,50,430/- (Rupees sixty five lakhs fifty thousand four hundred thirty only) to University of Kashmir, Srinagar, J&K, for a period of three years (2021-2022 to 2023-24). The year-wise/item wise fund requirement is given below:

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(Amount in Rupees)

S. No.	Head	1st Year (2021-22)	2nd Year (2022-23)	3rd Year (2023-24)	Total
<b>A.</b>	<b>RECURRING</b>				
i.	Manpower (JRFs:2@ INR 31000/+16% HRA and SRF @35000/+16% HRA for third year)	8,63,040	8,63,040	9,74,400	27,00,480
ii.	Consumables	50,000	50,000	50,000	1,50,000
iii.	Travel within India	1,50,000	1,50,000	1,00,000	4,00,000
iv.	Other costs/Contingency costs	1,00,000	1,00,000	1,00,000	3,00,000
	<b>Total (A)</b>	<b>11,63,040</b>	<b>11,63,040</b>	<b>12,24,400</b>	<b>35,50,480</b>
<b>B.</b>	<b>Institute overheads</b>	<b>75,000</b>	<b>75,000</b>	<b>75,000</b>	<b>2,25,000</b>
<b>C.</b>	<b>NON-RECURRING</b>				
i.	Microscope with accessories	25,74,950	----	----	25,74,950
ii.	Laptop, Printer and Camera	2,00,000	----	----	2,00,000
	<b>Total (C)</b>	<b>27,74,950</b>	<b>----</b>	<b>----</b>	<b>27,74,950</b>
	<b>Grand Total (A+B+C)</b>	<b>40,12,990</b>	<b>12,38,040</b>	<b>12,99,400</b>	<b>65,50,430</b>

2.4 Time Schedule: 03 years (2021-22 to 2023-24)

2.5 Description and proposed programme to be implemented by:

This project will be implemented by the PI and Co-PIs as per the details given below.

Research Activities	0-12 months	13-24 months	25-36 months
Literature survey and			
Recruitment of Research fellows			
Procurement of lab equipments			
Design of experimental setup			
Identification of loess-paleosol sections for sampling			
Preparation and sampling of lithostratigraphic columns of loess-paleosol sections			
Separation of phytoliths and dating material for dating of individual paleosol profiles			
Identification and morphometric analysis of phytoliths			
Identification of phytolith morpho-types as diagnostic markers for C3 and C4 plants			
Documentation and correlation of phytolith morphotypes with respect to their environmental conditions			
Preparation of Final Technical Report and Publications			

3.0 The expenditure will be booked under the following Budget Head:

'3425'	-	Other Scientific Research (Major Head)
60.200	-	Assistance to Other Scientific Bodies (Minor Head)
52	-	Research Education and Training Outreach
52.00.31	-	Grant-in-Aid-General.

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4.0 Other Terms & Conditions:

- Allocation of budget is tentative and subject to changes after review of progress, both physical and financial as recommended by the Committee of Experts.
- **The grantee organisation will maintain separate audited account for the project and the entire amount of grant will be kept in an interest bearing bank account.** The interest earned / accrued should be reported to MoES (financial year wise) while submitting the Statement of Expenditure/Utilization Certificate. As per Rule 230(8) of GFR 2017, all interest or other earning against Grant-in-aid released to the geantee finalization of the account It should not be allowed to be adjusted against future release.
- A list of equipments procured and other assets created for this project from the funds released shall be provided to MoES in the prescribed format as per GFR. The ownership in the physical and intellectual assets created or acquired out of MoES funds shall vest in MoES.
- All equipments / assets procured out of MoES grant shall be maintained by the grantee institute and will be available for use by other researchers.
- All equipments / assets procured from MoES funded shall be maintained in the stock register of the grantee institute and should not treat such assets as their own assets in their Book of Accounts but should disclose their holding and using such assets in the Notes to Accounts specifically. No asset/equipment shall be diverted and /or disposed off without prior approval of the competent authority in MoES.
- Codal provisions as conveyed in GFR, manual on Policies and Procedures for purchase of Goods and Gol instructions issued from time to time for services and requisition of research personnel shall be ensured.
- This sanction is subject to the condition that the grantee organization will furnish to the Ministry of Earth Sciences, financial year wise Utilization Certificate (UC) in the proforma prescribed as per GFR 2017, audited statement of expenditure (SE) along with up to date progress report at the end of each financial year duly reflecting the interest earned / accrued on the grants received under the project and DBT details of the manpower as per the enclosed performa.
- Expenditure, Advance and Transfer (EAT) module of PFMS should be activated for the grants released under the project and expenditure under the project shall be monitored through EAT module.
- While submitting Utilisation Certificate/Statement of Expenditure, the organisation has to ensure submission of supporting documentary evidences with regard to purchase of equipment/capital assets as per the provisions of GFR 2017. Subsequent release of grants under the project shall be considered only on receipt of the said documents.
- The Position of project staff is co-terminus with the duration of the project & MoES would have no liability towards such manpower costs beyond the duration of the project.
- Overhead expenses are meant for the host institute towards the cost for providing infrastructural facilities and benefits to the staff employed in the project, etc.
- While implementing the programe all relevant procedures will be followed and the Ministry shall be apprised of the progress of the project from time to time.

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