

Announcement of Opportunity (AO) for Capacity Building in Space Based Disaster Management Support



CALL FOR PROPOSALS 2022-23

Indian Institute of Remote Sensing
ISRO, Department of Space, Government of India
Dehradun



Introduction

In Indian sub-continent, nearly a billion people suffer yearly from natural and man-made disasters. Rapid population growth, unprecedented development, extreme climatic events along with complex geo-environmental setting contribute to the increasing effect of disasters. The frequency and impact of natural disasters are increasing day by day. Therefore, there is an urgent need to use both technology and suitable administrative measures along with societal response to mitigate or reduce the impact of disasters.

ISRO's Disaster Management Support Programme (DMSP) has been actively supporting the Central and State governments by providing operational services during pre-disaster, during disaster and post-disaster time-frames, including experimental forecasts, using space systems. Capacity Building in space technology for disaster management has been identified as a key element of sustainable and effective disaster management. However, it is a challenging task considering the diverse background of stakeholders and different types of disasters to deal with. Further, it becomes challenging as the issue of disaster management is interwoven with activities related to development, socio-economic conditions, adaptation to climate change scenarios, etc.

Considering above, proposals on Capacity Building programmes in different areas of **space based disaster management support** are invited from scientists, engineers and faculty members from ISRO/ Department of Space (DOS) Centres & Units, R&D institutions and recognised Academic institutions in India, for financial support by ISRO under the DMSP.

Types of Capacity Building Programmes

Two formats i.e., In-person and Online capacity building programmes, will be supported under this initiative.

- **In-person Programmes:** It includes different levels of training courses and workshops as per Table 1.
- **Online Programmes:** Following types of programmes/ activities can be taken up on the topics mentioned in Table 1, targeting different levels of participants.
 - Webinars (4-5 in a day or in a distributed manner in 1-2 months);
 - Short Courses (1-2 weeks; each day 1-1.5 hours per day; as conducted currently by Indian Institute of Remote Sensing (IIRS), Dehradun);

Table 1. Types of In-person Training Courses & Workshops

Type of Programme	Topic	Duration	No. of Participants	Target Participants
Basic Course	Application of Space Technology for DMS	1-2 Weeks (preferably 2 weeks)	25 (Min. 20, Max. 30)	Working professionals ^{*1} in Govt. organisations (including Semi Govt., Autonomous bodies, PSUs) & Academic institutions (including PG colleges)
Advanced Course	Specialized topic/ theme (Topics suggested ^{*2} : High-resolution satellite (HRS)/ UAV data applications; SAR & DInSAR applications; GNSS applications; Landslide hazards, Earthquake, Tsunami hazards, Glacier hazards & snow avalanche, Mining hazards, Flood hazards (riverine, flash and urban), Drought, Extreme weather related hazards, Coastal hazards, Forest & industrial hazards, Atmospheric hazards, Agricultural hazards, urban hazards with focus on early warning and modelling aspects)	2 Weeks (preferably 2 weeks)	25 (Min. 20, Max. 30)	Working professionals ^{*1} in Govt. organisations (including Semi Govt., Autonomous bodies, PSUs) & Academic institutions (including PG colleges) working in the field of the announced course
Awareness Workshop	<ul style="list-style-type: none"> • Space-based Data, Products & Services for DMS (with emphasis on Indian data, products & Services through geo-web portals) • Mobile and Web Application Development for DMS • Any other topic relevant to DMS 	1 Day	50 – 100	Working professionals ^{*3} in Govt. organisations (including SemiGovt., Autonomous bodies, PSUs), Academic institutions (including PG colleges), NGOs, Geospatial Industry
<p>^{*1} Candidates from NGOs, Geospatial Industry, and Research & Master's students can also be considered if seats remain vacant, subject to payment by the candidate.</p> <p>^{*2} Themes for the Advanced course are not limited to the topics suggested.</p> <p>^{*3} Research & Master's students may join if the seats remain vacant.</p>				

Design & Implementation of Capacity Building Programmes

At least two officials/ faculty members should be responsible for implementation of the proposed capacity building programme(s), one as Principal Investigator (PI) and the other as Co-Investigator. Both PI and Co-Investigator should be from the same institution/ organisation. The role of PI will be as Course Director, while the role of Co-Investigator will be as Course Coordinator. Satisfactory completion of the approved activities/ programmes will be the responsibility of the PI and his/her parent institution/ organisation.

Contents of the proposed training course(s)/ workshop(s)/ webinars/ module should be developed keeping the target participants in mind. Focus should be on current state of practice as well as future directions to motivate the participants to develop innovative methods, tools, data products and services in the field of disaster management using space technology. Content delivery should be through lectures, demonstrations and hands-on exercises. In the 1-2 week courses, strong focus should be there on hands-on exercises. Further, in the courses of more than 1-week duration, participants should carry out a case study either individually or in group. Open source software should be used as far as possible. No pirated/un-licensed copy of the software shall be used.

Both the in-person and online programmes should preferably have the following contents/features:

- Developing an understanding of the disaster vis-a-vis earth system science;
- Role of Remote Sensing, GIS and GNSS at all stages of disaster management cycle;
- Emphasis on technology/ thematic applications, as the case may be; and
- Developing understanding of different policy frameworks [e.g., Sendai Framework for Disaster Risk Reduction (SFDRR), United Nations Sustainable Development Goals (UN-SDGs), National/ State Action Plan for Climate Change (NAPCC/ SAPCC)] contributing towards sustainable disaster management.

Study material will have to be prepared in advance and distributed to the participants on the first day of the course/ workshop. High quality standards will have to be maintained in delivering the course/ workshop contents. Most of the contents should be delivered by in-house faculty members. Guest faculty/ experts from other organisations, including ISRO/DOS, may be invited to deliver some of the contents.

Evaluation of the course/ workshop is to be carried out mandatorily based on feedback received from the participants at the end, for implementation of the relevant and feasible suggestions in future courses/ workshops. The PI will have to submit soft copy and three hard copies of a comprehensive Report of each of the Course/ Workshop/ Webinars conducted. The Report should cover all the technical activities, agenda/ time-table, details of the participants, feedback analysis and suggestions for improvement, filled-in feedback forms by the participants, etc. The format of the Feedback form will be provided by IIRS, Dehradun.

Existing infrastructure (classroom, labs, equipment, hardware, software, hostels, guest house, etc.) in the PI's parent organisation/ institute shall be used for the implementation of the proposed capacity building programme(s).

Financial Support

The financial support which will be provided by ISRO for different types of capacity building programmes are given below in Tables 2 to 4. Necessary infrastructure, equipment and computing resources must be available in the parent institution/ organisation of the PI to conduct the proposed capacity building programme. Financial support to be provided by ISRO covers only the direct costs and no funds will be provided for procurement of any asset.

Table 2. Break-up of financial support for In-person training courses

	Basic/ Advanced Course	
	1 Week (25 Participants)	2 Weeks (25 Participants)
Boarding & Lodging	INR 1.80 lakhs	INR 3.90 lakhs
Travel Cost of Participants	INR 1.25 lakhs (only AC-II tier train fare ^{*4})	INR 1.25 lakhs (only AC-II tier train fare ^{*4})
Registration Kit & Study Material	INR 0.50 lakhs	INR 0.50 lakhs
TA/DA & Honorarium ^{*5} of Experts & Guest Faculty	INR 1.40 lakhs	INR 2.20 lakhs
Transportation (Local, Field visit, if any)	INR 0.30 lakhs (No pick-up/drop to be provided to the participants)	INR 0.34 lakhs (No pick-up/drop to be provided to the participants)
Miscellaneous & Contingency	INR 0.20 lakhs	INR 0.25 lakhs
Overheads	INR 0.465 lakhs	INR 0.684 lakhs
Total cost^{*6} for 25 Participants (rounded off)	INR 5.915 lakhs	INR 9.125 lakhs
Cost per Participant (rounded off)	INR 24,000/-	INR 36,500/-
^{*4} Only train fare (max AC-II tier fare for shortest route) will be paid. Local conveyance will have to be borne by the participants. ^{*5} Honorarium amount will be governed as per the rules of the Host institution/ organization. ^{*6} Total cost will vary depending on the number of participants and to be estimated (if different from 25) based on unit cost per participant.		

Table 3. Break-up of financial support for In-person Workshops

	Awareness Workshop (50 Participants)
Boarding & Lodging	INR 1.20 lakhs
Travel Cost of Participants	To be paid by the nominating agency or by self
Registration Kit & Study Material	INR 0.25 lakhs
TA/DA & Honorarium ^{*7/} Mementoes for Experts, Invited Faculty & Guests	INR 0.56 lakhs
Transportation (Pick-up/drop from airport/ railway station for the invited experts only + Local works)	INR 0.10 lakhs
Hall Management, Miscellaneous & Contingency	INR 0.15 lakhs
Overheads	INR 0.21 lakhs
Total cost^{*8} for 50 participants (rounded off)	INR 2.47 lakhs
Cost per Participant (rounded off)	INR 5,000/-
<p>^{*7} Honorarium amount will be governed as per the rules of the Host institution/ organisation.</p> <p>^{*8} Total cost will vary depending on the number of participants and to be estimated (if different from 50) based on unit cost per participant.</p>	

Table 4. Financial support for Online programmes

	1-Week Course (each day 1-1.5 hours per day) or Webinars (4-5 in a day or in a distributed manner in 1-2 months)	2-Week Course (each day 1-1.5 hours per day)
Honorarium to experts/ guest faculty	INR 0.20 lakhs	INR 0.40 lakhs
Operational cost, including overhead charges	INR 0.24 lakhs	INR 0.48 lakhs
Miscellaneous & Contingency	INR 0.05 lakhs	INR 0.10 lakhs
Total cost (rounded off)	INR 0.50 lakhs	INR 1.00 lakhs
Note:		
1. Operational cost includes technical support, network bandwidth, hiring of additional manpower for assistance and overheads.		
2. Honorarium amount will be governed as per the rules of the Host institution/ organisation.		

Approved funds must be utilized solely for the purpose for which they have been granted unless ISRO agrees otherwise. The PI will have to submit the following documents within two months of completing the approved activity to IIRS, Dehradun: (1) soft copy and three hard copies of Report of each of the completed activity; (2) two copies of the Fund Utilization Certificate (FUC) as per ISRO/DOS format; and (3) Audited Accounts Statement (AAS) (not applicable for ISRO/DOS Centres & Units) for the total expenditure incurred.

If multiple activities are approved which run in more than one FY, then annual FUC and AAS have to be submitted after the completion of first FY to enable continuation of remaining approved activities in the next year, subject to satisfactory performance. On completion of all the approved activities, final FUC and Audited Account Statement for the total expenditure incurred has to be submitted by the PI within 02 months from the date of completion of last activity. The unutilized funds, if any, at the end of the approved activities will have to be refunded to ISRO.

Evaluation of the Proposal

The proposal will be thoroughly evaluated by domain experts (internal and/or external) as per the mechanism and set of criteria as decided by ISRO. Principal Investigator (PI) may be asked

to make the presentation(s) of his/her proposal before the review committee. The proposal may call for changes based on review and the PI will have to re-submit the proposal incorporating the recommended changes. Financial support will be provided, if the proposal is approved by ISRO. The decision of ISRO in selection of the proposal for financial support shall be final. PI will be informed about the outcome of the evaluation of his/her proposal.

The pre-requisites and some of the criteria (but not limited to) to be used for selection of proposal are as under:

- Scientists/ Engineers/ Faculty members holding permanent position in ISRO/DOS Centres & Units, R&D institutions and recognised Academic institutions in India can only submit the proposal and be the PI or Co-Investigator. The PI and Co-Investigator should have at least 02 years of service remaining before the superannuation. Co-Investigator (maximum 01) should also be from the same institution. The proposal must be forwarded/ endorsed by the Head of the Institution/ Organisation of the PI; otherwise, it shall be treated as invalid and shall be rejected.
- The PI should be a domain expert in the area in which the proposal is submitted, evident from publications, patents/ copyrights, projects carried out. The Co-Investigator should also have expertise and experience in the relevant field.
- Selection of the proposal will mainly depend on the expertise and experience of PI and CoInvestigator in the proposed field, technical contents to be covered in the proposed activities programme, availability of in-house faculty to deliver most of the contents, availability of infrastructure and facilities (classroom, labs, hardware, software, hostel, guest house, etc.) in the parent institute/ organisation of the PI, and other scientific/ technical merits.

Monitoring & Evaluation of the Capacity Building Programme

The approved capacity building activities/ programmes will be closely monitored by IIRS, Dehradun. The PI should submit to IIRS, Dehradun the timeline of all the planned activities (from announcement to course completion), Announcement Brochure/ Flyer and Agenda/ Time-Table well before the course announcement for any suggestion(s). ISRO may depute Scientists/ Engineers to visit the grantee institution before or during the implementation of the approved activities to ensure quality and smooth conduction. ISRO Scientists/ Engineers may also be invited by the PI for conducting a few sessions in the area of their expertise.

On completion of an approved capacity building activities/ programmes, PI will have to submit the comprehensive Report, as stated in the 'Design & Implementation of Capacity Building Programmes' section.

Further, PI will have to submit the Fund Utilization Certificate (FUC) and Audited Accounts Statement (AAS), as stated in the 'Financial Support' section. In case multiple capacity activities/ programmes are approved, then the Report of the completed activity/ programme should be submitted well before the announcement of next activity/ programme. The feedback of participants and other technical details will be analysed by ISRO, after which it will be indicated by ISRO to the PI whether to proceed for the next programme, or if there are some suggestions for improvement. If the feedback of participants is not satisfactory or for any other reason, conducting the next programme may not be permitted by ISRO.

How to Apply and Last Date for Submission of Proposal

Soft copy (as a singly pdf document) and one hard copy of the proposal along with cover letter (duly signed by PI and Head of the Institute/ Organisation of PI), and CV of the PI and ColInvestigator should be sent in the requisite format (refer Annexures–1, 2 and 3) by email and post (Speed/ Registered post) on or before the last date. The email should be sent to **[dmsp\[dot\]ascb\[at\]iirs\[dot\]gov\[dot\]in](mailto:dmsp[dot]ascb[at]iirs[dot]gov[dot]in)** with the subject **Attention: DMSP-CB AO Proposal**. Single application has to be submitted, even if more than one activity/ programme is being proposed. It is important to note that the PI and Co-Investigator must hold permanent position in ISRO/DOS Centres & Units, R&D institutions and recognised Academic institutions in India and should have minimum 02 years remaining in service before superannuation. Further, the Cover Letter (refer Annexure–1) and Declaration (refer Annexure–2) must be signed by the PI and as well as by the Head of the Institute/ Organisation of PI.

Last date for submission of soft copy of proposal: [October 15, 2022 \[17:00 Hrs\]](#)

The proposal along with other documents should be sent to:

**Director,
Indian Institute of Remote Sensing (IIRS)
ISRO, Department of Space, Government of India
4-Kalidas Road, Dehradun, Uttarakhand - 248001
Email: [dmsp\[dot\]ascb\[at\]iirs\[dot\]gov\[dot\]in](mailto:dmsp[dot]ascb[at]iirs[dot]gov[dot]in)**

Terms and Conditions

- ISRO reserves the right to scrutinize or reject any or all the proposals received in response to this AO, or suggest a modification to the proposal.

- ISRO reserves the right to choose any proposal received in response to this AO, depending upon need, suitability, deliverables and merits. The decision of ISRO shall be treated as final.
- ISRO reserves the right to revoke in part or in whole its support for the approved proposal/ programme at any time without assigning any reason.
- It shall be declared and ensured by the PI of the selected proposal under this AO, that any pirated/un-licensed copy of the software shall not be used.
- All proposals will be reviewed by the review committee(s) constituted by ISRO. The PI and Co-Investigator shall cooperate with the members of the review committee(s) for the review of their proposal.
- Course material developed as part of the proposal shall not be allowed to be used for marketing/ business purposes without prior permission from ISRO. ISRO reserves the right to accord permission on such cases.
- Any/ all Intellectual Property Rights (IPR) such as patents, copyrights, design rights, etc. acquired by the grantee institute/ organisation of the PI through this AO proposal, shall be jointly owned by the grantee institution and ISRO. Both the parties shall inform each other before filing for any protection of IPR resulting from the proposal under this AO. The expenses for filling the Patent protection in India and abroad shall be borne equally between grantee institution and ISRO. Both the parties will ensure appropriate protection of IPR generated from cooperation, consistent with laws, rules and regulations of India.
- Any commercialization of such IP rights shall be done by the parent institute/ organisation of the PI, only with the consent/ permission of ISRO, on specific terms and conditions, which shall be determined on a case by case basis mutually as per its standard practices for such activities. Any/all financial accruals due to any commercial exploitation of the patent resulting from this AO proposal shall be shared equally between the grantee institution and ISRO, on 50:50 basis. However, any of the parties is free to utilize the IPR for their own use on non-commercial basis.
- Proposal shall give a declaration that if the proposal is selected for funding by ISRO, PI shall not submit the same proposal for funding support from other agencies.
- Acknowledgement of ISRO support/ funding must be made in all reports and publications arising out of this AO.

- The PI is required to submit the Report, FUC and AAS to Director, IIRS, Dehradun ([dmsp\[dot\]ascb\[at\]@iirs\[dot\]gov\[dot\]in](mailto:dmsp[dot]ascb[at]@iirs[dot]gov[dot]in)), as stated in the 'Financial Support' and 'Monitoring & Evaluation of the Capacity Building Programme' sections.
- Satisfactory completion of the capacity building programme will be the responsibility of the PI and his/ her parent institution/ organisation forwarding the proposal.
- 'Certificate' will be provided by the host institution/ organisation to each participant who successfully completes the course.
- Approved funds must be utilized solely for the purpose for which they have been granted unless ISRO agrees otherwise. A certificate that the funds have been so used must be produced by the grantee Institution at the end of each year of support.
- ISRO may depute scientists/ experts to visit the grantee institution periodically, for reviewing the progress of work.
- Cover Page (Annexure-1) and Declaration (Annexure-2) must be signed by the PI and Head of the Institution/ Organisation of the PI. Otherwise, the proposal shall not be considered valid and shall be rejected.

Annexure-1**Cover Page Format for Submitting Announcement of Opportunity (AO) Proposal
for Capacity Building in Space Based Disaster Management Support**

**Title of the Course(s)/
Workshop(s) Proposed:** :

**Name and Designation of
PI with Telephone, Fax
and Email-ID** :

**Name of Institution/
Organisation of PI with
full Address including its
website URL** :

Signature of PI with Date :

**Signature & Seal of
Head of Institution/
Organisation with Date,
Telephone, Fax and
Email-ID** :

Annexure-2**Format for Submitting Announcement of Opportunity (AO) Proposal for Capacity Building in Space Based Disaster Management Support**

(Single application has to be submitted even if more than one capacity building activity/ programme is being proposed, with details of each activity/ programme)

1.	Title of the Course(s)/ Workshop(s)/ Webinar(s)/ proposed:	
2.	Name & Designation of PI with Telephone, Fax and Email-ID:	Scientists/ Engineers/ Faculty members holding permanent position in ISRO/DOS Centres & Units, R&D institutions and recognised academic institutions can only be the PI. The PI should have at least 02 years of service remaining before superannuation.
3.	Name & Full Address of the Institution/ Organisation of PI:	
4.	Name & Designation of Co-Investigator (only 01) with Telephone, Fax and Email-ID:	Scientists/ Engineers/ Faculty members holding permanent position in ISRO/DOS Centres & Units, R&D institutions and recognised academic institutions can only be the Co-Investigator. The Co-Investigator should be from the same institution and should have at least 02 years of service remaining before superannuation.
4.	Objective, Expected Outcome and Follow-up Action:	
5.	Duration and Tentative Dates of the Proposed Course(s)/ Workshop(s)/ Webinars, etc.:	
6.	Target Participants:	
7.	Number of Participants (proposed):	

8.	Course Contents/ Agenda of the Proposed Programme/ Activity:	Provide broad topics.
9.	Schedule of Activities for Training Course(s)/ Workshop(s):	In case of Training Course/ Workshop, provide day-wise (tentative) schedule for lectures, demonstration & hands-on exercises.
10.	Data to be used:	
11.	Software and Hardware to be used:	
12.	To What Extent (in %) the Contents of the Proposed Programme(s) will be covered by Inhouse Faculty?:	
13.	Programme-wise Tentative List of Guest Faculty (Name, Designation, Institute/ Organisation, and Area of Expertise):	
14.	Cost (Programme/ Activity-wise and Total Cost):	Refer Table 2 to Table 4
15.	Experience of PI, if any, in the Proposed Field:	
16.	Details of Previous Course(s)/ Workshop(s) Conducted by PI in Last 5 Years and Highlight (with bold font) the ones related to the Proposed Field:	Provide here the list in chronological order (latest on top) the Title, Funding agency, Period/Duration, and Budget. Highlight (with bold font) those programmes which are related to the proposed field.

17.	Existing Facility (Classroom, Lab, Computing Resource, Software, Equipment, Hostel, Guest House, etc.) in the Parent Institute/ Organisation of PI which will be available for the Proposed Programme/ Activity:	<ul style="list-style-type: none"> • Classroom: • Lab: • Computing Resource (Hardware/ Software/ Internet): • Equipment (if required for proposed activity): • Hostel: • Guest House:
18.	List of Publications (only best 05), Patents, Copyrights of PI in the Related Field:	
19.	CV of PI and Colinvestigator:	Enclose CV of PI and Co-Investigator, each in separate sheet, as per the format provided in Annexure-3.

DECLARATION

We have carefully read the terms and conditions of the Announcement of Opportunity (AO) programme of ISRO for Capacity Building in Space Based Disaster Management Support.

It is certified that if the AO proposal is accepted and supported by ISRO, the facilities as identified in the proposal and administrative support available at our institution and needed to execute the programme will be extended to the Principal Investigator (PI) and Co-Investigator.

It is certified that, if the AO proposal is accepted and supported by ISRO, the same proposal shall not be submitted for funding support from other agencies.

We will submit the following documents within two months of completing the approved activity to IIRS, Dehradun: (1) Report of each of the completed activity; (2) Two copies of the Fund Utilization Certificate (FUC) as per ISRO/DOS format; and (3) Audited Accounts Statement (AAS) (not applicable for ISRO/ DOS Centres & Units) for the total expenditure incurred

Signature of Principal Investigator

Signature of Head of Department / Area with Name and Designation

Signature of Head of Institution/ Organisation with Name and Designation

Date:

Seal of Head of Institution/ Organisation

Soft copy (as a single pdf document) and one Hard copy of the duly signed proposal with cover letter and CV of PI and Co-Investigator in the requisite format (refer Annexure-1, 2 and 3) should be sent by email ([dmsp\[dot\]ascb\[at\]iirs\[dot\]gov\[dot\]in](mailto:dmsp[dot]ascb[at]iirs[dot]gov[dot]in)) and Speed/ Registered post to: **Director, Indian Institute of Remote Sensing (IIRS), ISRO, Department of Space, Government of India, 4-Kalidas Road, Dehradun, Uttarakhand – 248001**. Soft copy by email with the Subject **Attention: DMSP-CB AO Proposal** must reach on or before the deadline. The cover letter (Annexure-1) and Declaration (Annexure-2) must be signed by the Head of the Institution/ Organisation of the PI; otherwise, the proposal shall be considered as invalid and shall be rejected.

Annexure-3

Format for CV of PI and Co-Investigator
(CV of PI and Co-Investigator to be given on separate sheets)

1.	Name:			
2.	Date of Birth (dd/mm/yyyy):			
3.	Designation:			
4.	Name of Institution/ Organisation with Full Address, Phone, Fax and Email-ID			
5.	Degrees Conferred (begin with Bachelor's degree)			
	Degree	Institution conferring the Degree	Branch/ Discipline	Year of Passing
6.	Research/ Training Experience (in chronological order):			
	Duration	Institution	Name of work done	
7.	Major Scientific Fields of Interest:			
8.	List of Publications (Only the journal papers to be listed):			