Guidelines to prepare Research Proposal for CDRI Fellowship Programme

Instructions: Applications for CDRI Fellowship Programme shall be accepted through the Online Fellowship portal. Applications submitted through emails or any other medium shall not be considered. The selection process of CDRI Fellowships is based on peer blind review. It is being suggested that the applicants should not include any information which will disclose their identity. English is the designated language for the application.

Please write to [Fellowship@cdri.world] for any clarification or suggestion.

Part A: Basic Information of the Research Proposal

1. Title of the Proposed Research: …………..

2. Subject Area: ……………….

    [Hint: Civil engineering, Mechanical engineering, Electrical engineering, Electronics, Computer science, Earth science, Climate change, Meteorology, Ecology, Sustainability, Public safety, Policy, Finance, other]
    In case of any other option, please mention_____

3. Infrastructure(s) in Focus: ……………….
    [Hint: Transportation, Telecom, Power, Ports, Aviation, Multi-infrastructure system, etc.]
    In case of any other option, please mention_____

4. Hazard(s) in Focus: …………………
    [Hint: Earthquake, Cyclone, Drought, Landslide, Flood, Lightning, Multi-hazards, etc.]
    In case of any other option, please mention_____

5. Nature of Research Work/Output/Outcome: ……………………

    [Hint: Product development, Software/Technology, Theoretical research, Policy, Regulations process management, Standards, Certification, Capacity development other]
    In case of any other option, please mention_____

6. Keywords (maximum six words) …………………….

7. Potential for Patents Intellectual Property ………………………

8. Estimated Time and Budget…………………………….

Part B: Research Proposal

The research section is divided into two-parts:
1. Structured abstract
2. Detailed proposal

Each section has few suggestions to facilitate the drafting of the proposal. These suggestions are indicative, and not exhaustive, applicants shall write each section in a way that is best suited to their research. The application shall indicate the following:

- *What is the precise problem related to disaster resilience infrastructure (DRI) that is in Focus?*
- *What is the innovative solution and where the scope of the studies lies?*
- *How will this solution address the problem under consideration?* and
- *What are the underlying assumptions and limitations?*
- *What is the scientific and societal relevance?*

Part 1: Structured Abstract

Each section should not exceed more than 50 words

Research Problem:

Innovation/novelty:

Proposed solution:

Research Methodology:

Practical application and implications:

Assumptions:

Scope and limitations:

Part 2: Detailed Research Proposal

Each section should not be more than 300 words

Research problem (What is the DRI problem being solved in the proposed research?)

Suggestions for research problem
   a. Give a brief description of the infrastructure related issues that you aim to cover. The issue should relate to building resilience in infrastructure. Be specific.
   b. Rationale for taking up this project by providing the motivation behind the proposed project
   c. How does the project meet the needs of the relevant stakeholders?
   d. Identify the gaps in the literature and emphasize why it is important to address those gaps.
   e. What are the existing solutions for this issue and how are they inadequate to address the issue? Consider citing some latest research papers/developments to highlight the problem.
   f. What are the implications and significance of this inadequacy? For instance, what are the tangible or intangible losses arising out of this issue/inadequacy of existing solutions?
   g. Which aspect of this inadequacy, whether in part or full, is being addressed in the proposed research problem?
   h. Make sure to drill down to the "specific problem" that is being solved.

Innovation/novelty (What is the innovative idea or concept to solve proposed problem?)

Suggestions for novelty:
   a. With respect to the research problem, tell us the crux of the idea which can solve this problem. Give a concise summary of the idea/concept/insight proposed to solve the identified problem.
   b. How did you get this idea? How did the insight occur to you? For instance, did you observe new trends in data? Did you make first-hand experiments or observations?
   c. Are you planning to extend an existing solution? Are you trying to apply an existing theory/algorithm/code/technology? Are you trying to develop a new product or process? Are you trying to conduct a case study or policy research?
   d. Critical thinking about your idea may help in refining the research problem, and possible solutions may help in a precise answer.

Proposed solution (What is the proposed solution for the research problem?)

Attach the **flowchart** for research design (Mandatory)

Suggestions for proposed solution:
a. Considering the research problem and your innovative idea, tell us what your solution will be? What is likely to be the end-product of your research?
b. Can you imagine the end-product or solution of your research? It can be a new hypothesis, theory, algorithm, product, process, design, framework, table of values, decision support tool, gadget, circuit diagram, policy, financing structure, case study, etc. Defining the outline of your product will help CDRI to evaluate your deliverables in the context of DRI.
c. A proposed solution is different from the Research Methodology (sometimes referred as Solution Methodology).

Research methodology (How will you find your proposed solution?)

Attach the **flowchart** of methodology (Mandatory)

Suggestions for methodology:
a. Research methodology is the process to progress from a research problem to the proposed solution. It may involve laboratory testing, data analysis, simulations, case study, computer coding, product development and testing, interviews, literature review, etc.
b. What are your methods of data collection - experimental setup, interviews, some other qualitative or quantitative data, hypothetical data, scenario analysis, simulations, document analysis, direct observations, big data analytics, etc. What are the actual phenomena you are planning to measure in data collection?
c. What are your methods of data analysis? How will you convert your observations into new research outcomes? Your research methodology should provide a flow chart or sequential steps to demonstrate how your research will be conducted.
d. How will the proposed method and methodology help in the overall conclusion /fruition of the research problem.

Practical application and implications (What are the different practical applications of the proposed solutions, and how will it impact the research problem?)

Attach the implementation plan (should show Scalability and replicability aspect)

Suggestions for application and implications:
  a. Describe/hypothesize/visualize interventions/steps that are required to apply the proposed solutions in the real world. How is the applicability of your solution likely to affect the research problem. Who are the stakeholders benefitting from the solutions? And how?
  b. Can you identify the specific elements of resilient infrastructure (design, material, building, practice, maintenance, monitoring system, policy, governance, etc.) where your solution will be useful?
  c. Can you identify stakeholders/systems/resources that are required to implement your solution?
  d. How do you plan to assess/quantify the impact your solution will bring to improve/change/alter the resilience in infrastructure?
  e. How do you plan to test your solution in the real world (e.g., pilot testing)?

Assumptions (What are important assumptions under which research will be taken up?)

Suggestions for assumptions:
  a. The selected research problem, idea, solution, application are all based on some underlying assumptions. Enlist these important assumptions for the proposed research? It will help in outlining the limitations and scope of the proposed research.
  b. CDRI is looking for real-world solutions for real-world problems. CDRI acknowledges that every research is performed with certain assumptions to simplify a real-world problem to a research problem. Knowing the assumptions that underlay research will help you and CDRI in assessing the strength of the solution.

Scope and limitations (What are the scenarios/conditions covered and excluded from the proposed research?)

Suggestions for scope and limitations:
  a. Making assumptions for research also leads to setting aside/overlooking certain conditions/criteria that are not covered in the research. Also, it relates to outlining the Scope of your research to define a manageable research project.
  b. Limitations may make a proposed solution less applicable for certain conditions, but these limitations also clarify the focus of the research.
  c. CDRI is looking to take your solutions to the practitioners in the real world. You can tell us about the specific circumstances where your solution will not work. You can also list few precautions to be taken during the implementation of your solution.
  d. Research limitations do not make a research proposal weak. It just specifies when the solutions may not be applicable and provides evidence that you have critically evaluated your problem, idea, and solution.

Any additional highlights (Any highlights of the proposed research may be added here)

Suggestions for **highlights***:*
   a.   Please provide any relevant details on the proposal in this section.
   b.   Include additional details that could not come under any of the above sections.
   c.   Do not provide your CV and other personal details in this section.

References (What are the resources/ papers that support your literature review and research problem?)

Suggestions for references:
   a.   Please provide complete details of references as per any standard reference style such as Harvard style, APA, etc
   b.   Cross-reference all the sources in the main body of the proposal as (Author, year).
   c.   Be consistent while writing the references and citing these in the main body of the proposal

Attach Figures (All figures should de attached here in one PDF except research design , methodology, implementation plan. Mention Figure number and caption clearly **under** each Figure. All Figures must be mentioned in the text (a "callout") by their number.)

(Not Mandatory)

Attach Tables (All Tables should de attached here in one PDF. Mention Table number and caption clearly **above** each Table. All Tables must be mentioned in the text (a "callout") by their number.)

(Not Mandatory)

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Part C : Templates for Providing Documents Supporting the Application

Instructions:

Each research proposal should be uploaded with the following documents in the prescribed format. The applicants are requested to keep these documents ready at the time of submitting the research proposal.

(i)   Monthly plan of the proposed research (Annexure-I)

(ii)   Budgetary estimates for the proposed research work. The amount of the Fellowship will be limited to the amount specified in the CDRI Fellowship Programme advertisement. (Annexure-II)

(iii)   Undertaking by the applicant for the CDRI Fellowship (Annexure-III)

(iv)   Endorsment letter (Annexure-III) - Optional

(v)   Curriculum Vitae/Resume of the Application(s)

Annexure I

Month-wise milestones of the proposed research

Timeline (in months)	Planned activities	Remarks
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

Note:

1. Fellowship period will start from the first date of the following month after the release of the first installment of the Fellowship.
2. Please clearly indicate planned timelines for three progress reviews including final report submissions. Satisfactory performance in the third progress review is mandatory for the release of the second installment of the Fellowship.

Annexure II

Estimated budget for undertaking the proposed research work

Sl no.	Planned activities	Estimated amount (in USD)
(a)	Total budget of the proposed research work	

(b) Amount of funding received from any other agency (in USD, if applicable) =

Note:

1. These budget details are only for evaluation of the proposed research.
2. In case of proposed budget being higher than the amount offered by the Fellowship, CDRI's contribution will be limited to the 'CDRI Fellowship amount as per the advertisement'.
3. An ongoing research project is eligible for the CDRI Fellowship Programme, subject to the consent of the agency which has funded the project initially. Applicants should obtain relevant letter of consent from the agency.

Annexure III

Undertaking by the Applicant for the CDRI Fellowship Programme

I, --------------------------------, national of --------------------------(Country), holding passport/ driving license/ social security no. -----------, CDRI Fellowship Application no……………, do hereby accept the offer of CDRI Fellowship and irrevocably undertake the following:

1. I shall abide by all terms and conditions of the CDRI Fellowship Programme provided overleaf.
2. I shall abide by all rules and regulations, code of conduct, disciplinary rules of the institution/organization where I will be conducting the research or where I am endorsed for the CDRI Fellowship.
3. I shall submit the progress report as per the prescribed schedule in the manner and form required by CDRI.
4. I shall submit a consolidated research report in soft copy (open file) at the end of the Fellowship programme
5. I shall not claim temporary/regular/permanent absorption in CDRI for employment during or after the termination of the Fellowship Programme
6. I shall not be involved in any research misconduct, including (but not limited to) plagiarism, infringement, self-plagiarism, falsification, and fabrication of data or academic fraud in proposing, writing, performing, or reporting results of the research.
7. I agree to submit an ethical clearance from the concerned Ethics Committee in case the Fellowship research involves field trials /experiments/exchange of specimens, human and animal materials, etc.
8. I will respect and abide by all provisions of Intellectual Property Rights laws, including (but not limited to) copyright laws, as applicable.
9. The submitted research proposal titled – [*Title of the proposal*], is original, and it is not an infringement, reproduction, in part or in full, in any manner whatsoever of any ongoing or past research by another entity.
10. The proposed research is also partly funded by [*name of other scholarship with amount in USD*] if applicable. (D*elete/cross it if not applicable*).
11. I accept that all required information that I have furnished to the CDRI Fellowship Programme is correct, valid, subsisting, and lawful information. If any information is found invalid, incorrect and/or false, CDRI reserves the right to immediately cancel my application at any stage of the Fellowship Programme without giving any notice of the same to me.

<div align="right">(Name and Signature of the Applicant)</div>
<div align="right">(Date and Place)</div>

Terms and Conditions of the CDRI Fellowship Programme

a.   The candidate(s) applying for the CDRI Fellowship should be from the member countries of CDRI as listed on the website www.cdri.world at the time of application submission.

b.   While candidate(s) can be an individual or team, it is mandatory that each research proposal is endorsed by a recognized academic institution/government organization [herein termed as parent institute].

c.   The candidate(s) need not be from the parent institute.

d.   The parent institute may be paid honorarium/overhead fees up to 15% of the total approved Fellowship amount.

e.   The research proposal under the CDRI Fellowship must be completed within 12 months from the disbursement of the first installment of the Fellowship. Any extension in project duration is generally not permitted. Only for extraordinary situations, CDRI may consider an extension of no more than six months. However, there shall not be any increase in the Fellowship amount due to the extension of the Fellowship.

f.   CDRI offers a Fellowship amount up to US$15,000 or equivalent. This amount is inclusive of all costs towards research, traveling for research and review presentations, report printing, institution overheads, honoraria, duties, and any applicable tax.

g.   The CDRI Fellowship Award will be paid in two installments of 50% each. The first installment will be paid after the announcement and verification of the necessary documents received from the Fellowship awardees. The second installment will be paid upon satisfactory progress of the research project assessed during the third quarter of the programme by an Expert Panel appointed by CDRI.

h.   Along with the research proposal, the research team will submit a timeline plan for carrying out the research. At the end of each quarter, the research team will submit a self-assessed plan-vs-achievement report along with interim outputs of work undertaken during the quarter. CDRI will monitor the progress and may invite the research team, in person or through video conferencing, for a review meeting, with an Expert Panel appointed by CDRI. Following are tentative timelines for review meetings of research projects.

- *First review at the end of the first quarter*: The research team is expected to present a clear and detailed research methodology and expected outcomes.
- *Second review* at the end of the second quarter: The research team is expected to present preliminary results from a pilot study.
- *Third review* at the end of the third quarter: The research team is expected to present the detailed analysis/experimental setup and research outcomes. Satisfactory performance at this stage is mandatory for the release of the second installment of the grant.

(Name and Signature of the Applicant)

(Date and Place)

- *Final presentation meeting at the end of the fourth quarter* – The research team is expected to present complete research outcomes and reports in the final review. CDRI will provide a format for submitting the research report to ensure uniformity.

i. After a satisfactory performance in the final meeting, and by the end of the 12 month, the candidate(s) will submit a project closure report based on which a certificate of satisfactory completion of the Fellowship shall be awarded to the research team. The parent institute shall verify the team members involved in the Fellowship project.

j. The candidate(s) will acknowledge CDRI in all research publications arising from the Fellowship research.

k. The candidate(s) will also share an electronic copy of such publications with CDRI which may be published on its knowledge portal.

l. The candidate(s) must ensure the highest level of research ethics and refrain from plagiarism at all stages of the Fellowship. Any such violations detected at any stage of the Fellowship may lead to termination of the Fellowship.

m. CDRI reserves the right to change the term and conditions at any time. Failure to comply with the same may result in the repayment/termination of the award.

(Name and Signature of the Applicant)

(Date and Place)

Annexure IV

Endorsement Letter for the CDRI Fellowship Programme

<mark>(ON THE LETTERHEAD OF THE ORGANIZATION/INSTITUTE)</mark>

Communication Ref. No: Date:

Certificate of Endorsement of Research Proposal for the CDRI Fellowship Programme

Certified that the Research Proposal titled *[Title of the Research Proposal]* with Application ID number [*CDRI fellowship application ID*] being submitted to the CDRI Fellowship Programme is an original, bonafide proposal by [*Name(s) of candidates, designation*].

The research work is planned to be carried out during the year **2022-23** (subject to the date of sanction) at:

Details of the endorsing institute/organization (hereinafter called Parent Institute)

Name of the Department/ Centre/School	
Name of the Parent Institute	
Relationship with the applicant (student/employee/ any other)	
Role of the Parent Institute (only endorsement / implementation / both)	
Postal Address	
Email and Phone no. of the contact of the Parent Institute	
Country	

Details of the endorsing faculty/officer (hereinafter called Mentor)

Name of the Department/ Centre/School	
Name of the Mentor and Designation	
Official Address	
Email and Phone no.	

Further, it is certified that

The parent institute shall abide by the terms and conditions of the CDRI Fellowship Programme as follows:

1. The parent institution will provide all necessary support to the candidate(s) for conducting the proposed research. *(Delete if not applicable)*.
2. The CDRI will disburse a total grant amount, US$15,000 in two installments, of US$7500 each. The parent institution will further disburse the grant to the candidate(s) within fifteen days of receipt of the grant.
3. The parent institute may charge up to fifteen percent (15%) of the Fellowship grant as an administrative cost. The parent institute will also submit a report and utilization certification (format will be shared in due time) of the grant received from the CDRI.
4. At the start of the Fellowship, the mentor shall verify all the team members, including the team leader, undertaking the research.
5. The mentor will provide supervisory support to the candidate(s) and ensure that there is no research misconduct. The mentor will also be a part of the project review process carried out by CDRI.
6. The mentor shall immediately inform CDRI in case the tenure of the applicant at the parent institute ends for any reason whatsoever.
7. CDRI reserves the right to modify these terms and conditions governing the grant-in-aid.

[Signature and seal of the signing authority]
[Name]
[contact details : phone, email]

Communication Ref. no: Date:

Bank Details for receiving funds under the CDRI Fellowship Programme

Certified that the bank details of [*Name of the institute]* supporting CDRI Fellowship proposal titled *[Title of the Research Proposal]* with Application ID number [*CDRI fellowship application ID*] submitted by [*Name(s) of candidates*] to the CDRI Fellowship Programme are as under:

Details of Account Holder

Name of the Institute	
Complete contact address	
Telephone Number with Country Code	
Email ID of the FO/AO/REG/DIR	

Bank Account Details

Name of the Bank Account	
Bank Account No.	
Name of the Bank	
Branch Name	
Address of the Bank Branch	
SWIFT / IBAN / IFSC Code	
Account Type	

[please attach a supportive document e.g., certificate from the bank / cover of passbook indicating details / cancelled check to verify the above bank details]

[Signature and seal of the signing authority]
[Name]
[contact details: phone, email]

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