



# **DIRECTORATE GENERAL OF SCIENCE AND TECHNOLOGY**

## **Expression of Interest**

### **Local Challenges Grants Programme**

“Support R&D consortia with grants to undertake product and solution-specific R&D in the 8 priority areas that help solve key local problems or add value”

Popularization of Science, Technology & Innovation (ADP 210020)



## DIRECTORATE GENERAL OF SCIENCE & TECHNOLOGY EXPRESSION OF INTEREST (EOI)

### Local Challenges Grants Programme

#### “Grant Support for Addressing Local Challenges in Eight Priority Areas through Scientific and Innovative Interventions”

- The Directorate General of Science & Technology has initiated a developmental scheme (ADP 210020) titled “Popularization of Science, Technology & Innovation” to support R&D Consortia financially to undertake product and solution-specific R&D in the 8 potential natural resources priority areas that help solve key local challenges or add scientific value addition.
- Expression of Interest (EOI) for grants “Support R&D Consortia to undertake product and solution-specific R&D” is requested from the Consortium to conduct Research and Development in eight priority areas:
  - Fruits & Vegetables
  - Bees & Honey
  - Fisheries
  - Herbs & Medicinal Plants
  - Micro-hydro Power
  - Environment
  - Gemstones
  - Archeology
- The R&D projects under this programme are aimed at mobilizing stakeholders and support applied research and product development to address key local challenges in each of the eight thematic areas.
- The project is intended to develop novel scientific developments, discoveries, inventions (prototypes), and innovations (solutions or products) OR strategic industrial interventions to uplift a sector – in each of the 8 potential natural resource areas
- The lead institution/organization of the consortium must be KP based.
- Interested institutions/Consortia can download the EOI, eligibility criteria, and application forms from our website: [www.dost.kp.gov.pk](http://www.dost.kp.gov.pk).
- Interested National and International institutions (Academia, Industry, R&D organizations) both public and private with relevant experience are encouraged to participate. Up to 20 million PKR/- grants will be provided to the consortium.

**Note:** The complete application package must be submitted **both in hard copy and in soft form (USB drive)**.

**The last date for application & proposal submission is 25-09-2025 COB.**

**Director General  
Directorate General of Science and Technology  
Govt. of Khyber Pakhtunkhwa, Peshawar  
Midway Building, 1st Floor, Shami Road, Peshawar**

[www.dost.kp.gov.pk](http://www.dost.kp.gov.pk)

**Phone: +92 919216580**

**Email: [info@dost.kp.gov.pk](mailto:info@dost.kp.gov.pk)**



# Local Challenges Grants Programme

Support for Addressing Local Challenges in Eight Priority Areas through Scientific and Innovative Interventions

The Directorate General of Science and Technology, Government of Khyber Pakhtunkhwa, invites Expressions of Interest (EOI) from researchers, startups, non-profits, and private or public sector organizations, forming a Consortium, to provide scientific and innovative solutions to address local challenges identified by the taskforces under the Khyber Pakhtunkhwa Science Agenda.

## Grant Objective

Support capacity building in the following sectors by using scientific and innovative methods to create practical, scalable solutions or value-added products across eight priority areas:

- Fruits & Vegetables
- Bees & Honey
- Fisheries
- Herbs & Medicinal Plants
- Micro-Hydro Power
- Environment
- Gemstones
- Archaeology

## Who Can Apply

Eligible consortia may include entities from academia, industry, start-ups, non-profit organizations, private and public sectors organizations. Collaboration at national and international levels is encouraged.

Each consortium must comprise at least one Principal Investigator (PI) who is either affiliated with a HEC-accredited university in Khyber Pakhtunkhwa or associated with a recognized industry partner possessing demonstrated R&D capabilities.



**Submission Deadline:**  
**5th September, 2025**

Application Form can be downloaded from [www.dost.kp.gov.pk](http://www.dost.kp.gov.pk)  
Send the duly filled application form to



**DIRECTORATE GENERAL OF  
SCIENCE AND TECHNOLOGY (DOST)**  
GOVERNMENT OF KHYBER PAKHTUNKHWA

1st Floor, Midway Building, Shami road, Peshawar Cantt.  
Phone: +92-91-9216580 | Email: [Info@dost.kp.gov.pk](mailto:Info@dost.kp.gov.pk)





## **Local Challenges Grants Programme**

Directorate General of Science and Technology,  
Government of Khyber Pakhtunkhwa

### **Grant Support for Addressing Local Challenges in Eight Priority Areas through Scientific and Innovative Interventions**

#### **Guidance Brief**

#### **Program Aim**

The primary aim of the programme is to help upgrade key sub-sectors of our industry around eight key natural resources of KP through scientific and technological interventions. Research grants will be offered to consortia to develop measures for enhancing the value chain that will ultimately help in increasing annual production and therefore revenue for the province.

#### ***What is a Local Challenge?***

Local challenges are problems in any of the eight thematic areas around the natural resources in KP, that are targeted to be solved by a group of scientists, technologists, engineers, innovators or entrepreneurs, with or without the help of an international expert or organization.

This is the main component of the project which will support and financially sponsor R&D that lead to the development of a product or a substantial value-addition to an existing method, process or product undertaken in any of the eight thematic areas.

The project is intended to deliver novel scientific developments, discoveries, inventions (prototype) or innovations (solutions or products) OR strategic industrial interventions to uplift a sector

.

The tech-based interventions/R&D under this component, will be undertaken by consortia of different scientific and technical leaders and co-leaders who come together and apply in response to a call for proposals. These leaders and co-leaders are referred to as principal investigators (PIs) and co-principal investigators.

## Eligibility

The highly competitive grants will be awarded to research consortia in any of the three areas composed of coPIs from academia, startups, industry, non-profits, NGOs and research institutions, both public and private, national and international bringing unique and complementary strengths. Each consortium will have one Corresponding PI (domiciled in KP) who will be responsible for reporting and communication purposes with the Directorate General.

## Preferred Areas for Tech-Interventions/Solutions in Eight Priority Sectors

Applicants are encouraged to present innovative, feasible, and contextually relevant solutions or technological interventions in the following eight priority sectors identified under the KP Science Agenda. Suggested focus areas include, but are not limited to:

S. No	Priority sectors	Preferred Interventions or Solutions
1.	Fruits & Vegetables	<ul style="list-style-type: none"><li>• Smart agriculture technologies regarding production, processing, post-harvest management &amp; advanced handling tools for horticultural products</li><li>• Eco-friendly innovative methods to fight Fruit Fly; a serious threat to horticultural crops in KP</li><li>• Simulations &amp; Crop Modelling for Climate Change adaptation</li><li>• Water management technologies in the agriculture sector (includes challenges relating to low water table, adaptations to water deficits)</li><li>• Cutting-edge forecasting technology, an Early-warning system as an adaptive measure to climate resilient agriculture in weather stations</li><li>• Biocontrol &amp; Biopesticides as a sustainable alternative</li><li>• Integrated Nutrient Management technology in Fruits &amp; Vegetables</li><li>• Innovative methods to minimize post-harvest losses</li><li>• Any other high-impact, tech-based solution relevant to the sector</li></ul>

2	Fisheries	<ul style="list-style-type: none"> <li>• Culture technology in Fisheries to enhance production (Input and processing tools)</li> <li>• Technology intervention in low-cost feed production, disease diagnosis and treatment, formulated feed innovations for enhanced fish growth and feed efficiency, with a focus on local ingredient utilization and nutritional balance.</li> <li>• Development of high-quality, disease-resistant fish seed stock, including selective breeding and hatchery-based seed certification systems.</li> <li>• Scalable models for quality fish seed production and decentralized distribution</li> <li>• Integrated solutions for seed improvement and cost-effective feed preparation</li> <li>• Technology-enabled harvesting methods and smart marketing strategies for fisheries</li> </ul>
3	Bees & Honey	<ul style="list-style-type: none"> <li>• Honey quality testing technology</li> <li>• Novel techniques for diseases/pest management in apiculture</li> <li>• Addressing production and marketing gaps, value addition and chain development</li> <li>• Any other high-impact, tech-based solution relevant to the sector</li> </ul>
4	Herbs & Medicinal Plants	<ul style="list-style-type: none"> <li>• DNA-based identification system for medicinal plants</li> <li>• Scientific validation and formulation of herbal medicines through applied research</li> <li>• Conservation models for endangered medicinal plants and promotion of sustainable harvesting practices</li> <li>• Propagation techniques and agri-based models for the large-scale cultivation of medicinal plants</li> <li>• Reducing dependence on imported raw materials through local herbal resource development</li> <li>• Market intelligence studies for mapping international demand and export opportunities of herbal products, local supply chains, and market research</li> </ul>

		<ul style="list-style-type: none"> <li>Any other high-impact, tech-based solution relevant to the sector</li> </ul>
5	Environment	<ul style="list-style-type: none"> <li>Innovative technologies and models to monitor and improve urban air quality and reduce smog</li> <li>Water conservation and water-saving technologies</li> <li>Urban forestry</li> <li>Development and promotion of sustainable green building materials and energy-efficient construction practices</li> <li>Indoor environmental management</li> <li>Indoor air quality monitoring systems and integrated indoor environmental management solutions</li> <li>Technology solutions to support the enforcement of emissions and environmental standards</li> <li>Traffic Congestion and Urban Mobility Solutions</li> <li>Any other high-impact, tech-based solution relevant to the sector</li> </ul>
6	Microhydro	<ul style="list-style-type: none"> <li>Standardization and Regulation of Micro Hydropower Systems.</li> <li>Enhancing Hydrological Data Accuracy for Micro Hydropower Project Site Selection.</li> <li>Design, Fabrication and Manufacturing Challenges in Micro Hydropower Sector: Modern and Efficient Turbines and other essential components, Alternators, drive, control &amp; protection systems of Electromechanical equipment/assembly. Only a limited number of existing manufacturers possess the necessary facilities and scientific approaches, resulting in dependence on imports.</li> <li>Climate-Resilient Design of Civil Structures for Micro Hydropower Projects: Incorporating Safety Factors and Protection Measures</li> <li>Bridging the Gap: Technology Transfer and Business Model Development in the MHP Sector.</li> </ul>

		<ul style="list-style-type: none"> <li>Any other high-impact, tech-based solution relevant to the sector</li> </ul>
7	Gemstones	<ul style="list-style-type: none"> <li>Adoption of precision-based technologies to improve cutting, polishing, and bead-making practices in traditional gemstone markets (e.g., Peshawar Namak Mandi).</li> <li>Advanced certification systems aligned with international standards (GRS, GIA, LOTUS, AIG, etc.), addressing the lack of credible gemstone testing facilities in Pakistan.</li> <li>Enabling a digital auctioning, e-commerce platform for the local gemstones industry, enhancing market access, price transparency, and export competitiveness.</li> <li>Any other high-impact, tech-based solution relevant to the sector</li> </ul>
8	Archeology	<ul style="list-style-type: none"> <li>Software for accurate mapping, modeling, and advanced image processing</li> <li>Advanced Technologies for Data Collection and Visualization</li> <li>Developing a Public Access Portal for Digital Heritage</li> </ul> <p>Any other high-impact, tech-based solution relevant to the sector</p>

## Benefits

The research grants, of up to 20 million rupees each, are highly competitive and will be awarded to consortia. The research grants will mainly cover technological solutions, equipment, consumables and reagents, HR salaries, community engagement and outreach activities, and other overheads.



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## GENERAL DETAILS

<b>Project details</b>				
Project Title				
Priority Area		<input type="checkbox"/> Fruits & Vegetables <input type="checkbox"/> Bees & Honey <input type="checkbox"/> Fisheries <input type="checkbox"/> Herbs & Medicinal Plants <input type="checkbox"/> Environment <input type="checkbox"/> Micro-hydro Power <input type="checkbox"/> Gemstones <input type="checkbox"/> Archeology  Any others  <input type="checkbox"/> Specific/minor  <i>Please specify others</i> _____.		
<b>R&amp;D Consortium details</b>				
Names of PI's and CoPIs in R&D Consortium		1. 2. 3. 4. 5.		
Type of Consortium (Tick relevant if applicable)	<input type="checkbox"/> Academic	<input type="checkbox"/> Industry	<input type="checkbox"/> R&D organization	<input type="checkbox"/> Other
	Please specify other			
Addresses of the PI's and CoPI's in R&D Consortium		1. 2. 3. 4. 5. 6.		
Name of corresponding PI				
Address of physical office				



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Government of Khyber Pakhtunkhwa

Contact number				
Email address				
Signature				
<b>Details of partner organization</b>	1. (Lead organization) 2. (Partner organization) 3. (Partner organization)			
Legal status of lead organization	<input type="checkbox"/> Public Sector Organization	<input type="checkbox"/> Public Ltd company	<input type="checkbox"/> Private Ltd company	<input type="checkbox"/> Partnership firm
	<input type="checkbox"/> Others (please specify)			



## APPLICATION FORM

### **“Support R&D consortia with grants to undertake product and solution-specific R&D in the 8 priority areas that help solve key local problems or add value”**

#### **1. Project title**

*Limited to 100 characters, including spaces.*

#### **2. Project Purpose**

*For a non-specialized science audience, summarize your research project in one sentence. Maximum of 300 characters including spaces.*

#### **3. Abstract**

*Please provide summaries of the overall goal (“Big Problem” or Scientific Area) of the research. This information will provide the first overview of your proposal (One page maximum).*

#### **4. Scientific goals**

*Please outline the research areas of the proposed project and describe the scientific goals to be achieved by the project. Note that these explanations are the focus of the proposal. (One page maximum).*

#### **5. Milestones**

*Summarize quarterly milestones of your project, including yearly deliverables that demonstrate progress and iteratively contribute to resources available to the scientific community and/or industry in Pakistan. Maximum 250 words.*

#### **6. Role of each PI and coPI**

*Describe the role of each PI and coPI in the project, maximum 500 words*

#### **7. Application domains**

*Describe plans for transforming the research on the “big problem” or scientific area to potential application domain.*

#### **8. Promotion of young researchers**

*Please describe strategy of the research for promoting early-stage researchers and graduate students (one page maximum).*

#### **9. Organization, Management and Infrastructure**

*Please describe the internal (inter-disciplinary) cooperation with different departments and institutions within university and network structures with similar institutions and industry.*



*Please explain how your organization/Institute will manage and coordinate the proposed initiative. Describe the administrative structure that will execute, oversee implementation, including roles and responsibilities. Outline the internal cooperation (e.g., inter-departmental or cross-faculty partnerships within the university/Academia), as well as external linkages with relevant institutions, industry partners, or technology networks that will contribute expertise, resources, or collaboration toward the success of the proposed initiative.*

*If the proposed setup is cross-disciplinary (e.g., involving multiple faculties, departments, institutions), clearly demonstrate how this cooperation creates synergy, operational value, and expected benefits of this strategic cooperation. Describe the administrative structure and resource infrastructure (e.g., space, facilities, equipment) that will support successful delivery. (One page maximum)*

## Details of equipment for Proposed Intervention/R&D

### Available equipment

*List down the details of available equipment which can be used in the proposed research. The list of equipment must match with the research activities and the availability of human resources for the Lab.*

#	Equipment	Date of purchase	Current condition of the equipment			Current usage
			Working	Repairable	Out of order	
1.						
2.						
3.						

### List of requested equipment

*Please provide the list of lab equipment required to complete the research. The list of equipment must match with the research activities and the availability of human resources for the Lab.*

#	Equipment	Equipment Details		Estimated Cost
		Justification/Purpose	Estimated Quantity	
1.				
2.				
3.				



## 10. Availability of Trained Human Resources

*Please provide the list along with CVs of the relevant professionals/researchers those will be engaged/associated with the lab*

## 11. Other facilities

*Please state other infrastructure and operational facilities and funds which will be provided by host institution to support the proposed Lab.*

## 12. Proposed Interventions/Research & Development plan

*Layout your proposed interventions/ R&D plan for how you propose so solve the “Big Problem” and each of the potential application domains. The proposed activities (and milestones) as well as measurable outputs and outcomes should be provided. Please also indicate the tentative budget for each proposed objective or activity*

Application Domains	Proposed Interventions/ R&D Activities	Milestones	Measurable Outcomes

## 13. Community Engagement Plan

*Engagement of all stakeholders and the broader community is critical for the success of a research project and the development of a broader community in areas of science and technology. This also includes communicating your science in a layman’s language to the public that eventually helps in developing a more science literate and informed general public. Stakeholders may include patients, under presented communities, non-profits and NGOs involved in non-academic research, and advocacy, politicians and opinion makers, journalists and science communicators, government officials and planning officers, students at different levels and the general audience.*

*Please describe your community engagement plan, including communities and stakeholders that you intend to engage, your history with them, and other institutional, local, regional partners that you will rely on. Clarify how the PI(s) and coPI(s) will be involved and what role they will play in the plan.*

## 14. Statement of Host Institution

*Host institution must show its commitment to provide facilities, cost-sharing for PIs/Co-PIs, MS/PhD Students, administrative support, infrastructure and accessibility to all central core facilities available at the host institution. The host institution must provide information on the financial support to the Lab to implement its unique role as a leading national Lab in the country and its uniqueness within the national context. The host institution must also commit to make the central core research facilities of this Lab accessible to all Pakistani researchers from research institutions and universities free of cost or with minimal costs.*

**Signature of the Focal Person**

**Signature of Head of Institute/Organisation**

**Dated:**



## Annexure I: Relevant Experience of Consortium/ PI/ CoPI

*List down the details of research projects successfully completed by the PI's, and CoPI's. At least 4 projects related to R&D should be listed. Additional marks will be given to the projects relevant to the mentioned priority areas.*

### **Project 01**

<b><u>Name of partner organization in Consortium:</u></b>	
Assignment name	
Approx. value of the grant/ project (in current US\$ or PKR):	
Country: Location within country:	
Duration of assignment (months):	
Name of Client:	
months of the assignment:	
Start date (month/year):	
Completion date (month/year):	
No of professional staff-months provided by associated Firm:	



## Annexure II: REGISTERED PATENTS

*List down the registered patents by any PI, CoPI or other team member in the consortium.*

Name of patent	
Research area in which the patent is registered	
Country of registration	
Name of recognizing body	
Date of registration (DD/MM/YYYY)	
Name of organization/ Individual which has registered the patent	





## Annexure III: CURRICULUM VITAE

### A. General Details

NAME	
CNIC #	
ORCID ID	
POSITION TITLE	

**EDUCATION/TRAINING** *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

S.No.	INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
1.		BS		
2.		PHD		
3.		Postdoctoral		

### B. Personal Statement

Please write down your personal statement here (100 or more word).

### C. Ongoing and recently completed projects

<b>Project 01</b>	
Name of the assignment/ project	
Cost of assignment/ project	
Year	
Starting date	
Completion date	
Position held	
Actual time spent in projects (months)	
Location	
Client	



Project brief	
<b>Project 02</b>	
Name of the assignment/ project	
Cost of assignment/ project	
Year	
Starting date	
Completion date	
Position held	
Actual time spent in projects (months)	
Location	
Client	
Project brief	

#### D. Citations :

S.No.	Details
1.	
2.	
3.	
4.	
5.	

#### E. Positions and Scientific Appointments

Employer	Position	From (MM/YYYY)	To (MM/YYYY)
i.			
ii.			
iii.			
iv.			
v.			

#### F. Honors and Awards

Awarding body/ date	Award title
<i>For example</i> International Ethnographic Society/ 2020	Award for Best in Interdisciplinary Ethnography,

#### G. Contributions to Science

Please write down description of your contribution to science, also list down a few relevant publications.



Directorate General of Science and Technology  
Government of Khyber Pakhtunkhwa

## H. Certification

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.

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Signature of staff member or authorized representative