

## TEMPLATE B

### RESPONSE FOR CAPACITY-BUILDING NEEDS-ASSESSMENT

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| Overarching objective [1-4]  | 1.2, 1.6, 1.7, 2.2, 2.3, 2.4, 2.5, 2.7, 3.10, 4.3  |
| Country  | Pakistan   |
| Outline the nature of your national challenge(s)                                     | <p>1. Pakistan faces severe environmental issues, including high aerosol pollution, frequent floods, droughts, and irregular weather patterns due to climate change.</p> <p>a. <b>Disaster Management:</b> Frequent floods, droughts, earth quakes require real time satellite data for early warning and mitigation</p> <p>b. <b>Food Security and Agriculture:</b> Need for improve remote sensing applications for precision farming and crop monitoring</p> <p>c. <b>Water Resource Management:</b> Monitoring water availability, reservoirs and climate change impacts.</p> <p>d. <b>Urban Development &amp; Environmental Monitoring:</b> Addressing rapid urbanization, deforestation and pollution</p> <p>e. <b>Connectivity and Space-based communication:</b> Expanding satellite-based communication services for remote areas.</p> <p>2. There is a need for comprehensive space legislation to support the growth and regulation of our national space sector. The absence of a well-defined legal framework poses challenges in policy development, international cooperation, and private sector engagement in space activities.</p> |
| Please explain more, including whether you have already identified a space solution? | <ul style="list-style-type: none"> <li>• Pakistan has deployed Earth observation satellites (PRSC EO-1, PRSS-01, PAKTES-1A) for fulfilling the remote sensing imaging needs of national sectors.</li> <li>• Space-based GIS applications are being developed for land use planning and agriculture</li> <li>• Pakistan is working towards enhancing space-based communication, via advanced geostationary satellite technology</li> </ul>  |

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|  | <ul style="list-style-type: none"> <li>• SUPARCO's National Spatial Data Infrastructure (NSDI) facilitates spatial data management</li> <li>• Disaster Monitoring through SUPARCO's Collaboration with National Disaster Management Authority</li> <li>• There is need to integrate AI and big data analytics for efficient satellite data utilization.</li> </ul>  |
| What kind of assistance would be most beneficial for you in this regard? | <ul style="list-style-type: none"> <li>• <b>Technical Assistance:</b> Capacity building in AI-based remote sensing and big data analytics for earth observation</li> <li>• <b>Policy and Advisory Support:</b> UNOOSA's assistance in capacity-building initiatives, including onsite workshops, expert consultations, and advisory support on drafting national space legislation. These efforts will help us align with international best practices and legal frameworks, ensuring responsible and sustainable space activities</li> <li>• <b>Disaster Preparedness:</b> Collaboration in satellite-based disaster early warning systems and response mechanisms</li> <li>• <b>Technology Transfer &amp; Training:</b> Access to advanced satellite imaging, communication and navigation technologies through international collaborations and partnerships.</li> </ul> |
| Relevant SDGs  | 2,6,8,9,11,13,14,15   |
| Name of relevant national stakeholder                                    | SUPARCO   |