

TEMPLATE A

RESPONSE FOR SOLUTIONS: "Space2030" Agenda Mid-term Review

1.	Overarching Objective(s)	1.1, 3.1, 3.5
	Country	Pakistan
	Project Partners	SUPARCO
	Short Project Summary & Goals	<p><i>Space Education & Awareness Drive (SEAD)</i></p> <p>SEAD is a dedicated scheme of space education, awareness and public outreach, created by Pakistan Space and Upper Research Commission (SUPARCO), National Space Agency of Pakistan. The initiative aims at reaching out and engaging young kids, students, educators, researchers, decision makers, institutions and general public.</p>
	Relevant SDGs	4
	Space/Satellite Solution	<ul style="list-style-type: none"> • <u>Digital Outreach.</u> SEAD harnesses the potential of digital outreach using a dedicated educational website and official social media (The website features interactive games, space news, announcements, online contests, downloadable resource material, career guides, easy to use portal for internships etc. Similarly, the official Facebook page features announcements, live astronomical observations, webinars, space related news, videos, blogs and polls etc. • <u>Space Van Outreach Programme.</u> An education awareness and outreach activity featuring customized vehicles aimed at reaching out to the educational institutions for thematic Space STEM activities and educational sessions. • <u>Internships.</u> Merit based internships are offered twice a year to multi-disciplinary final year university students during summers and winters. Shortlisted candidates get an opportunity of hands-on experience of space science and technology practical field. • <u>Academic Visits.</u> Academic visits of educational institutions are regularly facilitated and welcomed at multiple SUPARCO sites located in different cities. These visits provide students an orientation of the practical field as well as instigate in them some interest in space science, technology and applications. • <u>University Projects.</u> Academia-Industry linkage is strengthened through R&D collaboration and supervision of university projects. SEAD facilitates requests for final year project supervisions of multidisciplinary undergraduate university students as well as provides co-supervision to post graduate university projects. • <u>Space Science Research and Experiments.</u> Space Station research experiments is a running project to

		<p>provide platform to students as well as researchers to design experiments to be conducted in space onboard China Space Station.</p> <ul style="list-style-type: none"> • Microgravity Experiments. SEAD promotes experiments in microgravity environment to spread awareness on microgravity and its applications. Awareness exhibitions are conducted and microgravity equipment is provided to universities for R&D • Astronomy. Space Science and Astronomy research is also promoted in collaboration with universities and science and astronomy societies. Sky gazing and astronomical observation events are regularly arranged in multiple cities for public awareness. Astronomical observatory is also established under R&D collaboration at University of Karachi to facilitate research in space and planetary astrophysics and its allied fields. • World Space Week. WSW is a UN declared global celebration of space, organized annually from 4-10 October in over 90 countries across the globe. The event is nationally coordinated by SUPARCO in Pakistan.
	Project Impact	<p>From 2021 to 2025, SEAD has made a significant impact through various outreach activities:</p> <ul style="list-style-type: none"> • Organized an average of 200 space van visits each year, engaging thousands of students nationwide. • Conducted annual poster making contest attracting over 4000 entries each year • Facilitated academic visits to schools, colleges and universities at various SUPARCO facilities, reaching over 100 educational institutions each year with interactive space science sessions. • Hosted World Space Week celebrations annually, involving nationwide contests and activities and secured top 3 positions in WSW global ranking since 2013. • Arranged approx. 50 astronomy nights every year, providing hands-on sky observation experiences to students and general public. • Offered approx. 200 internships each year to final year university students at in various cities of Pakistan.
	Reference	www.sead.pk ; www.facebook.com/SEAD.Pakistan
2.	Overarching Objective(s)	1.2, 1.4, 1.5, 1.6, 1.7, 1.8, 2.2, 2.7, 3.2, 3.3, 3.9, 3.10, 4.1, 4.2, 4.7, 4.10
	Country	Pakistan
	Project Partners	SUPARCO, China National Space Agency (CNSA), China Satellite Navigation Office (CSNO)
	Short Project Summary & Goals	<p>Pakistan Space Based Augmentation System (Pak-SBAS) & Pakistan Ground Based Augmentation System (Pak-GBAS)</p> <p>Pak-SBAS and Pak-GBAS are space based augmentation systems envisioned to provide high precision</p>

		Positioning, Navigation and Timing (PNT) services for socioeconomic appls. Goals of the project are to utilize Pak-SBAS & Pak-GBAS high precision services with related technology & applications for significant contribution in SDGs; to explore possible collaboration with international partners and to become member of International Committee on GNSS (ICG) to explore voluntary cooperation on matters of mutual interest
	Relevant SDGs	2,3,8,9,11,12,13,15,17
	Space/Satellite Solution	<ul style="list-style-type: none"> • Pak-SBAS. Pak-SBAS enables two types of services: Pak-SBAS Public Service & Pak-SBAS Authorized Service. Pak-SBAS Public Service enables integrity based positioning to meet the PNT requirements of Safety of Life (SoL) aviation, marine, railway, road (Intelligent Transportation System) users in phase-wise manner. Pak-SBAS Authorized Service enables decimeter level positioning with convergence time of 30 mins to meet the high precision PNT requirements for applications such as precise GIS & mapping, precision agriculture & mining, cadaster management etc. • Pak-GBAS. Pak-GBAS enables real-time cm-level positioning to meet the requirements of precise GIS & mapping, precision agriculture & mining, cadaster management, disaster & deformation monitoring, smart port management etc. applications.
	Project Impact	<p>Pak-SBAS & Pak-GBAS will have significant impact for achieving 13 out of 17 SDGs providing specific satellite navigation products & solutions in the following application domains:</p> <ul style="list-style-type: none"> • Transportation (Aviation, Marine, Railway, Road) • Food & Agriculture • GIS & Mapping • Critical Infrastructure (Energy/Utilities/Communication) • Location Based Services (LBS) • Climate & Environment • Mining & Exploration • Emergency Response • Port Management • Disaster & Deformation Monitoring etc.
	Reference	www.suparco.gov.pk
3.	Overarching Objective(s)	4.4
	Country	Pakistan
	Project Partners	SUPARCO
	Short Project Summary & Goals	Registration and provision of information relating to objects launched into outer space with UN

		Registration of objects launched into outer space in conformity with Outer Space Treaty and Registration Convention to ensure transparency in outer space activities
	Relevant SDGs	17
	Space /Satellite Solution	<ul style="list-style-type: none"> SUPARCO, Pakistan's national space agency has established a national space registry to record and maintain data of all space objects/satellites launched by Pakistan since 1990. Furthermore, SUPARCO has shared information regarding establishment of national registry and all satellites launched into outer space with UN. Registration of recently launched ICUBE-1, PAKSAT-MM1 and PRSC-EO1 satellites in UN Register for Outer Space Objects is under process.
	Project Impact	-
	Reference	<ul style="list-style-type: none"> ST/SG/SER.E/INF.22 ST/SG/SER.E/823 ST/SG/SER.E/403 ST/SG/SER.E/642 ST/SG/SER.E/708 ST/SG/SER.E/823 ST/SG/SER.E/865
4.	Overarching Objective(s)	1.2, 1.6, 1.7, 2.1, 2.2, 2.3, 2.4, 2.5, 2.7, 3.5, 4.6
	Country	Pakistan
	Project Partners	SUPARCO
	Short Project Summary & Goals	<p><i>Launch of PRSC EO-1 Satellite</i></p> <p>Objective of the project was to build and launch an optical remote sensing satellite (PRSC-EO1), which will join the fleet of already in-orbit remote sensing satellites of Pakistan i.e. PRSS-1 and PakTES-1A.</p>
	Relevant SDGs	2, 6, 8, 9, 11, 13, 14, 15
	Space /Satellite Solution	The remote sensing data from the PRSC-EO1 satellite is to be utilized in the fields of land mapping, agriculture assessment, urban planning, environmental monitoring, natural disaster management, surveying, natural resource protection etc.
	Project Impact	<ul style="list-style-type: none"> Improved national disaster response through satellite-based monitoring. Enhanced agricultural productivity via remote sensing based precision farming Strengthened environmental conservation through deforestation and urban expansion tracking Capacity building for local institutions in satellite data analysis and GIS applications. Satellite Remote Sensing technology coupled with GIS used to monitor and assess damages to livelihood,

		infrastructure and agriculture due to natural disasters
	Reference	www.suparco.gov.pk
5.	Overarching Objective(s)	1.2, 3.6
	Country	Pakistan
	Project Partners	SUPARCO and China
	Short Project Summary & Goals	<p>Launch of PAKSAT-MM1 Satellite</p> <p>A multi-mission communication satellite comprising of L-, C-, Ku- and Ka-bands, through which millions of Pakistani citizens shall have access to advance telecommunication and satellite navigation services</p>
	Relevant SDGs	8, 9
	Space /Satellite Solution	Launch of communications satellite
	Project Impact	<p>PakSat-MM1 satellite provides communication services in C, Ku, Ka Bands and SBAS services in L Band and plays a pivotal role in the socio-economic uplift of the country. It will prove to be a stepping stone in the transformation of the country into Digital Pakistan.</p> <ul style="list-style-type: none"> • C-band Coverage <ul style="list-style-type: none"> a. High performance and high power transponders supporting TV broadcast and HDTV programming with a wide regional coverage. b. Direct one hop access into premium UK and mainland Europe cable and DTH platforms through a network of strategically located media port partners. c. Convenient turnaround via fiber from UK to North America for cost effective access to US and Canadian cable and DTH head-ends. d. High-power beam for robust cellular back-haul connectivity across S. Asia, Middle East and parts of Africa and Central Asia. e. Ideal for cost effective IP trunking from UK and Mainland Europe into S. Asia, Middle East and parts of Africa and Central Asia. • Ku-band Coverage <ul style="list-style-type: none"> f. Very high power coverage over Pakistan (up to 55 dBW) and adjoining areas, enabling various communication services including VSAT applications. g. Supports higher order modulation schemes and data throughputs for maximum spectral efficiency, link performance and cost savings. h. Ideal for Cellular back-haul, DSNG and data networks with guaranteed link reliability and stability even under adverse weather conditions. • Ka-Band HTS payload will enable high speed connectivity / broadband services in the country.

	Reference	www.suparco.gov.pk
6.	Overarching Objective(s)	[1.1-1.8], [2.1-2.8], [3.1-3.10], [4.1-4.10]
	Country	Pakistan
	Project Partners	SUPARCO, Ministry of IT & Telecom, Pakistan Electronic Media Regulatory Authority (PEMRA), Pakistan Telecommunication Authority (PTA), Planning Commission of Pakistan
	Short Project Summary & Goals	<p><i>Launch of Pakistan's National Space Policy</i></p> <p>National Space Policy (NSPy) introduces a comprehensive framework for the establishment and development of a national space program. Objectives of NSPy are:</p> <ul style="list-style-type: none"> • Provide direction and supervision for space related activities in the country • Enable promulgation of national legal and regulatory framework for the space sector • Harness the potential of space science, technology and its applications for socio-economic development and national security • Support and sustain Pakistan's Space Program • Encourage Public Private Partnership in space sector • Application of space technology in achieving National and Sustainable Development Goals • Promote local industry through spin-off technologies and enhance technological base in space sector • Strengthen national and international cooperation and collaboration in space sector.
	Relevant SDGs	[1-17]
	Space /Satellite Solution	Approval of NSPy by Government of Pakistan
	Project Impact	<p>The approval of NSPy will facilitate governance and growth of space sector in fol manner:</p> <ul style="list-style-type: none"> • Identifies strategic direction and ensures conformance of domestic space activities with international treaties • Paves way for adoption of National Space Legislation to authorize/regulate outer space activities • Nurture space industry in Pakistan through Public Private Partnership as well as to encourage foreign/local investment by formulating policy document. • Synergize space sector with other national policies / initiatives for national development • Promote Academia/Industry collaboration • Expand international collaboration with other Space Agencies / Organisations
	Reference	www.suparco.gov.pk
7.	Overarching Objective(s)	[1.1-1.8], [2.1-2.8], [3.1-3.10], [4.1-4.10]
	Country	Pakistan

	Project Partners	SUPARCO, Ministry of Law, Ministry of IT & Telecom, Pakistan Electronic Media Regulatory Authority (PEMRA), Pakistan Telecommunication Authority (PTA)
	Short Project Summary & Goals	<i>Approval of Pakistan Space Activities Rules (PSAR)</i> Pakistan Space Activities Rules (PSAR) serve the fundamental purpose of promoting self-reliance and growth within Pakistan's space industry. These rules lay down comprehensive guidelines for carrying out space-based activities within the country while ensuring compliance with both domestic and international regulations
	Relevant SDGs	[1-17]
	Space /Satellite Solution	Approval of PSAR by Government of Pakistan
	Project Impact	PSAR cover following pivotal areas: <ul style="list-style-type: none"> • Provides comprehensive framework for regulating space-related endeavors • Constitutes Pakistan Space Activities Regulatory Board (PSARB) • Designates SUPARCO as Pakistan's National Space Agency and nodal agency for satellite imagery data • Satellite based communication services • Outlines penalties to ensure compliance with national and international space regulations
	Reference	https://psarb.gov.pk/
8.	Overarching Objective(s)	[1.1-1.8], [2.1-2.8], [3.1-3.10], [4.1-4.10]
	Country	Pakistan
	Project Partners	SUPARCO, Ministry of IT & Telecom (MoIT&T), Ministry of Information and Broadcasting (MoIB)
	Short Project Summary & Goals	<i>Formation of Pakistan Space Activities Regulatory Board (PSARB)</i> Constituted under the Pakistan Space Activities Rules (PSAR), PSARB shall authorize and regulate all matters and activities related to Outer Space and Upper Atmosphere in Pakistan. It comprises members from relevant government bodies and stakeholders, ensuring a balanced and informed approach to regulating space activities.
	Relevant SDGs	[1-17]
	Space /Satellite Solution	Constitution of PSARB under PSAR, approved by Government of Pakistan
	Project Impact	PSARB shall authorize and regulate space activities ensuring continuous supervision of Space Sector in Pakistan by: <ul style="list-style-type: none"> • Issuing guidelines, regulations, instructions, procedures, orders, etc. as may be necessary for the smooth execution of Space Activities and Upper Atmosphere Activities in the country • Grant, suspend or terminate authorization, registration and ensure compliance of its prescribed terms and conditions

		<ul style="list-style-type: none"> • Authorize and register local, foreign or private organizations, firms or individuals, interested in carrying out Space Activities in the country • Facilitate Public Private Partnerships (PPP) and Joint Ventures (JV) for the use and promotion of satellite technologies and services • Formulate and issue detailed procedures for registration of satellites and domestic/foreign Satellite Operators • Authorize to own and/or operate Space Objects, including Communication Satellites, Remote Sensing Satellites and Navigation Satellites, Weather Satellites along-with associated Ground Stations, other than (Gateway) Earth Station (s) used for Satellite based telecommunication Services • Ensure that Space-based Services shall only be provided through National Satellites or Registered Satellites and carry out continuous monitoring and supervision of it • Publish the list of Registered Satellites and Satellite Operators on the website of the PSARB
	Reference	https://psarb.gov.pk/
9.	Overarching Objective(s)	3.4, 4.3
	Country	Pakistan
	Project Partners	SUPARCO, Regional Centre For Space Science And Technology Education in Asia and the Pacific (RCSSTEAP)
	Short Project Summary & Goals	<p>Master and PhD Scholarships under RCSSTEAP</p> <p>RCSSTEAP, as an education and training entity supported by the Committee on the Peaceful Uses of Outer Space (COPUOS), was established in 2014 with a mission to promote the peaceful use of space technologies for the benefit of humanity and to sensitize the countries within the region about space science and technology activities by educating and creating awareness through training, workshops, short courses and outreaches. To encourage sharing space exploration information among the Member States, RCSSTEAP invites all Member States to share space-related projects, programmes, practices, experiences, technologies, etc.</p>
	Relevant SDGs	4,8,17
	Space /Satellite Solution	<p>The Centre, with the support of Chinese Government, offers scholarships for 'Master Program on Space Technology Applications (MASTA)' and 'Doctoral Program on Space Technology Applications (DOCSTA)' to the students from the member countries each year in following areas of space technology applications:</p> <ul style="list-style-type: none"> • Remote Sensing and Geographic Information System • Satellite Communications • Global Navigation Satellite System • Micro-satellite Technology

		<ul style="list-style-type: none"> • Space Law and Policy
	Project Impact	<p>Degree Education Program by RCSSTEAP is an application-oriented program which focuses on both knowledge acquisition and operational training. It is designed to give participants a competitive edge by:</p> <ul style="list-style-type: none"> • Broadening their knowledge on space-related issues and activities and encouraging participants to use acquired knowledge and skills through practical, hands-on experience • Providing a variety of practical opportunities (witnessing satellite launching on site, attending international conferences/workshops, etc.) • Learning from internationally qualified professors and experts from a diversity of academic backgrounds • Provision of modularized curriculum design and flexible study modes • Developing the cross-cultural communication skills with global atmosphere
	Reference	
10.	Overarching Objective(s)	[1.1-1.8], [2.1-2.8], [3.1-3.10], [4.1-4.10]
	Country	Pakistan
	Project Partners	SUPARCO, APSCO Member States
	Short Project Summary & Goals	<p><i>Regional Space Cooperation under the Platform of APSCO</i></p> <p>The Asia-Pacific Space Cooperation Organization (APSCO) is an intergovernmental organization dedicated to promoting space cooperation among its member states, including Pakistan. APSCO's objectives align with the overarching goals of the United Nations' Space 2030 Agenda, which aims to harness space science, technology, and applications for sustainable development.</p>
	Relevant SDGs	4,9,11,13,15,17
	Space /Satellite Solution	<ul style="list-style-type: none"> • Data Sharing Service Platform (DSSP) to share GNSS/remote sensing data especially for, agriculture, urban planning, and water resource management, disaster risk reduction and food security. • Ground-based Space Object Observation Network (APOSOS) to increase space object detection, tracking and identifying for space debris management, early warning and action plan to protect space assets of APSCO member states. • Joint design and development of satellites/components. • Capacity Building & Education. Scholarships (MASTA, DOCSTA), training programs, workshops, seminars and symposiums for space professionals and students to build capacity and enhance expertise in space technology and applications and space law. • Space Science & Technology Development. Joint research and development initiatives, including CubeSat programs and deep-space exploration studies. • APSCO Space Law Alliance. Approved in the 16th Council Meeting of APSCO in

		Nov 2022, ASLA is a regional alliance of institutions and universities working in the field of space law and policy for exchange of knowledge, best practices and research initiatives which can contribute towards development of expertise of institutions in particular and the region in general.
	Project Impact	<p>Pakistan benefits from APSCO initiatives by advancing its national space capabilities in line with the Space 2030 Agenda's objectives.</p> <ul style="list-style-type: none"> • Utilization of Remote sensing data from DSSP. Multiple projects are undertaken to benefit APSCO member states. e.g., Industrial Mineral Prospection using satellite remote sensing data, Carbon Stock Assessment using geospatial technologies, project on Aerosol Monitoring System etc. • Pakistani students/professionals have availed MASTA and DOCSTA scholarships in space technology and space law related disciplines. • IST/Pakistan deployed ICUBE-QAMAR Cubesat on-board China's Chang'e-6 Mission in lunar orbit through APSCO's platform. • Under APOSOS Network, an Observation Node has also been established in Pakistan. Telescope installed at Sonmiani, Baluchistan. • SUPARCO and IST from Pakistan have become members of ASLA. Pakistan is currently serving as Vice-Chair of ASLA Platform.
	Reference	www.apsco.int
11.	Overarching Objective(s)	[1.1-1.8], [2.1-2.8], [3.1-3.10], [4.1-4.10]
	Country	Pakistan
	Project Partners	SUPARCO, ISNET Member States
	Short Project Summary & Goals	<p><i>Regional Space Cooperation under the Platform of ISNET</i></p> <p>The Islamic Network on Space Sciences and Technology (ISNET) is an intergovernmental organization aimed at fostering collaboration among Islamic countries in space science, technology, and applications. ISNET's objectives align with the United Nations' Space 2030 Agenda, which seeks to leverage space technology for sustainable development and socio-economic progress</p>
	Relevant SDGs	4,6,9,11,13,15,17
	Space /Satellite Solution	<p>Organizing training programs, workshops, and conferences to promote the use of space technology in socioeconomic applications such as, agriculture, water resource management, disaster management and climate monitoring and contribute to capacity building of member states. Some examples include:</p> <ul style="list-style-type: none"> • Conduct of Webinars and Symposiums on various topics such as Space for SDGs, Space Law and Policy and Space Communications. • Announcement of Outstanding Award on Implementing SDGs through Space Science & Technology

		<p>(2022)</p> <ul style="list-style-type: none"> Podcast Initiative 'Let's Talk Space', featured seven episodes covering topics such as CubeSat innovations, Earth observation, and the role of space law. Organizing a training Workshop on Multi Hazard Vulnerability and Risk Assessment (MHVRA) in Tunisia in Nov 2022 Call for Space Experiments in 2024 to invite innovative proposals from member states, focusing on utilizing microgravity environments for advancements in health, agriculture, and materials science.
	Project Impact	<p>ISNET training programs and workshops have significantly contributed to developing Member States, including Pakistan's, capacity building in harnessing space technology for socioeconomic applications. Furthermore, ISNET sponsored activities have helped raise public awareness and outreach in SDG's implementation through space science and technology without the need for large-scale independent investments. Year wise stats for trainings, workshops and courses are as fol:</p> <ul style="list-style-type: none"> 2021: 20 Online distance training workshops; 2 Onsite trainings 2022: 14 Online distance training courses; 2x Onsite workshops 2023: 8 Online distance training courses; 1 Onsite workshop 2024: 13 Online distance training courses; 1x Onsite workshop
	Reference	www.isnet.org.pk
12.	Overarching Objective(s)	1.2, 1.7, 2.2, 2.3, 2.4, 2.5, 2.7
	Country	Pakistan
	Project Partners	SUPARCO, National Disaster Risk Management Fund, UN-SPIDER Regional Support Office (RSO)
	Short Project Summary & Goals	<p><i>Natural Catastrophe (NatCat) Model</i></p> <p>NatCat Model uses geo-referenced data to assess disaster risks from both hydro-meteorological hazards geophysical hazards. Main components of the project include; floods (Riverine and urban), droughts, heatwave, cyclones, earthquakes Tsunami and Landslide probabilistic hazard assessment, exposure and vulnerability assessment, financial risk assessment and development of spatial database and Web Portal.</p>
	Relevant SDGs	1,2,3,11,13,15
	Space /Satellite Solution	Use of geo-referenced data to assess disaster risks from both hydro-meteorological and geophysical hazards
	Project Impact	The model aims to provide comprehensive risk assessments, vulnerability analysis, and financial impact projections at the sub-district level, helping prioritize disaster risk mitigation investments and strengthen Pakistan's capacity to manage natural catastrophes effectively. In addition, project assessed impact of climate change on flood, drought and cyclone hazards frequency and magnitude.

	Reference	https://ndrmf.pk/programs/drf/natcat-model/
13.	Overarching Objective(s)	1.2, 1.7, 1.8, 2.2
	Country	Pakistan
	Project Partners	SUPARCO, Bakhabar Kissan – Pakistan based Agri Tech Company
	Short Project Summary & Goals	<i>Bakhabar Kissan Mobile Application</i> Bakhabar Kissan, leading Agri Tech Company in Pakistan has launched a mobile application which empowers both small and large-scale farmers, as well as agricultural businesses, with tailored solutions to meet their specific needs. One of the services provided through the mobile app is remote sensing data, provided by SUPARCO, Pakistan's national space agency, for precise farm management to increase agricultural productivity and sustainability.
	Relevant SDGs	2,3,8,12
	Space /Satellite Solution	Provision of remote sensing solutions to farmers
	Project Impact	Remote sensing data for precise farm management and timely interventions has contributed to enhancing agricultural productivity and sustainability. It has empowered both small and large-scale farmers, as well as given an impetus to agricultural businesses.
	Reference	www.Bkk.ag
14.	Overarching Objective(s)	1.2, 1.7, 1.8, 2.2
	Country	Pakistan
	Project Partners	SUPARCO, Ministry of National Food Security & Research, Provincial Agricultural Departments
	Short Project Summary & Goals	<i>Use of Satellite Remote Sensing (SRS) and Geographic Information System (GIS) for gathering country-wide crop statistics</i> SUPARCO is using Satellite Remote Sensing (SRS) and Geographic Information System (GIS) for gathering of crop statistics on country wide basis. This system not only provides temporal and synoptic view of the cropped area but also provides quick and precise crop statistics. Food and Agriculture Organization of United Nations, (FAO-UN) provided technical backstopping for analytics and transfer of technology. Important features include Satellite based Vegetation Index Analytics, Satellite based Water Index Analytics and Reservoir Water Extent Situation etc.
	Relevant SDGs	2,3,8,12
	Space /Satellite Solution	Use of Satellite Remote Sensing (SRS) and Geographic Information System (GIS) for gathering country-wide crop statistics
	Project Impact	The initiative has reinforced support for policy makers, planners and private sector for food security, stocking, marketing, trade and industrial management. The final crop estimates are released by end of March

		for Rabi crops and mid of October for Kharif crops. Wheat, cotton, rice, sugarcane, maize and potato crops are being covered under this program. In addition, large scale geospatial applications of satellite remote sensing technology have been made for monitoring/mitigation of natural disasters (floods, flash floods, and drought) and providing detailed information for the uplift of agriculture and allied pursuits.
	Reference	www.suparco.gov.pk
15.	Overarching Objective(s)	1.2, 1.7, 2.2, 2.3, 2.4, 2.5, 2.7
	Country	Pakistan
	Project Partners	SUPARCO
	Short Project Summary & Goals	<i>Space Application Center for Response in Emergency and Disasters (SACRED)</i> SUPARCO's Space Application Center for Response in Emergency and Disasters (SACRED) was established to provide space based technical support to National Disaster Management Authority (NDMA), Provincial Disaster Management Authorities (PDMAs) and other national organizations during natural disasters using satellite remote sensing technologies, GIS and other data.
	Relevant SDGs	1,2,3,11,13,15
	Space /Satellite Solution	Use of GIS and RS technologies for disaster management and relief services
	Project Impact	Pakistan ranks high in list of countries affected by climate change and is prone to natural calamities and disasters such as floods, earthquakes and droughts. In 2019-2020, Pakistan faced its worst locust outbreak in three decades ravaging standing crops in Sindh and Punjab. Similarly, 2022 floods submerged 1/3 rd land area of the country causing a loss of more than \$30 billion to national economy. SACRED provided crucial space based technical support to NDMA's and PDMAs for rescue and relief and post disaster rehabilitation efforts during these calamities.
	Reference	www.suparco.gov.pk
16.	Overarching Objective(s)	1.1, 1.8, 2.1, 2.2, 2.4, 2.5, 3.1, 3.4, 3.7, 4.3
	Country	Pakistan
	Project Partners	SUPARCO, ISNET, APSCO, ICESCO, IST, Relevant Government Ministries
	Short Project Summary & Goals	<i>Conduct of Space Related Conferences, Exhibitions, Seminars and Symposiums</i> SUPARCO, Pakistan's National Space Agency, has conducted, co-organized and hosted conferences, exhibitions, seminars and symposiums to raise awareness and promote peaceful applications of space science and technology. Moreover, SUPARCO's senior leadership has delivered talks/lectures at various institutes, think tanks and public forums to raise space related awareness, discuss contemporary space related issues and apprise about various services being provided by SUPARCO.
	Relevant SDGs	1,4,6,9,11,13,14,15,16,17

Space /Satellite Solution	<p>Some important events are as under:</p> <ul style="list-style-type: none"> • International Conference on Space (ICS) was jointly organized by SUPARCO, APSCO, ISNET and ICESCO in Mar 2022 under the theme '<i>Role of Space Technology and Applications in Socio Economic Development</i>'. The 3-day conference featured technical exhibition, plenary sessions, panel discussion session, workshops and a series of technical presentations. National and international scientists and researchers presented research papers during the event. • 1st APSCO Leadership Development Forum was held in Islamabad, Pakistan in Mar 2022. The forum provided insight on critical space law and policy issues, contemporary dialogues in space law, new and emerging aspects in space such as space commercialization, space commerce, and local industry development and space financing. • National Space Symposium themed '<i>Harnessing Space Sciences and Technology for Socio-Economic Transformation in Pakistan</i>' was organized by SUPARCO and IST in Jan 2025. The symposium highlighted the essential role of space technologies in harnessing space science for the socio-economic development of the country. The discussions also touched on Pakistan's aspirations, including its lunar exploration plans, the development of satellite constellations, and future astronaut program, all of which will contribute to national resilience and global competitiveness
Project Impact	Events have contributed towards raising awareness and promoting peaceful applications of space science and technology such as telecommunication, space exploration, and socio-economic areas.
Reference	www.suparco.gov.pk