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Localizing Space Awareness in Rural/Remote Areas of Pakistan – Bringing together Genders, Generations, Able and Disabled

Masuma Fatima (masspace9@gmail.com)

Pakistan Space & Upper Atmosphere Research Commission



“Where conventional methods have been futile in maximizing outreach, modern alternatives are presented to catalyze awareness scheme in the rural/remote areas of Pakistan”

“Emphasizing on female population to achieve gender balance and rather non-contributing units such as rural, less literate, disabled population, to achieve transformation into constructive socio-economic contributors”

Candidate Units of Study

Less Literate

Disabled

Women

SUPARCO's Initiatives

- ❖ Mobile Space Van to Rural/remote areas
- ❖ Collaborations with Academia
 - ❖ Academic Visits
 - ❖ University Projects
 - ❖ Lectures/ Trainings /Workshops
- ❖ Internships
- ❖ Curriculum Development
- ❖ International Events
 - ❖ World Space Week
 - ❖ Cassini Scientists for a Day – NASA
 - ❖ APRSAF Poster Making
 - ❖ APSCO SSS Summer Camp
 - ❖ Misc. Contests
- ❖ Education and Awareness Website
 - ❖ Online Contests
 - ❖ Space News & Information



Abstract

Capacity building in the fields of Space Science and Technology is inevitable in Pakistan to drive the country towards practical materialization of Sustainable Development Goals (SDGs). Case sensitive, modern and proactive means of education, training and awareness strategies are the keys to produce a swift yet meaningful acceleration in the presently unaware, noncontributing masses. This study examined existing status, methods and limitations in promoting space education and awareness amongst the remote/rural population of the country. Effective awareness techniques are proposed, primarily based on multilingual mobile education using the demographical units of economic productive age, gender, disability and literacy as prime targets. The post study recommendations project positive outcomes based on achieving fast-paced awareness and its subsequent contribution towards redressal of multiple interdependent SDGs, involving the thematic likes of women empowerment, role of disabled, education, poverty, gender equality, and socio economic development.

Awareness Strategies

E/M Learning

- ❖ Introduction of Space Related Certified Online Courses
- ❖ Space Related Interactive Information Mobile apps
- ❖ Space Related Vocabulary Games/ Mobile Apps
- ❖ Websites/Apps for differently-abled (such as tutorials in sign languages, audio/video tutorials)
- ❖ Website/App contents in national/local languages

Skill Development Program

- ❖ Training for Field Surveys
- ❖ Training for Softwares
- ❖ Space application Mobile Apps

Mobile Education Equipment/Vehicles

- ❖ Mobile Education Vehicle
- ❖ Mobile Space Science Lab
- ❖ Mobile Planetarium

Language/ Medium Barriers

- ❖ Curriculum Development
- ❖ Publications/ Translations

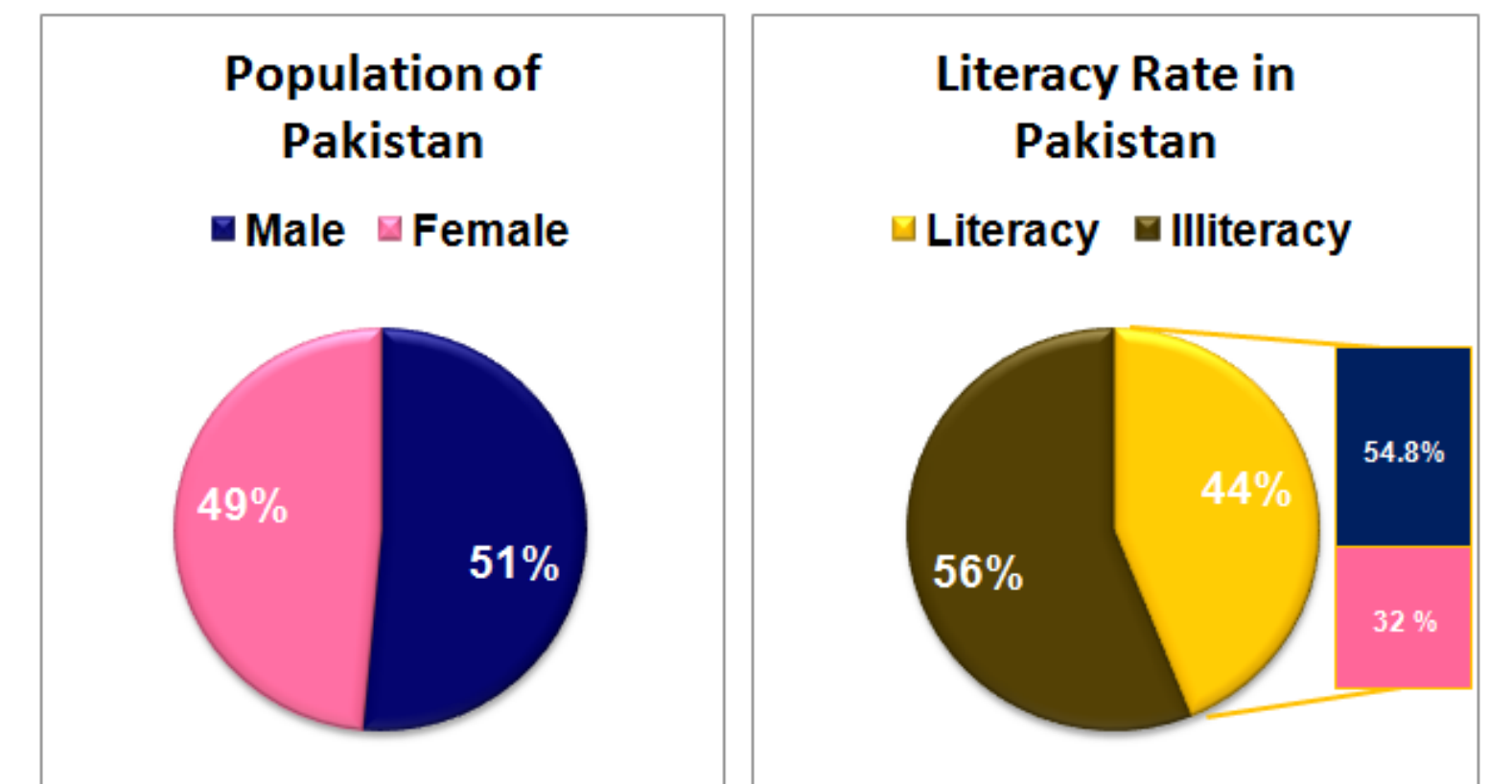
Necessary Measures

- ❖ The awareness program can only be successful with joint collaboration between government, academia, national space agency and other stake holders in the following areas:
- ❖ Employment quota be set in related organizations, separately for women, differently abled and less qualified from rural areas.
- ❖ Contribution in design and development of courses, curriculum, extensive translations and publications
- ❖ Arrangement of free-of-cost, certified trainings/ skill developments



Comparison of countries with satellites in 1966 V/S 2016 (UCSUSA.org)

SDGs & Awareness in Pakistan



Unit	Overall (%)	Male (%)	Female (%)
Pakistan	43.92	54.81	32.02
Rural	33.64	46.38	20.09
Urban	63.08	70.0	55.16

Unit	Overall (%)
Pakistan	53.09
Rural	51.16
Urban	56.98

Unit (Yrs of Education)	Overall (%)	Male (%)	Female (%)
Primary (5 yrs)	30.14	28.62	33.00
Matric (10 yrs)	17.29	18.20	15.58
Intermediate (12 yrs)	6.56	6.55	6.89
Graduation (16 yrs)	4.38	4.50	4.16
Post Grad (> 16 yrs)	1.58	1.79	1.20

Unit	Overall (%)	Blind	Deaf/Mute	Crippled	Others
Pakistan	2.48	8.06	7.43	18.93	65.59
Rural	1.643	7.92	7.53	20.52	64.04
Urban	0.84	8.32	7.24	15.81	68.62

Unit	Overall (%)
Pakistan	53.09
Rural	51.16
Urban	56.98

Impact on SDGs Implementation

SDG No/Description	Pakistan Baseline	Awareness Initiative	Expected Outcome
1. End poverty in all its forms everywhere	21.04% population below poverty line \$1.25, 60.19% population below poverty line \$2	Skill dev, accredited courses	Introduction of quota/ contract/ daily wages jobs for those enrolled in accredited/ certified courses and skill dev prog. would increase work opportunities
2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture	58.1% of food insecure households	Training in space applications Mobile Apps	Farmers trained in using smart apps would be more productive and efficient in their tasks resulting in sustainable agriculture
3. Ensure healthy lives and promote well-being for all at ages	88< 5y mortality rate (per 1000 livelihoods), 170 maternal mortality ratio (per 100k live births)	E and M-Learning	Through E/M-learning concepts of tele-medicine would be matured in rural areas and shall provide timely facilitation
4. Ensure inclusive and equitable quality education and promote lifelong learning	58% overall literacy rate, 25.02 million children (5-16) are not in school	E/M learning, Mobile Vehicles, Publications, content in local languages, Skill Dev	All these techniques would accelerate space outreach, enhancing interests in space education and equal accessibility to all
5. Achieve gender equality and empower all women and girls	144 rank on women economic participation, 132 rank on women education attainment	Skill dev, Mobile Vehicles, E/M learning	Through E/M Learning, mobile education vehicle, online certified courses and dedicated seats in academia and employment, outreach will be ensured at places where women live under restrictions, having no access to physical learning institutions. Also, women will get a chance to self-educate, empower and contribute.

Relationship between Awareness initiatives and SDGs