

“Equal Right in Space data and Space related Technologies”

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Nepal: In the light of space activities

- ✓ Government of Nepal has established **B.P. Koirala Memorial Planetarium, Observatory and Science Museum Development Board** in 1992 A.D in order to establish planetarium and popularize the Science among the students & general People but its **NOT WORKING** after devastating 2015 earthquake.

Some assigned index:

- ✓ **Owner** of any Space satellites : 0
- ✓ Space Science **Laboratory**: 0
- ✓ Department of Space science/ authority: 0
- ✓ **Research & Development** commission (Space science): 0
- ✓ Specialized **Professors** and their **projects** in space science :0
- ✓ Significant Projects in pipeline: 0
- ✓ The **UN-SPIDER** programme is helping us by providing a gateway to space information for disaster management support.

Nepal: In the light of space Education/ curriculum

In High School Level:

- ✓ Only about 1-2% of the total course of science is covered by Astronomy in high school (up to 12 Grade) course of science.

In Graduate Level (B.Sc. & M.Sc. in Physics) :

- ✓ In the third year of B.Sc. In physics, **elective course** of space science has been introduced but no M.Sc. Programs in this field at the same time.
- ✓ We do not have specialized panel of professors and well- equipped laboratory for research & development (R &D) of space related technologies.
- ✓ Almost all research on space science are limited to open data (comparative less significant) and their analysis and simulation only.
- ✓ Central Department of Hydrology and Meteorology offers two years (four Semesters) M.Sc. courses and three years Ph. D program in Department of Hydrology and Meterology, TU

Why data should be accessible ?

➔ For water caused disasters:

- ✓ Disaster identification (Flood , Landslide ,Avalanches on Mt. Everest, Glacial lake outburst flood events etc)
- ✓ Response Prioritization
- ✓ Damage assessment



➔ For academic purpose:

- University research projects and use their finding to develop new technology.
- Satellite data analysis and pre-suggestions to identify most probable disaster and for many more.

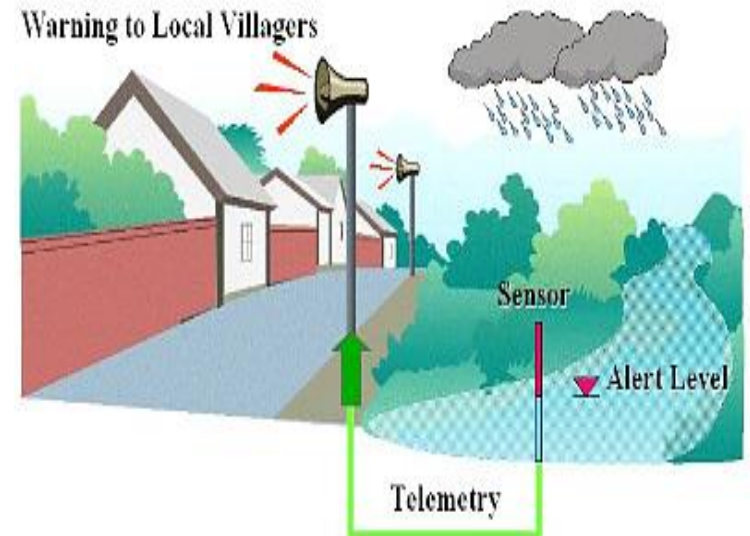
Why space data and their study is essential?

For example: Satellite Remote Sensing (SRS) technologies

- ✓ because of its repetitive and synoptic coverage
- ✓ cost-effectiveness
- ✓ Ability to provide information on the vulnerable stretches by monitoring the river shifting, proximity of river course to the embankments
- ✓ channel aggradations and therefore in for taking adequate measures for channel stabilization and strengthening of embankments

Space related technology must be useful in Nepal for following purpose:

- ✓ Flood monitoring and mitigation
- ✓ flood alarm system (picture is attached)
- ✓ Water resource management
- ✓ Environmental monitoring
- ✓ Telecommunication, Telemedicine ..etc



Ongoing space related projects in Nepal

- **Dr. Mahabir pun and National Innovation centre initiatives:**

(**Mahabir Pun** is a Nepalese teacher, Magsaysay prize winner (2007, for his project related to wireless Internet to rural Nepal), social entrepreneur and an activist known for his extensive work in applying wireless technologies to develop remote areas of the Himalayas, also known as the Nepal Wireless Networking Project.(Source: [Wikipedia](#))

- ❖ **Ambulance Drone:**

His team is developing drone called “ambulance drone” in order to supply medicines to very remote areas of Nepal.

We need possible supports in data access for his similar other projects too.



What Next?

Recommendations & expectations

- ❖ To Promote space technology research and development in Nepal:
- ✓ We expect similar sort of program in Nepal which mostly focusing to space data access, ideas to use them, etc.
- ✓ Possible Collaborative works, data sharing, student exchange programs, short trainings, internships in **UNOOSA**, **SUPARCO**, **ISNET**, **GEO**, **ECJR** to promote space **R &D** in Nepal.
- ✓ No matter how small or big the project will be, we are very hopeful to expect some collaborative, joint projects initiatives from the experts, teams, organizations, government personnel in this forum.

- ✓ Possibilities of research collaborations in **G to G** model OR in University levels.
- ✓ Possibility of collaborative research projects related to water & its management between **CSIRO** (**Dr. Yun Chen**, Australia), **PSIPW** (**Dr. Abed Alataway** , King Saud University) and Nepal
- ✓ Possibility of data analysis trainings, simulation, workshop from the experts of GEO (secretariat, **GEO Douglas Cripe**)

And lastly....very much thankful to **SUPARCO (Government of Pakistan)**, Prince sultan Bin Abdulaziz international prize for water Management(**PSIPW**), **UNOOSA** and all related for providing this forum with invaluable supports....

.....And obviously thanks for your attention....!!



Thank You