

Access to Space in Developing Regions

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Overview:

There is an increasing need for access to use of space-based technologies in developing countries. Developing countries can immensely benefit from use of space technology in the areas of disaster response and agriculture for better response and further development in the future.

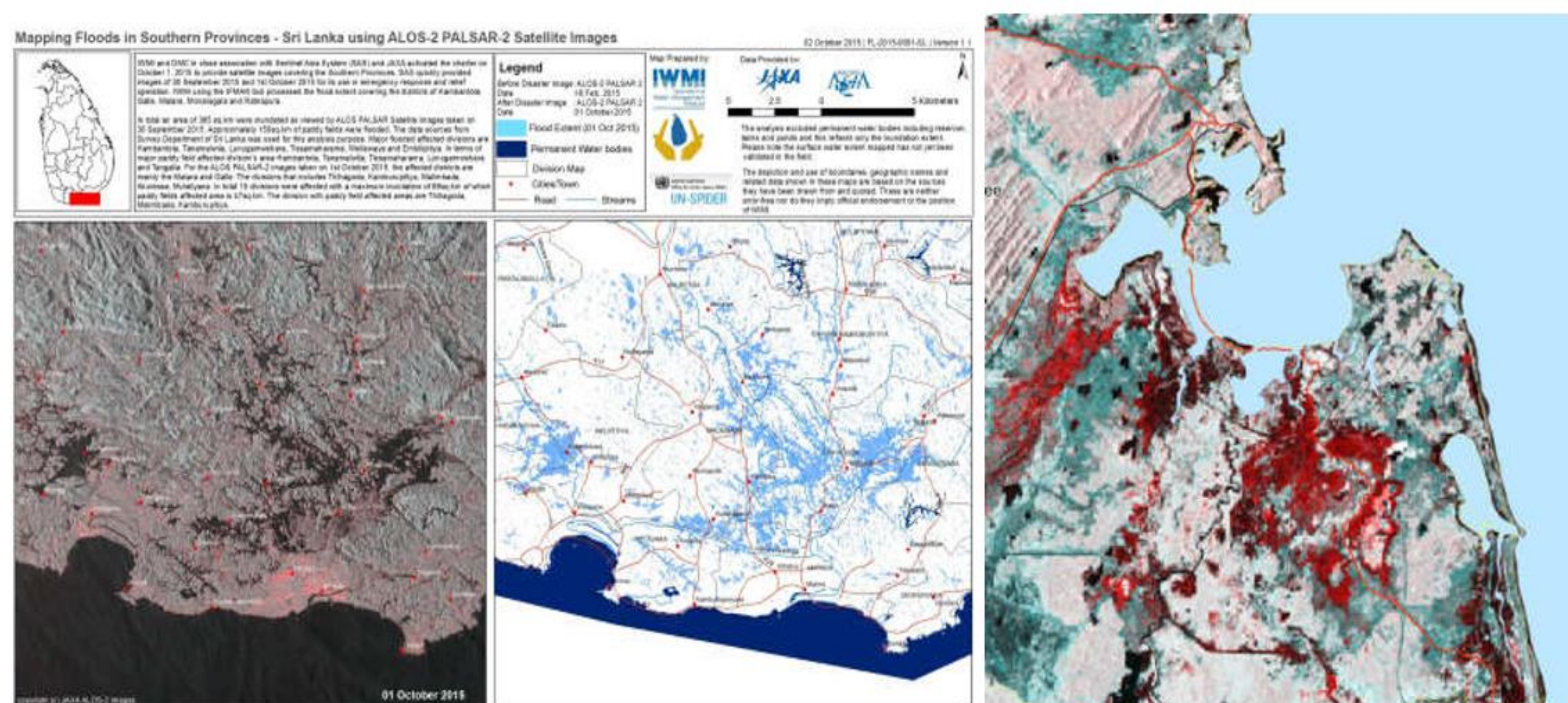
Due to population growth, implanting these technologies can be crucial for sustainable development. Especially in countries like Sri Lanka, satellite imagery can be an asset to assess the damage and mitigate response during emergencies. In regions of Africa, sustainable agricultural practices can be developed through satellite imagery and remote sensing capabilities.

In order to further assess and develop policy and a system, great collaboration between the governments, UNOOSA, research universities and other space related organizations are needed to continue these efforts.

Case 1: Sri Lanka

Sri Lanka, a developing country in South Asia have been benefiting from such technology used for disaster risk management during floods and other emergencies. This region in South Asia is often affected by floods, drought, landslides and can greatly benefit from acquiring data through satellite imagery & remote sensing can be helpful towards conservation in terms of sea level rise & coastal erosion. Satellite imagery, aerial mapping and digital data maps can contribute towards fast emergency response to better utilize resources for relief and reconstruction efforts in the country.

Staff of Mitigation Research and Development Division has capacity to analyze and produce maps within 06 hours period. The maps showing disaster affected area, especially flood inundation maps derived by satellite were prepared and distributed through multiple channels to various stakeholder agencies who engaged with response such as, 3 forces, Police, District and Divisional Secretariats etc. The data set was published in DMC web (www.dmc.gov.lk).



Flood inundation map produced in 2014 Matara Floods and 2011 February Eastern Floods

Therefore, there is a need for an initiative to fund projects and ideas for use of space technology in Sri Lanka, to create a space initiative to further mitigate and highlight the technology that can be created with governmental support and infrastructure while also creating job opportunities within Sri Lanka for space-based research initiatives.

Case 2: Africa

There is a great opportunity in Africa to thrive as a developing model for international space cooperation with the African Space Policy and Strategy framework.



One avenue is through the establishment of an African Space Agency however, lack of political support, coordination and talent and regulatory restrictions have been identified as challenges. A graduated steppingstone approach have been identified by Dr. Timiebi Aganaba-Jeanty of the Arizona Space Governance Lab and she believes this can help countries develop wide capabilities in space science and technology and support a transition that will lead to a competitive regional programme. A collaboration between Arizona State University Interplanetary Initiative Space Advisory project, Space in Africa, the Lagos Court of Arbitration and the Outer Space Institute has led to the establishment of a Space Governance Innovation Contest that seeks to go further in progressing international space law in Africa. Further information can be found on the Space Governance Innovation Contest website (<https://africanews.space/space-governance-innovation-contest/>)

Conclusions

- Access to space in developing countries could be used towards urban development in terms of agriculture and farming and to mitigate disaster risk reduction with SDGs including quality education
- A solid framework to continue these efforts with the help of space technology is needed with the aid of other collaborative organizations, under a unifying mission to be more inclusive in space-based initiatives and exploration

References

1. UNDP Sri Lanka Report on disaster risk management, 31 May 2018
2. <https://www.africaportal.org/contributors/timiebi-aganaba-jeanty/>