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Globalization of Terrestrial Information

MIL, Jul 13, 2006. Courtesy: R. C. Chakraborty

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New Delhi, Thursday, July 13, 2006 - The Indian Space Research Organisation (ISRO) chief Dr. G Madhavan Nair has expressed concern at high-resolution satellite images offered by Google. However, the ISRO chief has reiterated the issue earlier raised by the President A P J Abdul Kalam while addressing the National Police Academy at Hyderabad in mid-October, 2005.

The President expressed concern over the security threat posed by Google Earth's free mapping program available on the Internet. Since then the Chief of Army Staff General J J Singh, Secretary DST Prof V. S. Ramamurthy, Surveyor General Maj. Gen. M. Gopal Rao, and others expressed that it could severely compromise a country's security.

 While these officials did their bit and took some action but then many security experts in and outside the country, even within government have articulated different view. The IDSA expert C. Uday Bhaskar, Sandia National Laboratories Security analyst Vipin Gupta, GlobalSecurity.org Director John Pike, FMNN Privacy Analyst Ravi Visvesvaraya Prasad and others feel:

"..it is is part of technology enabling characteristics of the present times ..";

".. you have multiple eyes in the sky, .. creating a transparent globe where anyone can get basic information about anyone else, .. accept the new reality: ..Times are changing, and the best thing to do is adapt to the advances in technology ..";

".. June-launched website http://earth.google.com/, has allowed users unrestricted access to satellite imagery that otherwise was hardly ever available to the common man. The sophisticated images capture .. Earth' geography and allow even street level viewing of cities but at the same time feature sensitive military and political sites";

"What can the Indian government do to prevent terrorists or hostile forces from viewing high resolution photographs of its sensitive installations? The answer, in practical terms, is Absolutely Nothing At All."

".. absolutely no practical, feasible method at present to prevent satellites from photographing sensitive Indian sites. The only solution is to camouflage them appropriately, or keep them underground or underwater, as had been done for the Pokharan II blasts."

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".. call for limiting access to http://earth.google.com/ is also unfeasible, since potential terrorists can access this website, or other similar websites such as MSN TerraServer, from other countries without any restrictions whatsoever."

".. several other sources from where images of far higher resolutions can be obtained. DigitalGlobe's QuickBird satellite images have resolution 2 feet. The Landsat-7 satellite offers 1.4-metre resolutions of almost any location in the world for just one dollar per twenty square miles. Google's rival, Microsoft, offers services such as MSN Virtual Earth, TerraServer, and TerraFly, similar to Google Earth."

".. assertion that "developing countries, which are already in danger of terrorist attacks, have been singularly chosen for providing high-resolution images of their sensitive sites, is also not entirely true.

 Millions of very high-resolution photographs of US and NATO defence and nuclear installations are available for free at Google Earth, .. show the White House; the headquarters of USA's National Security Agency at Fort Meade, US chemical weapons depots, US nuclear missile sites, and US and NATO defence bases all over the world in far greater detail."

 ".. India's defence forces state: .. we can also access high-resolution photographs of terrorist camps in Pakistan-occupied Kashmir, as well as of Kahuta and Sargodha".

 ".. The Indian government should instead focus on utilizing the high-resolution photographs for positive purposes such as meteorology, hurricane and cyclone forecasting, emergency and disaster relief, agricultural and irrigation planning, mineral exploration, oil and gas exploration, monitoring soil erosion and use of river waters, urban planning, etc."

".. Indian civil society is already using data from Google Earth for positive purposes. Former MP from Mumbai, Kirit Somaiya, said: .. Google Earth made possible the study of the Mithi river, which was responsible for the deaths of more than 600 people during the devastating rain and floods in Mumbai last July .. unplanned development and encroachment along the river banks were the root cause of the disaster .. no governmental agency has a map of the Mithi river at all. .. in all official records, this river does not even exist."

"Reuters reports via CNN International. France Challenges Google Earth With New Site JUN 23, 2006 - French President Jacques Chirac said it's important for his country to have such a site available because he wants France to keep up with the fast pace of technological innovation today .. "

" Analysts say the average traffic to the most popular French websites is about four million a day."

" A French remote sensing company that specializes in products for intelligence, security, and peacekeeping operations - has issued a study of Google Earth, titled Google Earth Study: Impacts and Uses For Defence and Security."

Should we continue such debate or look for solution ?

Exploring the views, mentioned above, reported in the world wide web about security related challenges vis-a-vis the technology enabling characteristics of the present times in creating a transparent globe where anyone can get basic information about anyone else, I feel : Google Earth and their competitors MSN Virtual Earth, TerraServer, and TerraFly and others are trying to bring a revolution in "Globalization of Terrestrial Information" about the world we live in.

However I am suggesting a few measures that will safeguard the security aspects.

Google Earth and all their competitors need to adopt a uniform policy to render terrestrial details. The resolution of satellite imageries may be different but what is important is that the resolution should be one and same for a particular class of targets/objects and may have a different resolution for another class of targets/objects.

This means if resolution say "R1" is set for all cartographic features, then the resolution could be different as 'R2" for all objects of military interest but certainly not "R1" for some military objects and "R2" for other military objects of same country or different country.

Hence they need first to define/categorize targets/objects classes: having cartographic features, having military interest, industrial units, power generation units, areas of human settlement, forest region, mountainous terrain, desert region, coastal region, and ocean etc.

They then need to decide on resolutions one and same or different for the target/object classes. These decisions once taken must be uniformly applicable to all countries, irrespective of their geographic location, technology, economy, law and values. Further, the word resolution must not be generalized but mentioned clearly as Spatial / radiometric / spectral / temporal / height resolution.

This is doable, agreeable and sustainable forever. The check and verification for compliance is easy because there are more than 4 or 5 players in competitions and there is nothing called or believed as free.

The countries owning high-resolution satellite can verify them selves and even act/serve as source with no restriction for the supply of imageries acquired by them and want to be in public domain. The countries having large resources need to serve most and others having limited resources can do their bit.

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