DISSOLVING WHITE SPOT ON WORLD GIS MAP

Bright Future for GIS in Africa

Over past decades, as GIS grew from infancy to relative adulthood in the rest of the world Africa remained a white spot on the GIS map. Considering the size of the African continent, that spot was quite large. However, recently GIS has become a popular term among professionals in related fields, and with decision-makers in Africa. The author reflects upon this sudden development.

Before we look at reasons for the sudden recent popularity of GIS in Africa, let us start by clarifying the territory. Geographically, Africa encompasses an entire continent; however, for the purposes of this discussion it is defined as sub-Saharan Africa. Sub-Saharan Africa excludes North Africa (from Morocco to Egypt) and South Africa. Both of these sub-regions differ significantly from the rest of the continent in terms of economic development and advancement, especially in the field of GIS.

Initiatives

A mere fifteen years ago, the majority of GIS users in Africa were either academic or international organisations. Several United Nation bodies, for instance UN Habitat, FAO, WHO and UNICEF, still maintain offices throughout Africa. These organisations were the first to use GIS tools and technology in their African projects. A handful of universities who had forward-thinking enthusiasts were also conducting their first research projects. Unfortunately, this use failed to spread to local entities. In addition, few foreign funded projects included GIS as a required component. In the early 1990s professionals from various African countries started initiatives aiming to bring GIS technology to the continent. At first these were mostly centred on environmental issues and needs. But, with the support of a number of international organisations and donors, an Environmental Information Systems (EIS) programme was set up for Africa. These activities resulted in a number of initiatives, from a regional GIS conference (Africa GIS), held every other year in rotation between African countries, to the formation of a NGO with a mission to promote GIS and environmental sciences.

Critical Mass

Results of these activities are already visible. Compared to the 1990s, GIS is well known in Africa, and desired among professionals and decision-makers alike. Projects are now hindered primarily by lack of funds, and even this hurdle is slowly becoming less and less. GIS can be applied to most of Africaâ€™s most pressing problems: clean water supply, agriculture, health, resource management, environment, and land management. Currently successful projects prove that GIS can make a swift difference in Africa.
So why did it take so long for it to become accepted? Like many other new technologies, GIS undergoes a cycle of adoption; it requires some enthusiasts (often called Early Adopters) and a â€˜critical massâ€™ of need. The Early Adopters are naturally found on every continent and in every country. For the critical mass to accrue, however, several other things must happen.

Improving Economy

Again in common with many other technologies, GIS implementation is either a result of visionary leadership (top-down) or a result of a lot of hard work by technical staff (bottom-up). Both are affected by two key factors: GIS education and the economy. In part these are interrelated: a stronger economy generally stimulates more education and adoption, while growing education and adoption tends to stimulate the economy. Both factors are clearly evident in Africa today. Levels of education are clearly affected by local initiatives on the part of universities and other institutions. A growing number of distance-learning initiatives have also made GIS education accessible to a much broader audience. The economic climate, always heavily dependent on political stability, is improving thanks to many recent changes. Many countries in Africa gained their independence over the last fifty or so years and are still searching for a way to achieve permanent stability. This political volatility for many years had a negative effect on the adoption of GIS. But over recent years there has been growing confidence in market reform and change, as shown by both general public and international community. Recent decisions by the London Club and the G8 to reduce Africaâ€™s burden of debt have paved a new way to a better future for Africa and GIS in Africa.

Fresh Start

The evolution of GIS in Africa still faces many challenges, from lack of funds to lack of skilled professionals. Ironically, these shortcomings can actually be an advantage for Africa. What may not be so obvious is that in most cases African countries carry no legacy of systems that need upgrading or replacing. So a fresh start offers the chance to begin with the latest technology and move forward at a much faster pace, thus allowing for quicker results.