

IYA2009 in Africa — A South African perspective

Kevin Govender

South African Astronomical Observatory / Southern African Large Telescope (kg@sao.ac.za)

Abstract

In Africa the stars have always been a part of people's everyday lives, be it in the form of folklore, superstition or even agricultural indicators. Modern astronomy, however, has not been very widespread, with only a few African countries having sufficient facilities or academics to support a modern astronomical community. The International Year of Astronomy serves not only as an opportunity to boost these astronomical communities, but also to celebrate the rich history and culture that has existed for thousands of years. On this, the poorest continent, with so many millions living in rural areas, there is one glaring advantage over other continents — people's abundant access to a dark night sky. We would like to see 2009 as the year that everyone in Africa, no matter what their background or lifestyle, turn their heads to the skies in appreciation of the beauty of the Universe, in celebration of their cultural heritage, and in the hope that they are inspired to overcome harsh challenges that this small planet and its occupants may have placed on them. It is an opportunity not just to promote astronomy, but also to spark curiosity and spur on a culture of learning. The perspective will be given from South Africa, home to a number of major astronomical facilities, and a major player in the development of astronomy across Africa. IYA2009 progress to date and plans for the future will be discussed.

1. Introduction

The bulk of this paper is based on a plan for *Astronomy Education and Outreach in Africa* which was built on input from a number of people from across Africa (and beyond) who are involved in astronomy/space science/science education in some way. The need for such a plan for Africa was based on the glaring lack of representation by African countries on the IYA2009 scene. In the build up towards IYA2009 we wanted to ensure that Africa had a voice and reaped as much benefit as possible from this global event.

This paper is thus an abbreviated version of the draft Africa Plan, the full version of which can be obtained from the author.

Before getting into the plan however, it is important to briefly mention the South African Road Map as an example of IYA activities in an African country. South Africa has also, in past years, led the development of astronomy in Africa, and thus forms the benchmark or example of how activities could be carried out in other African countries.

South African Road Map to IYA2009:

- First meeting of astronomy stakeholders (26 January 2007);
- Survey of astronomy education and outreach (February 2007);
- SA representation at SPoC meeting in Garching (3–4 March 2007);
- Astronomy stakeholder meetings (7 May 2007 in Johannesburg and 25 May 2007 in Cape Town);
- AstroNet e-mail list set up (8 June 2007);
- New URL is launched¹ (11 June 2007);
- Call for consolidation of astronomical resources (22 June 2007);
- National Steering Committee for IYA finalised — representation from all major astronomy stakeholders (27 June 2007);
- Meeting of National Steering Committee (2 July 2007);
- 2nd Meeting of National Steering Committee — IYA business plan and budget (22 August 2007);
- Launch of interim resource database (5 September 2007);
- Launch of online discussion forum (27 September 2007);
- Tentative presentation to South African Department of Science and Technology for funding of business plan (November 2007).

2. The Africa Plan for astronomy education and outreach

Background

Astronomy is a subject that encompasses a large number of science, engineering and mathematics disciplines. As such it bears a distinct strength in the promotion of these disciplines to students and the public. It is also a subject that sparks the curiosity of young and old alike. In Africa, where education is probably the most sustainable solution to development challenges facing the continent, a group of astronomy, space science and education-related individuals and organisations have decided to come together to harness these useful characteristics of astronomy for the benefit of Africa as a whole. In building the astronomy community in Africa, the group aims to use the subject to spark an interest not only in science, engineering and mathematics disciplines, but also in education in general. The International Year of Astronomy will be used as a launching pad for a network of African individuals and organisations that intend to work together into the future using astronomy to enhance education in Africa.

Vision

The continent of Africa, with an ever-growing astronomy research community, united in the fields of education and outreach, working together and sharing resources, such that the people of Africa are educated, especially in the fields of science, engineering and technology.

Theme

The theme had to make IYA2009 relevant to Africa and after deliberations as to the importance of astronomy in an African context we settled on the theme: *Astronomy for Education*.

¹ www.astronomy2009.org.za

Core missions

The vision will be realised through the following four core missions (and related objectives), with a focus on building and supporting human resources:

- Enhance the teaching and interest in mathematics and science in schools through:
 - educational resource development and distribution;
 - educator development;
 - learner development;
 - promotion of astronomy-related careers.

- Enhance the teaching and research interest in astronomy in universities through:
 - promotion and encouragement of post-graduate studies;
 - encouragement and support of physics/astronomy related student bodies;
 - equipping universities with the necessary infrastructure and resources.

- Increase the awareness and knowledge of science amongst the public through:
 - public resource development and distribution;
 - astronomy communication capacity building and implementation;
 - public programmes and events;
 - astronomy in the media.

- Support and encourage an African network through:
 - sourcing and sharing of astronomy and education related resources;
 - human resource development;
 - close liaison with Pan-African organisations such as NEPAD and African Union.

Structure

It is recommended that the African network remain an online and dynamic structure with the Pan-African body keeping informed and in contact through e-mail and a website for Africa. Within each country however, a driver (single point of contact) along with a team that comprises the steering committee for that country is required.

Guiding principles

- Encourage collaboration both nationally and internationally.
- Support and enhance rather than reinvent programmes.
- Ensure adequate monitoring, evaluation and quality assurance.
- Development and support of human resources.
- Ensure sustainability at every stage.

Envisaged road map

It was thought that a road map of activities before, during and after IYA2009 would serve as useful guidelines. This road map would obviously evolve rapidly but would basically entail the following:

In the time preceding 2009 there will have to be activities carried out in preparation that include:

- establishing networks;

- consolidating astronomical resources and best practices;
- surveying and listing activities;
- sourcing funding for 2009.

Activities during IYA2009 will be varied and essentially cover four geographical categories: global (i.e. Cornerstones or other), regional (e.g. across Africa), national (within individual countries) and local (specific to towns or villages).

In order to ensure that the impact of IYA2009 has a high degree of sustainability, the following activities need to be carried out in the time shortly thereafter:

- Global Consolidation of Astronomy Resources;
- Regular Astronomy Club/Society Activities;
- Regular Communication with the Astronomy in Africa Network;
- Universe Awareness Programme;
- African Hands on Universe;
- Astronomy in the Media;
- Astronomy in the Classroom;
- African Collaborations.

Funding

Although funding will be sought from as many sources as possible it is envisaged that the bulk should be provided by the national governments of each individual country. However, an active African network will serve as a motivation for the provision of funding by any potential external funders.

3. The countries behind the plan

An important point to mention is the number of African countries that have participated in the development process of the plan so far through established points of contact. The table below lists the countries involved at the time of CAP2007 and the individual contact points.

| # | Country | Contact Point |
|----|------------|--------------------------|
| 1 | Uganda | Simon Anguma |
| 2 | Sudan | Tahani Shatir |
| 3 | Kenya | Paul Baki |
| 4 | Ethiopia | Sultan Mohammed |
| 5 | Gabon | Patrice Okouma |
| 6 | Mozambique | Claudio Moises Paulo |
| 7 | Lesotho | Mpho Sek'hosana-Nyenyene |
| 8 | Swaziland | SS Mkhonta |
| 9 | Namibia | Riaan Steenkamp |
| 10 | Nigeria | Pius Okeke |

| | | |
|----|--------------|----------------------|
| 11 | Angola | Jaime Vilinga |
| 12 | Rwanda | Pheneas Nkundabakura |
| 13 | Zambia | Adrian Habanyama |
| 14 | Zimbabwe | Raban Chikwanha |
| 15 | Congo | Floris Javerdin |
| 16 | Algeria | Jamal Mimouni |
| 17 | Tanzania | Noorali Jiwaji |
| 18 | Tunisia | Foued Anane |
| 19 | Morocco | Hamid Touma |
| 20 | Malawi | Zuze Dulanya |
| 21 | South Africa | Kevin Govender |

Conclusion

This plan for IYA2009 in Africa will evolve and adapt as more input is found and more country-specific programmes are put into place. However, it is seen in the interim as a basis and a guideline against which African countries can design their own respective programmes. By having a plan that is specific to this region we can focus our activities towards a common theme and also use it to rally the support of regional and Pan African organisations such as the African Union. Input is still welcome and an ever-growing *Astronomy in Africa* e-mail list is used to coordinate activities.

The contact e-mail address for IYA2009 and Astronomy in Africa is:
africa@astronomy2009.org.za