

# Towards “Astronomy for Development”

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**Abstract.** The ambition of the IAU’s decadal strategic plan is to use astronomy to stimulate development globally. The Office of Astronomy for Development was established in 2011 to implement this visionary plan. This talk will reflect on the past, present and future activities of the office, and describe the status of implementation of the plan at this halfway point in the 2010- decade.

**Keywords.** OAD, astronomy, development

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## 1. Background

The International Astronomical Union (IAU), together with the South African government, established the global Office of Astronomy for Development (OAD) in 2011 in order to fulfill the IAU’s 10 year strategic plan, which aims to realise the global developmental benefits of astronomy. We interpret astronomy’s role in achieving sustainable development in several ways including (i) social benefits (common humanity, scientific engagement & discourse); (ii) human capital development (education, skills, career choices); (iii) economic growth (knowledge economy, innovation); and (iv) human welfare (all of the above, technology transfer).

The OAD is tasked with establishing and strategically coordinating Regional Nodes (ROADs) and Language Expertise Centres (LOADs) across the world as well as three Task Forces, namely (i) Astronomy for Universities and Research, (ii) Astronomy for Children and Schools, and (iii) Astronomy for the Public. The bulk of the implementation of projects is carried out by volunteers, coordinated by the Task Forces with the support of the OAD and its regional offices. In the first 5 years of its existence, 68 projects were funded through an open annual call for proposals, 9 agreements were concluded for the hosting of regional offices and language expertise centres, and memoranda of understanding were signed with 9 partner organisations. Over 500 volunteers registered their skills with the OAD and are a valuable source of project proposals and support. This first phase of the existence of the OAD managed to achieve a transition from previous IAU activities in the area, a substantial amount of network building and strong international credibility for the concept.

## 2. The OAD within the IAU landscape

The IAU landscape can sometimes appear confusing since there are several activities that seem to deal with similar objectives. The three that most often stimulate queries for clarification are the existence of the OAD, the IAU Office for Astronomy Outreach (OAO), and the IAU’s Division C (Education, Outreach and Heritage). We aimed during this talk to clarify the roles with three respective words: Development, Access and Knowledge. Astronomical knowledge resides within the IAU and its Divisions. In order to provide access to this knowledge the OAO (based at the National Astronomical Observatory of Japan) performs its global networking and outreach work, sustaining the

**Table 1.** 2015 Strategic goals and status.

Goal	Status
a. Active regional nodes on all populated continents, collectively covering at least two thirds of world population in terms of target regions.	By August 2015, there were 9 regional offices established which meet this target.
b. Active Task Forces with an established annual strategic planning process and funding procedure (yearly cycle) for Astronomy-for-Development (AfD) activities.	Successfully implemented and ongoing.
c. Secured funding and plan for the continuation of the OAD in the 2016 to 2020 period.	This has been achieved as of September 2015
d. Sustainable volunteer programme including efficient registration of both volunteers and opportunities for volunteers.	Registration exists although more can still be done to engage volunteers
e. Total accumulated funding commitments from external sources exceeding the annual investments made through the IAU-NRF agreement.	Funds raised or committed in the first 3 years (including regional offices and partnerships) already amount to €2,217,595, far exceeding the total 5-year summed contributions from IAU and NRF/DST of €1,320,000.

momentum from the International Year of Astronomy 2009. The specific role of the OAD then is to look at the issue of development. As such, the OAD is responsible for using the knowledge within the IAU/astronomy community, along with the access provided through the OAO, to stimulate global development. To achieve each mandate there obviously needs to be synergy between all structures in this landscape, which we believe we have achieved.

### 3. External Review of the OAD

In February 2015, an external review was conducted of the OAD. The review panel was very complimentary about the OAD activities, and recommended the continuation of the OAD in South Africa until 2021. This recommendation was accepted by all parties (IAU, NRF, DST). A new agreement is expected to be signed in September 2015 with revised financial commitments to the OAD. Specific recommendations of the review were: (i) continuation of the OAD till 2021; (ii) there should be a resolution of the IAU General Assembly for the continuation of the OAD/Strategic Plan beyond 2020; (iii) there should be an increase in funding and staff (fundraiser + astronomer); (iv) simpler oversight structures; (v) consolidation of activities; (vi) annual high level meetings between the partners (IAU and South African National Research Foundation); (vii) there should be simpler visa processes to get more skills to the OAD in South Africa easier. The details of the review are publicly available on the OAD website.

### 4. Strategic Goals

During the first 5 years the OAD worked according to a business plan that listed long term (5 year) strategic goals for the OAD up to December 2015. These goals and the state of achievement are reflected in the following table:

In the second half of the decade of the Strategic Plan, and leading up to the 2021 General Assembly, the OAD will build on its experience thus far and strive to position itself as the global reference point for best practice and evidence on astronomy related human capital development, education and outreach interventions leading the community to maximally realise the potential of astronomy for development. The possible long terms goals which the OAD will strive to achieve by 2021 (to be approved by the new OAD Steering Committee) are:

(a) A user friendly impact cycle for projects containing a library of best practice resources and evidence on what works and what doesn't work. This cycle should include support for rigorous evaluation of impact as well as a project monitoring system for OAD funded projects.

(b) Synergised regional leadership providing input to the OAD in a systematic way as well as local coordination for the implementation of evidence-based pilot projects and for taking successful projects to scale.

(c) The OAD should host and coordinate externally funded programmes, working with strategic partners, to develop and evaluate potentially high impact pilot projects that meet specific needs or gaps not currently addressed by other organisations, and take to scale those projects shown to work. External funding would be used to fund additional staff to manage the development process for each project.

(d) The OAD model should be adopted by other scientific bodies for their respective fields, with the International Council for Science (ICSU) possibly driving a global science for development initiative based on the OAD model.

(e) The OAD volunteer management system should provide a user friendly platform to allow for the flow of skills from the astronomy community to other regions and fields.

In summary, at this point in time, halfway through the decade of the IAU Strategic Plan, the OAD is well positioned to making a significant difference, by 2020, in this growing area of astronomy (and more generally, science) for development.