

Overview of the OAD: Achievements, Challenges and Plans

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Abstract. The Office of Astronomy for Development (OAD) aims to use astronomy, including its tools, practitioners and skills, to benefit society. The OAD, a joint project of the International Astronomical Union and the South African National Research Foundation, has the vision of using ‘Astronomy for a better world’. Since 2013, the OAD has funded more than 120 projects that use astronomy to address developmental issues as defined under the United Nations Sustainable Development Goals (SDG).

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1. Introduction

Astronomy is an exciting and popular topic because it connects exotic science, cutting edge technology and a sense of cultural connection or inspiration. Taking advantage of this appeal, astronomy can be used as a vehicle to draw attention to, and address issues of sustainable development. At the OAD, we consider how the tools, skills and methods of astronomy can be used to encourage astronomers and other scientists to work towards the SDGs. In addition to the OAD’s global coordinating office in Cape Town, there are ten regional or language offices across the globe, where the SDGs are afforded regional priority and implementation. The OAD favours a dual approach to maximise the potential impact of astronomy for development - i) grassroots projects responding to local needs, run by stakeholders in the community which are funded annually through an open call and ii) special projects driven by members of the OAD staff or other collaborators.

2. Annually Funded Projects

Every year, the OAD coordinates a global call for proposals for projects that aim to use astronomy to promote sustainable development. Since 2013, the office has disbursed IAU grants totalling 628,025 Euros to over 120 projects around the world. Figure 1 illustrates some of the ways in which past projects have tried to influence the SDGs. Below are specific examples of astronomy for development: i) Astronomy for Capacity Development: Several OAD funded projects have focused on capacity building in education by conducting workshops, schools, trainings etc. targeting communities and regions which are disadvantaged or under-represented. These actions directly impact on SDG 4 Quality Education and SDG 10 Reduced Inequalities. Projects have used astronomy at school and university level to improve skills in scientific inquiry, programming, data science, mathematics etc. ii) Astronomy for Economic Stimulation: Astro-tourism projects, such as those funded by the OAD, are based on the idea that astronomical sites can be systematically promoted as points of interest and together with the tourism industry



Figure 1. Mapping OAD funded projects to the Sustainable Development Goals

can contribute to the local economy. This relates to SDG 8 Decent Work and Economic Growth and SDG 9 Industry, Innovation and Infrastructure. iii) Astronomy for Inclusion and Equity: Several OAD projects have used astronomy to bring science to audiences traditionally under-represented or excluded. For example, developing tactile astronomy resources for visually impaired children.

3. Special Projects

Astronomy for development is concerned with activities that seek to affect human development, hence the projects are “social interventions”. Working with other disciplines, especially the social sciences, is critical to cover the development aspects. At the OAD, this is achieved through special projects and partnerships. Two such examples are listed below: i) Applying astronomy tools in the field of development economics: OAD Fellow Tawanda Chingozha is a development economist who is collaborating with the OAD to explore the application of astronomy skills in economics. In his study of changes in urban informality patterns in developing countries, Tawanda is relying on citizen science methods similar to those used in popular astronomy projects such as Galaxy Zoo. ii) A research collaboration between the OAD and Human Sciences Research Council in South Africa to improve access to science for visually impaired audiences.

4. Conclusion

The OAD, its Regional Offices, collaborators, partners, and large volunteer community have successfully implemented a number of for-development actions globally. Although these actions by the community have influenced key SDGs, there is a need to work across disciplines and explore specific inter-disciplinary collaborations in order to understand and contribute better to sustainable development. The OAD is also grateful to its global volunteer community and invites ideas and feedback on astronomy for development.