# Astrotourism for Development:

## Work of the IAU Office of Astronomy for Development

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science, technology & innovation
Department:
Science, Technology and Innovation
REPUBLIC OF SOUTH AFRICA

IAU

NRF National Research Foundation | SAAO South African Astronomical Observatory

OAD
INTERNATIONAL ASTRONOMICAL UNION | OFFICE OF ASTRONOMY FOR DEVELOPMENT

# THE INTERNATIONAL ASTRONOMICAL UNION

## Mission:

To promote and safeguard the science of astronomy in all its aspects, including research, communication, education and development, through international cooperation.

- 13 000 Professional Astronomers Members
- 85 Member Countries

iau.org

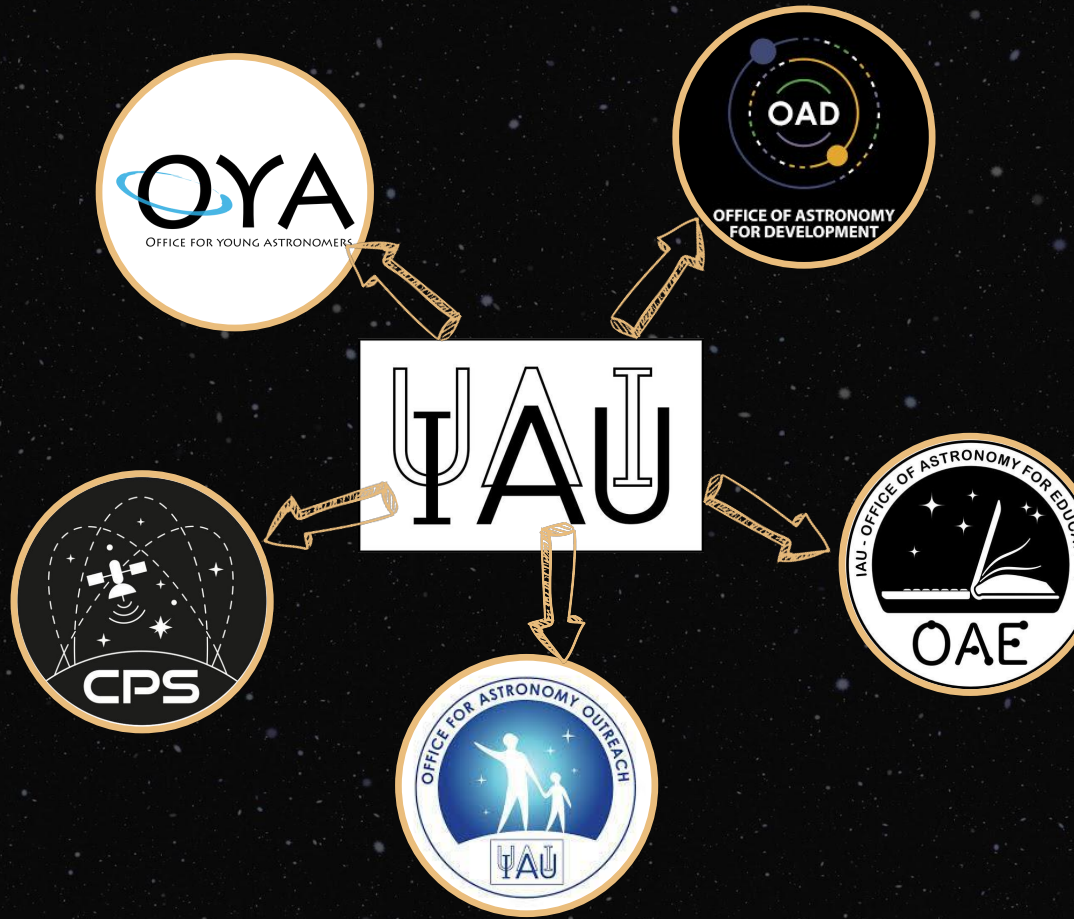
# THE INTERNATIONAL ASTRONOMICAL UNION


**The IAU set out to transform astronomy from a purely scientific endeavour into a driver of social and economic progress, Goal 3 of the IAU Strategic Goals 2020-2030 is especially guiding the work of the Office of Astronomy for Development.**

# THE IAU OFFICES AND CENTRE

The IAU has four Offices and a Centre:

- Office of Astronomy for Development (OAD)
- Office for Astronomy Outreach (OAO)
- Office of Astronomy for Education (OAE)
- Office for Young Astronomers (OYA)
- Centre for the Protection of Dark and the Quiet Sky (CPS)



# THE OFFICE OF ASTRONOMY FOR DEVELOPMENT


The Office of Astronomy for Development is a joint project of the International Astronomical Union (IAU) and the South African National Research Foundation (NRF) with the support of the Department of Science, Technology, and Innovation (DSTI).

OAD was established in 2011 . Hosted in Cape Town, South Africa, at the South African Astronomical Observatory.

# THE OFFICE OF ASTRONOMY FOR DEVELOPMENT

## Mission:

**The mission of the OAD is to help further the use of astronomy, including its practitioners, skills and infrastructures, as a tool for development in every country by mobilizing the human and financial resources necessary in order to realize the field's scientific, technological and cultural benefits to society.**

**This is primarily implemented through funding and coordinating projects that use Astronomy as a tool to address issues related to sustainable development.**


Astronomy for a Better World


# GLOBAL REACH

## Regional Offices:

**Since our office was created to serve the global community, the OAD has established 11 regional offices and language centres of Astronomy for Development around the world to improve local understanding of how astronomy can address community-specific challenges, realise its potential impact, and amplify its contribution to development.**

# IMPACT

01 **236 projects**
Supported

02 **1636 proposals**
Received

03 **13 call for proposals**
Implemented


04 **112 countries**
Covered

05 **2 Million people**
Reached

06 **1.4 Million Euros**
Invested


236 projects

112 Countries

5 Continents

# GLOBAL FOOTPRINT

# OAD FLAGSHIP PROJECTS

- The OAD has identified five key themes that encapsulate the concept of astronomy for development. These themes were selected in early 2019 based on our experience in supporting projects and reviewing more than 1,000 proposals.
- These themes represent some of the most effective and successfully tested applications of astronomy for development. The majority of projects funded through the annual call for proposals align with these themes.
- From the 5 themes, we have flagship projects within the OAD :

**Thematic Area 1: Astrotourism**

**Stimulating local economies through astronomy**

**Thematic Area 2: Astronomy for Mental Health**

**Using astronomy for mental well-being**

**Thematic Area 3: Astronomy Skills for Development**

**Skills development / leveraging astronomy-related expertise to address global development challenges**

# ASTRONOMY AND SOCIETY

The OAD tries to encourage the astronomy community to work towards these goals through the (astronomy-based) interventions that they execute as IAU OAD funded projects. It can be difficult to conceptualise how astronomy, an esoteric and specialised science, can contribute to the very immediate and real challenges facing society today.

Astronomy and the SDGs

Astronomy is more than science - it's a bridge across disciplines, cultures, and technologies, making it a versatile tool for tackling global development challenges.

Astronomy's impact on Society: Showcase of 2024 OAD funded projects

# ASTRONOMY AND SOCIETY


**The OAD funds and coordinates projects that aim to use astronomy to impact on one or more of the UN Sustainable Development Goals. It may not be obvious to everyone how the tools, methods and content of the field of Astronomy are relevant to the SDGs. The OAD has funded programmes that address at least 13 of the 17 SDGs thus far.**

Nature Comment: Astronomy as a strategic driver for sustainable development

# OAD ASTROTOURISM FLAGSHIP PROJECT

**Aim**:

**Leverage astronomy and tourism to drive economic growth, social inclusion, and cultural preservation**

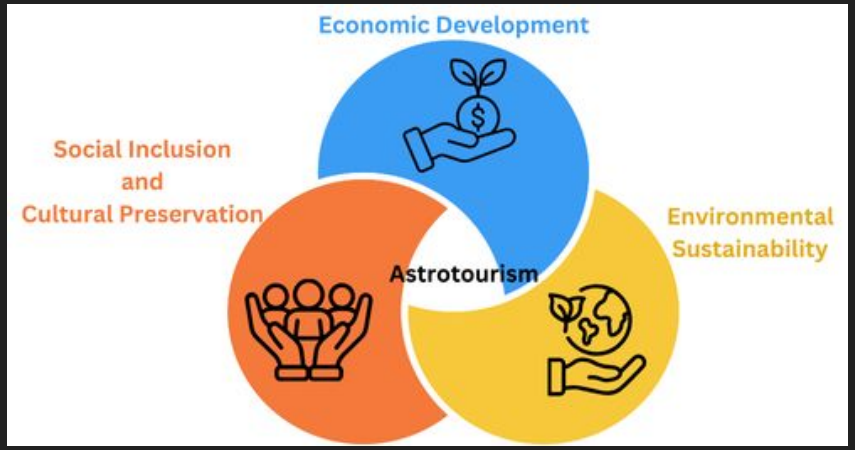
# ASTROTOURISM FLAGSHIP PILLARS

**The OAD champions astrotourism through three interconnected pillars:**

- **Economic Development: Astrotourism drives economic growth in rural and underserved communities by creating jobs, such as tour guides and hospitality roles, and boosting local businesses like accommodations and restaurants.**

- **Environmental Sustainability: It also promotes environmental sustainability by advocating for the protection of dark skies and natural ecosystems, encouraging practices that minimise light pollution and preserve pristine stargazing environments.**

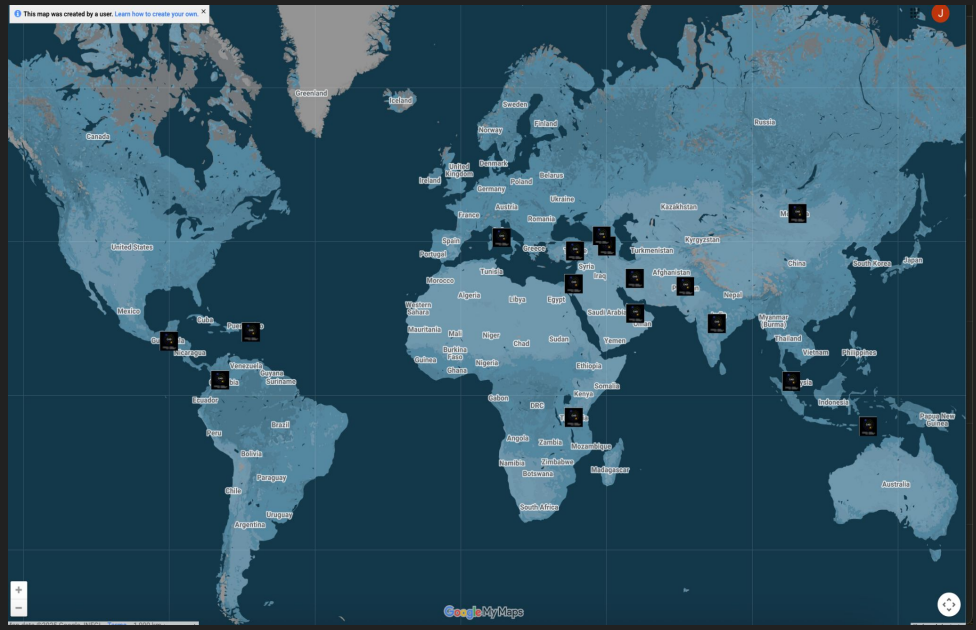
- **Cultural Preservation with Social Inclusion: Equally vital, astrotourism celebrates cultural heritage by sharing indigenous astronomical knowledge and traditional sky stories, fostering inclusivity to ensure local communities are empowered and directly benefit from tourism initiatives.**



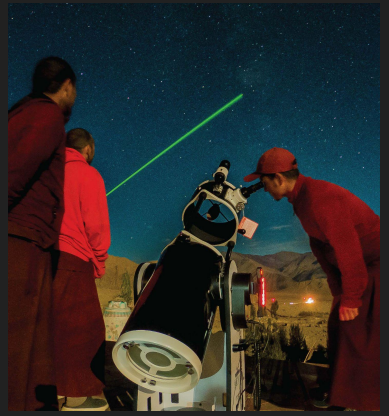
# OAD SUPPORTED ASTROTOURISM PROJECTS

The IAU has invested around 111,000 Euros in astrotourism projects across 14 countries through the OAD annual call for proposals. Projects have conducted diverse actions including, but not limited to,

- Training – young people trained to become astronomy entrepreneurs, certified tour guides trained to add astronomy to their portfolio
- Integration with heritage tourism – foundational work to integrate astronomy in existing tourism initiatives
- Course development – creation of an astrotourism curriculum at a university
- Scientific tourism route – development of a multi-country science tourism route including various points of astronomical interest



# CASE STUDIES



## Astrostays, India

Training and supporting village residents to become astro entrepreneurs

**Summary of outcomes**

- **Job creation and employment opportunities**
  - **$5200 revenue generated from astrotourism, India**
- **Expanded tourism offerings**
  - **Collaborations established with 5 resorts for astrotourism packages, India**
  - **680 travellers engaged in astronomy and local culture, India**
- **Education and training**
  - **30 village women and 7 disabled persons trained to be astroguides, India**

**Astrostays in World Travel & Tourism Council Blog**

# CASE STUDIES


## Guide Training, Malaysia

Training professional tour guides to add astrotourism to portfolio

## Summary of outcomes

- **Job creation and employment opportunities**
  - **5 observatories partnered with astroguides to bring tourists to the facilities, Malaysia**
- **Expanded tourism offerings**
  - **4 tour companies and 3 5-star resorts introduced astrotourism packages, Malaysia**
- **Education and training**
  - **2 tourism institute/organization introducing astronomy education and tourism syllabus as part of tourism certificate, Malaysia**
- **Ecotourism**
  - **Adoption of astrotourism by 3 city councils, Malaysia**
  - **Development of 2 astroparks in progress, Malaysia**

# CASE STUDIES

## LUNAA Journeys, St. Lucia

Training young people to become astro guides, creating jobs, diversifying tourism

### Summary of outcomes

- **Currently underway (2025 funded project)**
- **The initiative aims to help to expand the pool of local astronomy tour guides in St. Lucia creating jobs, growing interest in stargazing, and inspiring more people to explore the night sky**
- **12 young adults were trained**
- **Media articles in St. Lucia Media**
  - **Article 1**
  - **Article 2**

# Global Astrotourism Survey

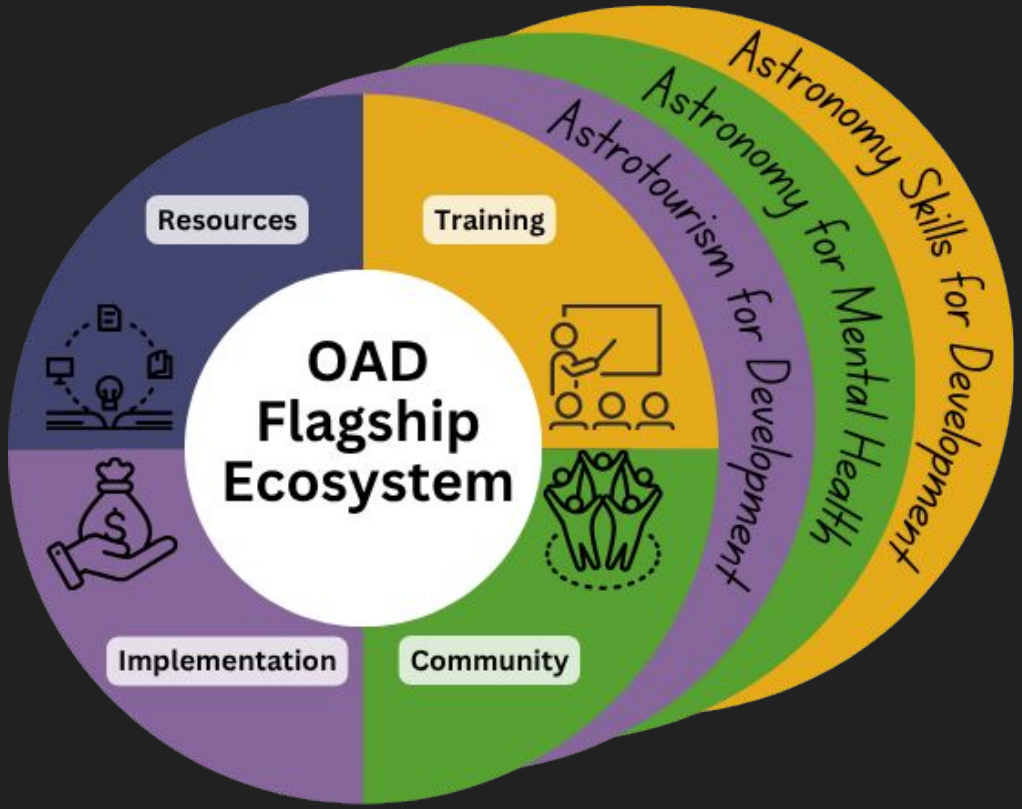
Complete the survey

We are working to collect data about astrotourism projects and initiatives around the world to help us better understand the astrotourism landscape globally.

The astrotourism initiatives survey is ongoing and will continue to accept responses

See survey results here

# The OAD Flagship Ecosystem




The OAD's flagship work is organised around four key areas: Resources, Training, Implementation, and Community.

Together, these pillars form part of a dynamic ecosystem that provides the tools, knowledge, and networks necessary to transform astronomy into a driver of positive change for individuals and communities across the globe

# Astrotourism Resources

- We have developed a wide range of openly accessible resources to support the global design and implementation of flagship initiatives. These resources are intended to guide new entrants and help existing practitioners incorporate astronomy into their activities.

- The OAD supports numerous initiatives through its Annual Call for Proposals. Funded projects generate practical outputs, such as training materials, toolkits, and multimedia content, which are openly shared, contributing to a growing global library of knowledge and practices.

- Valuable Case studies document lessons, innovative approaches, and best practices, demonstrating astronomy's role as a catalyst for sustainable development.

- Open access to these resources ensures that communities, practitioners, and decision-makers worldwide have the necessary tools to build impactful, inclusive, and sustainable initiatives.

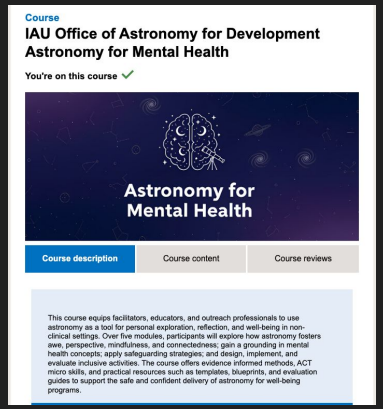
English


Spanish

Persian

# Training


Available

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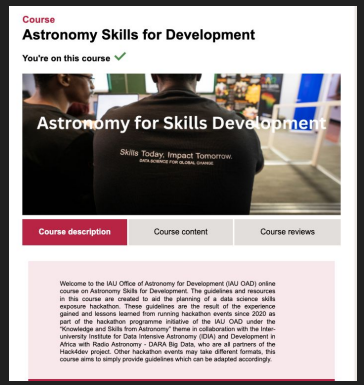


Pending

- Capacity building is central to the flagship projects, recognising that sustainable growth requires equipping individuals, communities, and institutions with the necessary knowledge and skills.
- Our primary training tool is a free online course introducing flagship fundamentals and providing practical guidance for initiative design and implementation. This is supplemented by in-person training, often co-developed and tailored to specific needs, delivered in collaboration with partners and regional offices. These sessions combine theoretical instruction with experiential learning.
- Training is further complemented by mentorship and peer-learning within the Community of Practice, allowing participants to continually develop expertise and access ongoing support.

# Community

- Knowledge Sharing
- Collaboration
- Professional Growth
- Community Building


**Join our community:**
https://discord.gg/QTeSbEteCM

# Implementation

**Implementation is primarily through Annual Call for Proposals (see slides 15 - 18)**


## Global Fund to support more projects!!

**Can be:**

**Country specific, Region specific, etc.**

# Key Insights

## Cultural & Social Value of the Night Sky

- Core to identity, heritage & Indigenous knowledge
- Loss of darkness = loss of cultural memory

## Socio-Economic Opportunities

- Dark-sky tourism boosts jobs & local entrepreneurship
- Communities protect dark skies when benefits are clear

## Communities Near Optical Observatories

- Strict lighting limits affect daily life
- Co-created solutions work best
- Sustainable protection needs community buy-in

## Equity & Satellite Services

- Critical for SDG-related connectivity
- Aim for balance through responsible operations

# Pathways to a Balanced & Inclusive Dark-Sky Future

## Community Co-Design

- Include observatory & Indigenous communities early
- Ensure benefits return locally

## Integrated Impact Assessments

- Combine cultural, social, economic & lighting impacts
- Not just astronomy metrics

## Fair Distribution of Benefits

- Deliver connectivity to underserved regions
- Link dark-sky protection with local development

## Strengthen Local Dark-Sky Governance

- Observatory–community models guide national policy
- Align science needs with cultural rights & livelihoods

# Get Involved Now

- **Join the OAD community to share knowledge and collaborate.**
- **Offer your expertise to review project proposals and initiatives.**
- **Support OAD projects by funding them, helping spread the word and finding partners.**
- **Contact the OAD team to explore collaborative opportunities. (OAD Team)**

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# MEET OUR TEAM

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