

Communicating Dark Sky in Iran: Heritage of the Sky Project Achievements and Challenges

Saeed Jafari

Department of Science Communication, Saros
Science Popularization Team
sjafari@saros.ir

Amirreza Kamkar

Digikala Mag, Science Section
akamkar@skyheritage.com

Mehrsa Latani

Saros Science Popularization Team
mlatani@saros.ir

Atabak Akson

Faculty of Entrepreneurship, University of
Tehran
aakson@saros.ir

Mahdi Abdollahi

Saros Science Popularization Team
abdollahi.m94@gmail.com

Hamed Parsaeyan

Saros Astronomical E-Magazine
h.parsaeyan@astronomyonline.ir

S.M. Hossein Khalili

Under Iran Sky Project
hkhalili@astro4edu.ir

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The IAU100 Special Project “Heritage of the Sky” sought to link night sky conservation and national heritage by inviting professional and amateur photographers to submit their astrophotos capturing natural, cultural and historical heritage. The contest provided a notable graphic collection of resources of the natural, historical and intangible heritage and allowed nightscape photography with official permission in all Iranian heritage sites. People in different locations, from different gender and cultural backgrounds submitted over 200 photos with informative storytelling from relevant sites. The award ceremony brought together astrophotographers, amateur astronomers and the tourism community to discuss how to empower the public with the tools and resources to help bring back the night sky.

Introduction

“Heritage of the Sky” is a project to raise public awareness of the beauty of dark skies, the impact of light pollution and make historical and natural heritage accessible through social media campaigns, citizen science and education and outreach projects. Our mission is to promote and safeguard natural, cultural, and historical astronomy and national heritage sites, including education, outreach and development through international cooperation in an online portal.

The sky is our common and universal heritage, and is an integral part of the surrounding environment perceived by humankind. This heritage is important for the recognition and safeguarding of cultural properties and of cultural or natural landscapes that transcribe the relationship between people and the sky¹.

“Over the Plateau of Iran” Photo Contest (Figure 1) was a highlight of the “Heritage of the Sky” project within the framework of the IAU100². The contest was open

to anyone of any age, from any natural, cultural, and historical astronomy heritage locations in Iran, and to both professional and amateur photographers anywhere in the world. Participants were required to take photos of astronomical and historical monuments or nightscape photography from dark sky national parks and to provide a detailed explanation — storytelling of the site — alongside each photo³.

“Over the Plateau of Iran” is a biennial contest and aims to identify, protect and preserve historical, natural and cultural resources and to represent the importance of the dark sky.

Under Iran Dark Sky: the Potential for Astrotourism Development

With its vast and pristine natural attractions, Iran has a great potential for the development of astronomical tourism in the Middle East, with a significant number of natural and historical heritage located at the heart of these landscapes.

Currently, the majority of Iran's population lives in metropolitan areas, and the

uncontrolled expansion of urban areas has led to the unrestricted growth of housing



Figure 1. The official poster of the Over the Plateau of Iran Night Sky Photo Contest. Credit: Saros Team/ Mahdi Abdollahi

and commercial development areas. Furthermore, this has led to an increase in light pollution in some metropolises and its suburbs.

Meanwhile, Iran has a variety of national parks and protected areas which many of them are located in dark skies places.

Some of the Iranian national parks, like Khar Turan, are great potential places for the country's first international dark-sky park. It can be a wonderful attraction for astro-tourists who can also enjoy wildlife safari at the national park, explore the culture and life of the local people in the villages and see desert landscapes.

The existence of Lut desert and Dasht-e Kavir at the central and south-eastern parts of Iran have made it the perfect and darkest place for observing the dark sky. Nevertheless, non-standard lights around these areas and cities are threatening the clear skies of these unspoiled nature regions.

“Over the Plateau of Iran” Photo Contest: Design and Implementation

The contest aimed to raise awareness about the night sky as the reflection of our distant past and a brief look at our forebears' heritage. Saros Team, the project organisers^{4,5}, writes: *“The moment you look at the night sky, remember that you are looking at the past. The concept of ‘past’ has become the subject to cling to for the rest of our study; We knew that a society which is a stranger to its past was forced to repeat it. We realized that a nation without a past did not have the data to analyse its future. Therefore, we have woven the subject of sky into the threads that have been inherited for us from the past. We are responsible for the past; in regards to knowing it, to make it known to others, and to keep it for future generations.”*

Concept Design

The idea behind the logo of “Heritage of the Sky” (Figure 2) was taken from three concepts: “Identity”, “Nature” (the Damavand Peak in particular) and “Star Trails in the Night Sky”. These three concepts contain the core message of the “Heritage of the Sky” project: our identity, drawn from the legacy of our ancestors' life

on Earth and that still remains, to this day, from a long distant past; our surroundings and the distant night sky lights, which are also a way to look back in time at our very origins.

Implementation

The “Over the Plateau of Iran” photo contest was designed and implemented around three main categories: “Night Sky and Natural Heritage”, “Night Sky and Historical Heritage”, and “Night Sky and Intangible Heritage”, with a sub-category on “Photo Narrative”. Additionally, all submissions should include, in addition to the night sky, a national historical and natural heritage in the photographed image.

Due to restrictions related to the protection of historical and natural sites, night sky photographers, both men and women, but especially young women, find it difficult to access these sites for nightscape photography. We collaborated with the Research Institute of Cultural Heritage and Tourism to acquire permission for nighttime access for photographers to all world heritage sites in Iran⁶. This allowed men and, in particular, women and young women (18 to 35 years old) to be able to stay on heritage sites after dark.

“Over the Plateau of Iran” photo contest received a total of 177 qualified works, with 95 photos under “Night Sky and Historical Heritage” category, 71 photos under “Night Sky and Natural Heritage” category and



Figure 2. Mount Damavand, the tallest mountain in Iran, was used as a symbol of Iran's natural heritage in the logo, official poster and the general visual identity of the Heritage in the Sky contest. Credit: Saros Team/Mahdi Abdollahi

11 photos under “Night Sky and Intangible Heritage”.

Most of the images were from diverse geographical areas (Figure 3), where some of the photographers spent days planning their trips. The presented works included sites that date back to ancient Iranian civilisation and that are symbols of its history and culture.

Panel of Jurors

The submitted works were judged in three categories according to the theme of the contest: natural, cultural and historical heritage. The panel of jurors consisted of twelve national and international experts in the field of photography, astrophotography and literature. The literary experts, some of the most well-known Iranian writers in the fields of tourism, fiction and literature, assessed the photo-narratives, providing considerations on the connection between the national heritage and the night sky captured in the photo.

Dissemination and Reach

A total of 84 images were posted on Instagram, with an average reach of 820 people and an average of 520 individuals visiting each post from different locations. Over a four-month social media campaign, more than 700 followers followed the project's Instagram⁷ page. With a demographics of 66% male and 34% female and with 56% between 25 to 34 years of age.

The final announcement and report of the project was announced and presented on Channel Four of the Iranian state television and published in national popular science and tourism magazines and well-known national newspapers. One of the awarded photos featured the cover image of the IAU 100th Anniversary Celebrations Final Report⁸.

The final statistics drawn from public impressions and engagement in different media and from contest reports in the media identified a reach of more than 90 000^{9,10}.

Collaborating with science writers, journalists, and graphic designers, we shared a series of supplementary content



Figure 3. a) Award winners' photos were taken from different locations by people of different genders and cultures. b) All winning and highly commended photographs were displayed at the Heritage of the Sky exhibition, which in 2019 took place at the National Museum of Iran. Credit: Heritage of the Sky Project

from the National Heritage Sites of Iran with photographers and the public. The online availability of content and the large feedback received from various media outlets has been remarkable. Producing multimedia content about the dark sky and the effects of light pollution, and disseminating it consistently through online educational campaigns over a long period of time had a crucial impact in informing the public about the importance of preserving the night sky.

Awards Ceremony and “Heritage of the Sky” Exhibition

The award ceremony took place in Tehran¹¹, gathering over 250 participants and was composed of some internationally renowned Iranian night sky photographers, internationally acclaimed by their work in astrophotography.

The winners of the 1st, 2nd and 3rd place, were awarded with monetary prizes and statues depicting the actual topography of Damavand Summit and the surrounding area. The statues were designed by Iranian graphist Mahdi Abdollahi.

The awarded and highly commended photos were also invited to participate in a week-long exhibition (Figure 3) showcased during the award ceremony hosted in Tehran, at the Islamic Era Museum of Iran.

The images were also published in well known printed and online media.

Challenges of the Night Sky Awareness and Equality in Iran

About 60% of Iran's amateur astronomers are female on average (*Tafreshi, 2011*), but they play a small role in promoting astronomy due to the prevailing social conditions in Iran. The traditional attitudes about the status and role of women are among the many obstacles that stand in the way of women and girls fully exercising their right to participate in, complete and benefit from education¹². Due to these difficult conditions for girls to visit natural and historical sites, most of which are dark, out of town and difficult to reach, they cannot easily photograph such places at night¹³. Subsequently, in this contest, girls submitted the fewest number of photos.

Future Plans

Given the feedback received during the contest and discussions with amateur astronomers and night sky photographers, as well as specialists and activists in the field of tourism and the environment, we are designing and implementing future programmes that take existing challenges and opportunities into account.

The long-term plans for the project include a comprehensive online portal with an

interactive map of the dark sky and Iran's national heritage; and multimedia educational resources on dark sky preservation and national heritage value for students, teachers, night sky event organisers and the general public¹⁴. In addition, and with the collaboration of enthusiastic photographers from diverse provinces of Iran, the next edition of the contest will also run training workshops for night sky photography alongside a photo exhibition with photos from previous editions, under the theme of light pollution, dark skies and astronomical heritage. This approach helps make quality astronomy education inclusive and equitable and peaceful interaction with nature awareness accessible to those interested, especially young girls.

Conclusion: Challenges Are Still Ahead

We are trying to expand the “Heritage of the Sky” into a “project without borders”. When we talk about Humanity's common past, and try to raise awareness to both the UNESCO's world heritage sites and the night sky, we are, in fact, taking steps towards connecting to our ancestors and learning of our common celestial origins¹⁵.

We strive to create diverse and targeted programmes in line with the sustainable development goals, including holding a

series of exhibitions on national heritage and night sky to showcase the rich and significant aspects of culture and heritage of the Earth.

Moreover, a newer and larger version of night sky photography contest will be presented and also world-class online media education campaigns will be offered. In these programmes, we will use the support of the IAU Office for Astronomy Outreach, the International Dark-Sky Association, and UNESCO's Astronomy and World Heritage Initiative to engage the majority of people from different geographies and cultures.

The most important challenge is creating a project that uses the dark sky to unify various astronomical organisations and amateur astronomy associations across the country, and use the meaning of this natural resource to promote collaboration between these groups of diverse geographic and cultural heritages. A network that can carry out more effective activities to preserve national heritage conservation and light pollution control with the capacity and expertise it possesses¹⁵.

Notes

¹ More information on Astronomy and World Heritage Thematic Initiative: <http://whc.unesco.org/en/astronomy/#portal>

² Webpage of the project on the IAU100 website: <https://www.iau-100.org/heritage-sky>

³ You can see this initiative on <http://skyheritage.com/> and see the photos of the event on Flickr: <https://www.flickr.com/photos/186589181@N02/albums>

⁴ Saros Science Popularization Team social media: @SarosTeam

⁵ Saros Science Popularization Team has entered its eighth year of science communication and astronomy for education and outreach in Iran. During this period, Saros has been working to increase the quality of education through organising science communication projects and actions throughout the country, and has been combining astronomy with communication and art to bring the scientific message to different publics.

⁶ List of World Heritage Sites in Iran: https://en.wikipedia.org/wiki/List_of_World_Heritage_Sites_in_Iran

⁷ Heritage of the Sky Project Instagram: <https://www.instagram.com/skyheritageproject/>

⁸ IAU 100th Anniversary Celebrations Final Report: <https://iau.org/news/announcements/detail/ann20019/>

⁹ Heritage of the Sky Project Facebook: <https://www.facebook.com/SkyHeritageProject/>

¹⁰ Heritage of the Sky Project Twitter: <https://twitter.com/SkyHeritage>

¹¹ All videos of the speakers in the award ceremony event are available on YouTube: <https://www.youtube.com/channel/UCFQnmLKQ2ZpFWQYKpusiH0g>

¹² UNESCO webpage on education and gender equality: <https://en.unesco.org/themes/education-and-gender-equality>

¹³ Sepideh documentary is about a girl who dreams of being an astronaut, but at her age the nightly stargazing excursions into the desert are a dangerous thorn in the side of family and traditions.

¹⁴ The website is in Farsi and we have been working on the English version. It will be available to the public with a complete listing of national astronomical monuments and dark skies sites of which there is no current enough information or resources available.

¹⁵ Online UNESCO–IAU Portal to the Heritage of Astronomy website: <https://www3.astronomicalheritage.net/>

¹⁶ All our attempts are to preserve the knowledge and experience of our ancestors, which are being forgotten, as intangible heritage and as a kind of collection and revival for future generations.

References

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Biographies

Saeed Jafari is a science communicator and a science journalist. He has completed his studies in linguistics at the University of Kurdistan. He serves as Director of Intl. and Science Communication in the Saros Science Popularization Team. For more than nine years, Saeed has led astronomy communication, outreach and education for many organisations and institutions, and currently researches public understanding of science in media, technology and society.

Amirreza Kamkar is a freelance night sky photographer and science journalist. His nightscape images have been published in some of the most well-known and respected popular science magazines, such as *Discover*, *Sky & Telescope*, *Astronomy*, *Astronomy Now* and *Sky at Night*.

Mehrsa Latani is keen on trying different things. She works as an electronic technician. While at university she was a volunteer teacher at a charity and an editorial board member of a university magazine. She leads advertising and public relations for the Saros Science Popularization Team.

Atabak Akson is the Managing Director of the Saros Science Popularization Team, where he is responsible for event management and coordinating education and outreach projects. He received a master's degree in entrepreneurship from the University of Tehran and currently is a community builder at the Zavi Coworking Space in Tehran.

Mahdi Abdollahi is Head of Graphic Design in the Saros Science Popularization Team and has designed the visual identity and fantastic posters for many projects and events. He has been working as a 3D animator.

Hamed Parsaeyan is a materials engineer and an amateur astronomer. He completed a master's degree in materials engineering from Tarbiat Modares University and is currently the social media manager of the Heritage of the Sky project. He was also a member of the Saros E-Magazine editorial board.

Hossein Khalili is an astronomy communicator and a science journalist. He graduated in physics and nuclear engineering. Hossein is a co-founder of the Under Iran Sky project, an open online astronomy education platform in Iran, and also the developer of several innovative projects that aim to involve the general public in active astronomy communication.