

# Iranian rangers having a tough time

## Social Desk

The news of rangers being martyred or injured in conflicts with illegal hunters is a recurring issue in Iran. This profession, mostly known to the public for such incidents and legal challenges related to gun use, carries with it deeper complexities.

A general overview of environmental protection in Iran reveals the true state of the country's environment. The fact that Golestan National Park, one of Iran's and the world's most significant wildlife habitats, is protected by only 17 or 18 rangers during both day and night highlights the fragile and precarious state of environmental protection contracts in Iran. This predicament also applies to job conditions within environmental protection — a field that hasn't received adequate recognition for its importance nor sufficient support considering the risks it faces.

Environmental protection in Iran poses numerous difficulties. Firstly, there are dangers faced by the employees on a daily basis.

Secondly, legal loopholes present significant challenges, while insufficient support exacerbates the already difficult circumstances. These factors contribute to making environmental protection an overlooked profession in Iran.

Qanbar Arab-Kalu is a veteran ranger who has been affected by cancer and negligence profoundly. Having served as a ranger at Golestan National Park for 30 years — also acting as its chief ranger — he is considered one of the park's invaluable assets. Unfortunately, just one month before retirement, he was diagnosed with stomach cancer.

For nearly two years now, this dedicated ranger has battled illness and endured expensive treatments without much assistance. According to his son's account, throughout this time period, he received

nothing more than a certificate of appreciation presented at a provincial event while he was severely ill. Apparently, no inquiries were made regarding his well-being during his extended hospitalizations in Tehran — except from other rangers or trainees who worked alongside him. It seems as if his contributions to Golestan National Park have been all but forgotten.

"This disregard demonstrates how little authorities value environmental protection and the significance of this profession," Arab-Kalu said. "It's not that I seek their attention or personal meetings, but it is these instances of neglect that have led to a decline in interest among new recruits to become rangers." "Now, apart from a few seasoned professionals, enthusiasm lacks among younger individuals who consider joining this field — a situation that pains me deeply.

Having been wounded both in the Iraqi-imposed war and through my work in environmental protection, it saddens me to witness the unfortunate state of the job I once loved."

Qanbar Arab-Kalu and other experienced rangers at Golestan National Park possess invaluable native expertise and local knowledge regarding one of Iran's largest and most important habitats. They are our national treasures whose potential contributions are being squandered through evident negligence.

Mehdi Teymuri, head of Golestan National Park, further explained the working and living conditions of rangers. "This profession inherently carries risks — from falling off mountains to snake bites and encounters with wild animals. However, we recognize that the greatest threat lies in conflicts with armed illegal smugglers who often pos-

sess better resources than our rangers — a serious peril to their lives," Teymuri said.

Another challenge hindering environmental protection efforts is the lack of facilities and personnel. While law enforcement officers can request assistance from nearby provinces during confrontations, rangers find themselves alone when faced with hunters in remote forest areas.

Legal challenges also contribute to making ranging a difficult job as it lacks comprehensive legal safeguards. For some time now, campaigns have been conducted annually to save rangers facing execution — an unfortunate consequence resulting from using firearms against armed illegal hunters in defense of both nature's well-being and

their own safety. The privileges granted to military forces or law enforcement agencies concerning gun use do not extend equally to rangers, exacerbating their already challenging circumstances.

With less than 3,000 rangers nationwide — 144 of which martyred following recent tragic incidents — the events surrounding rangers exemplify the legal vulnerabilities within this field. Moreover, they are often ill-equipped and lack proper weaponry and vehicles, while hunters possess an abundance of resources. Therefore, stronger laws must be implemented to address these disparities effectively. Although progress has been made compared to previous years, challenges persist.

## Scientists re-grow retinal cells in lab using nanotech

In efforts to tackle the leading cause of blindness in developed countries, researchers have recruited nanotechnology to help re-grow retinal cells.

Macular degeneration is a form of central vision loss, which has massive social, mobility, and mental consequences. It impacts hundreds of millions of people globally and is increasing in prevalence, according to Science Alert.

The degeneration is the consequence of damaged retinal pigment cells. Our bodies are unable to grow and replace these cells once they start dying, so scientists have been exploring alternative methods to replace them and the membrane within which they sit.

"In the past, scientists would grow cells on a flat surface, which is not biologically relevant," explains Anglia Ruskin University biochemist Barbara Pierscionek.

"Using these new techniques the cell line has been shown to thrive in the 3D environment provided by the scaffolds."

Nottingham Trent University biomedical scientist Biola Egbowon and colleagues fabricated these 3D scaffolds with polymer nanofibers and coated them with a steroid to reduce inflammation. Using a technique called electrospinning, which produces nanometer-wide fibers by squirting a molten polymer through a high-voltage field, the team was able to keep the scaffold sufficiently thin.

The polyacrylonitrile polymer they used provided mechanical strength, and Jeffamine polymer attracts water, essentially allowing the synthetic scaffold to act as a membrane.

The water-attracting ability of the material is what helps the cells bind to the scaffold and also encourages their growth, but when the effect is too strong, it's also been associated with cell death in previous research.

The team's new formulation seems to be just right, as the system increased the growth and longevity of the retinal lab cells and kept them viable for at least 150 days.

"This research has demonstrated, for the first time, that nanofiber scaffolds treated with the anti-inflammatory substance such as flucinolone acetonide can enhance the growth, differentiation, and functionality of retinal pigment epithelial cells," says Pierscionek.

Previous attempts have used collagen and cellulose to create a similar scaffold, but Egbowon and team believes their synthetic option will be easier to make compatible with our immune systems and simpler to modify.

The new study has demonstrated this method can keep the required single layer of retinal cells healthy, producing biomarkers that indicate they are functioning more naturally than what has been found when they grow on other mediums.



## Iran neighbors welcome country's high-tech drugs

### Social Desk

Iran's Ministry of Health deputy and head of the Food and Drug Administration highlighted that neighboring countries favor high-tech drugs produced in Iran.

"These countries welcome the import and consumption of such drugs," said Heydar Mohammadi, according to ISNA. He made these remarks during the opening ceremony of the Behestan Pharmaceutical's drug-medical innovation factory.

He emphasized that working in drug production is challenging, adding, "At the Food and Drug Administration, we see ourselves as advocates for producers. Our duty is to support them while facilitating production processes for our country's future."

He further announced that this newly opened complex will soon manufacture high-tech drugs, offering them to the people of Iran. These drugs have limited manufacturers worldwide,

making it a source of pride for Iran's contribution to the biological drug production industry. Referring to neighboring countries' acceptance of Iran's high-tech drugs, the Deputy Minister of Health stated that many biological products manufactured in Iran are consumed by these nations. This recognition places Iran in an excellent position when it comes to exporting biological products.

The announcement from the Food and Drug Administration emphasizes that when major importers within a country venture into domestic produc-

tion, positive outcomes arise due to their financial strength, expertise in currency supply and transfer logistics, as well as familiarity with administrative regulations.

Mohammadi assured that the Food and Drug Administration fully supports the producers. The organization aims to deliver high-quality products promptly for consumer access.

"It is hoped that we will soon witness this company's products entering markets swiftly while anticipating other drug productions joining this endeavor without delay," he said.



## Illegal grazing in Iran's Central Alborz Protected Area prevented

### Social Desk

The head of Tehran's Department of the Environment (DoE) announced that 5,000 illegal livestock were successfully prevented from entering the Central Alborz Protected Area.

Alireza Rahmati stated that agents of Tehran's DoE unit identified several herdsmen with approximately 5,000 livestock who planned to illegally enter the protected area, IRNA reported. They were successfully prevented from doing so and subsequently referred to judicial authorities for legal action.

He emphasized that illegal livestock grazing within protected areas is a major cause of habitat destruction and poses a serious threat to biodiversity, vegetation, and water and soil conservation.

He further added that since livestock grazing and cattle slaughter are prohibited by law in four environmental zones, violators will be reported to judicial authorities.

Regarding measures taken to prevent livestock entry into Alborz Province's protected areas, Rahmati highlighted that agents and rangers survey the areas round-the-clock. This vigilant presence has effectively stopped numerous herds from entering or leaving these protected regions while ensuring proper management.

The head of Tehran's DoE also discussed other consequences associated with unauthorized livestock grazing in these protected areas. Considering reduced rainfall and water shortages that Iran experienced in recent years — leading to predominantly detrimen-

tal effects on its plants and vegetation — indiscriminate grazing could bring irreparable risks to the ecosystem.

Rahmati stressed the importance of receiving assistance and support from villagers residing near these protected areas as well as cooperation from local councilors in controlling unauthorized entry by livestock herds.

"Monitoring efforts aimed at preventing such incursions into these environmentally significant regions should be accompanied by the wholehearted collaboration of locals with relevant environmental agencies," he said.

