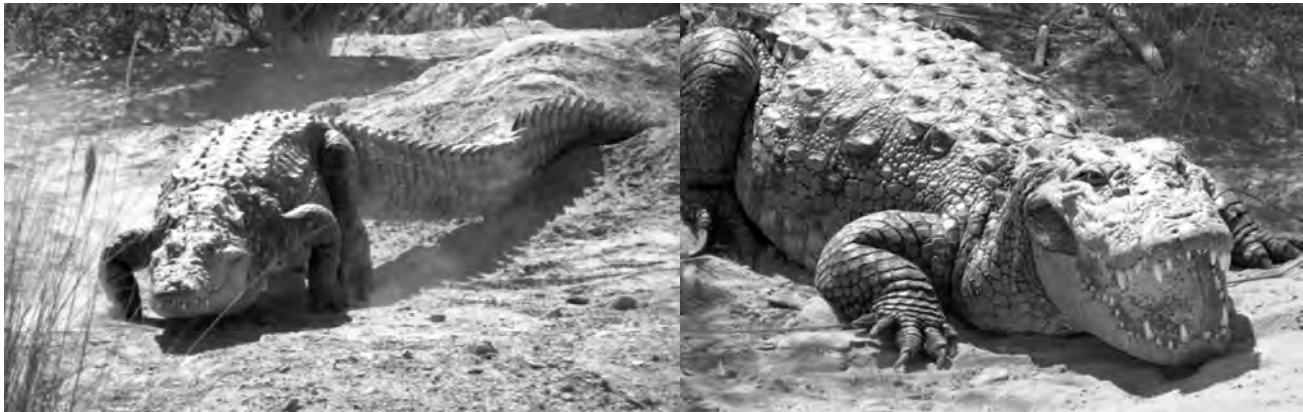


Large tanker lorries to reduce human-crocodile interactions in southeastern Iran



A Mugger *Crocodylus palustris* in Gandou Protected Area, Sistan & Baluchistan Province, southeastern Iran. © Mohammadreza Hosseyni.

The Mugger Crocodile *Crocodylus palustris* Lesson 1831 is a medium-sized species native to India, Iran, Nepal, Pakistan and Sri Lanka (Mobaraki et al. 2013), and classed as ‘Vulnerable’ (Choudhury & de Silva 2013). This species, however, is listed as ‘Endangered’ in Iran (Mobaraki 2015). Iran is the westernmost global range of the species distribution (Abtin 2012), and a small population (around 344 individuals in the wild) (Young Journalists Club 2019) occurs in the Bahukalat Protected Area (BPA) at Chabahar County (near Gwater at the Pakistani border) in the Sistan & Baluchistan Province (Firouz 2005; Mobaraki et al. 2013). Since the BPA is the only distribution area for the species in Iran, Iran’s Department of Environment (DoE) decided to change the name of the BPA to ‘Gandou Protected Area’ (GPA) on 12 September 1982 (Pars

Vista Adviser Engineers Technical Report 1995) as “gandou” is the local name for the Crocodiles (DoE Technical Report 2005). The GPA is 3,825km² (DoE Technical Report 2007), and contains rivers including the Bahukalat, Kaju and Sarbaz (DoE Technical Report 2005), lakes, marshes, reservoirs, irrigation canals and manmade ponds adjacent to villages (Mobaraki et al.2013).

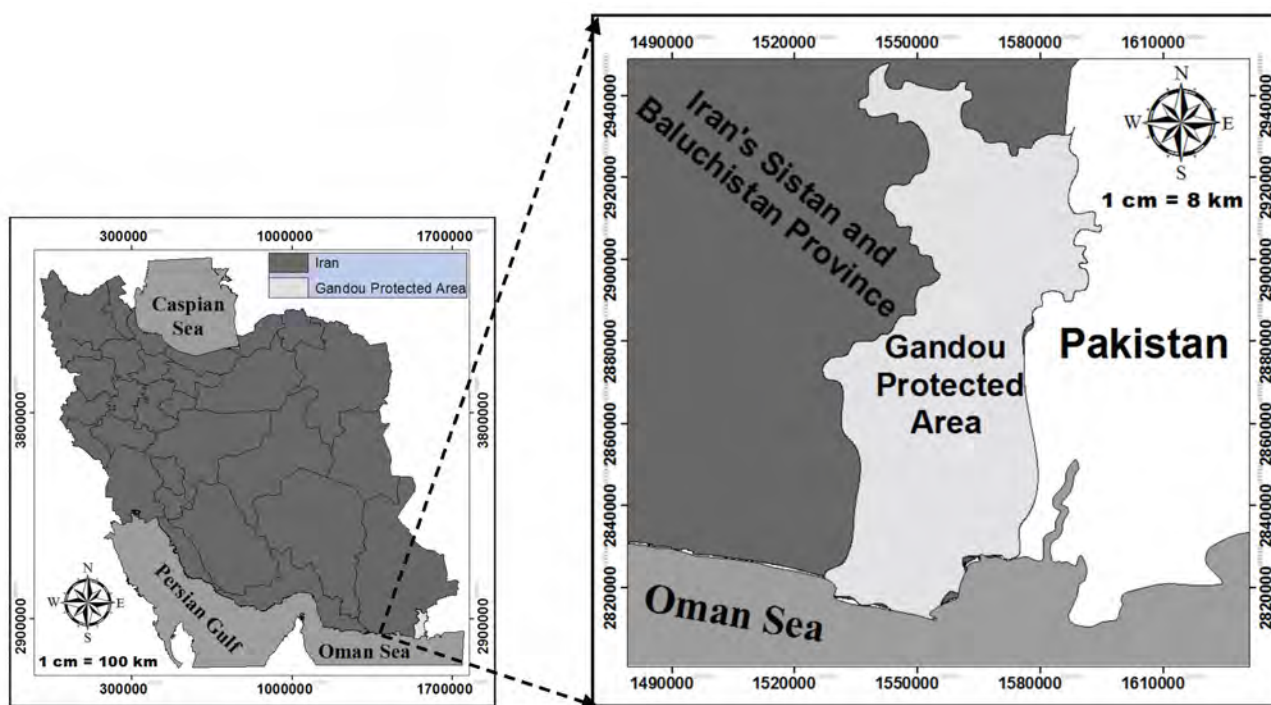
The Mugger is one of the least studied animal species in Iran. According to the DoE officials, prolonged drought has had a significant impact on its population (Hamshahri Online 2019) as Gandou’s distribution is completely dependent on water resources and water availability (Mobaraki 2015). Lack of rain, water shortage, prolonged drought and human population growth in southeastern Iran have caused the local people to overuse

the remaining water in the ponds for the purposes of daily use and agriculture activities, leading to the Mugger's habitat loss, degradation and destruction (Pars Vista Adviser Engineers Technical Report 1995), and also increasing human-mugger negative interactions that have resulted in loss of human lives (Iran Environment & Wildlife Watch 2016) and the amputation of human body parts (Mehr News Agency 2019).

Habitat loss, degradation and destruction make the Muggers leave drying ponds and migrate to other ponds (Mobaraki et al. 2013; Mobaraki 2015). The Gandou's powerful hind limbs enable it to tolerate its weight when travelling long distances across the land at night (Mobaraki 2015), and while resting in the shade during the day (DoE Technical Report, 2005). During their land trips, the Gandous are likely to

fall down deep holes from which they cannot climb up again, dying as a result.

The Muggers are mainly dependent on fish (Mobaraki 2015). There have been several official reports confirming the Muggers entering cities and villages in southeastern Iran to gain food (Iran Environment and Wildlife Watch 2013; Radio Farda 2019). It seems that all the above mentioned issues (i.e., lack of rain, water shortage, prolonged drought and human population growth) have caused lack of wild prey sufficiency which makes them attack the local communities' livestock to gain food and this certainly increases human-mugger interactions (DoE Technical Report 2005; Mobaraki 2015). The other problem that afflicts the Gandou population is collision with passing vehicles while crossing roads at night (DoE Technical Report



Gandou Protected Area, Sistan & Baluchistan Province, southeastern Iran (created by Jamshid Parchizadeh).



2005; Mobaraki 2015). Car collisions with Crocodiles in different stages of life and leading to their deaths have been recorded several times (Mobaraki & Abtin 2007). According to the DoE, around 8–10 Muggers are killed on roads annually but the media does not receive the news mainly because the GPA is located very far away in the country (Khabbaz 2015).

The Mugger is the only member of the order *Crocodylia* and also the largest reptile in Iran (DoE 2018). There is little reliable information on the Mugger in the GPA (Mobaraki et al. 2013). Lack of water is a very critical concern for the area (Mobaraki 2015).

I, therefore, recommend that the Iranian government, especially the DoE, provide the local people in the GPA with sufficient quantity of water in order to reduce human-mugger interactions and also to improve the status of the species. The best way to approach this issue is to use large tanker lorries that can transport water to faraway areas. In this way, the Mugger habitats which are completely dependent on water can be saved. I hope that the Iranian government takes steps before it is too late.

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