



Assessment of current Management plane of Asiatic Cheetah

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Abstract

Asiatic cheetah management has been active since 1997, during this period most studies have been performed on the biology and population size of this animal. However no direct studies of conflicts, values, attitudes, norms or behaviors have been conducted to assess the human dimension of the issue at hand. Considering the importance of Asiatic cheetah in Persian culture a couple of attempts have been given in inducing a more positive attitude in regard to cheetah conservation without consideration of low probability of change in attitudes. In this paper I argue that lack of incorporation of bottom up management has resulted in two major errors. First, the main stakeholders of cheetah conservation have not been identified and involved in preparation and incorporation of the management model. Second, lack of knowledge in the human dimension aspect of this issue has resulted in costly information campaigns that have been targeting the Iranian nation instead of stakeholders that are directly impacted by or impact cheetah populations. To better this management plane, ecosystem base, Science base adaptive management in the light of preliminary studies of attitudes and integration of bottom up governance/management is suggested.

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Introduction

Human dimension of wildlife management,

Human dimension of wildlife management has become one of the most prominent aspects of wildlife management. In fact wildlife management usually occurs because stakeholders (anyone who is affected by or affects wildlife) express a need for interventions that would eliminate undesirable situation and induce a positive impact (Decker et al., 1998). To eliminate chances of inducing unwanted collateral/subsequent impacts, it is imperative to have systematic and rigorous science of stakeholders, how they value wildlife along with biological studies.

Human dimension in conservation of Asiatic cheetah (*Acinonyx jubatus ssp. Venaticus*) has been constantly overlooked due to the general governance system of Iran which is the country that concludes the last population of this animal. For an effective and successful management which would lead to required impacts, at least three major components need to be present.

First, presence of institutional aspects such as laws, policies and implementation of them. Second, Understanding of the biology and ecology of the target animal and the associated ecosystem and lastly, understanding of sociocultural factors such as Values, attitudes, behaviors and so on (figure 1). As so, this paper aims to investigate the current governance system, involved stakeholders and socio-cultural factors to evaluate the current management plane.

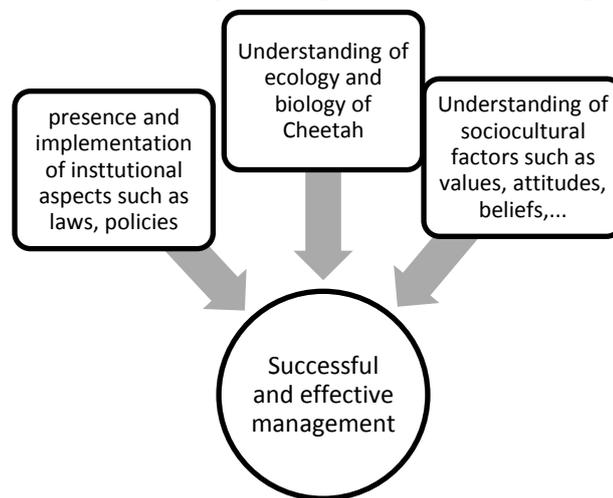


Figure 1: Three major elements required for a successful and effective management (Decker et al., 2012).

Asiatic Cheetah,

Asiatic cheetah (*Acinonyx jubatus venaticus*) once had a distribution that extended across Middle East, Central Asia and north into Kazakhstan and south to India. The animal has been nearly wiped out across the main range except in the Iranian plateau. There have been no sightings in Afghanistan since 1950 (Habibi 2003) and a 2001 survey in Pakistan found no sign of the animal (Mallon 2007). Cheetahs used to move between Iran and Turkmenistan however, introduction of boarder fence has eliminated this movement (Mallon 2007). Excessive hunting, habitat degradation and scarcity of prey are considered the major factors that lead to near extinction of the cheetah (Jowkar et al., 2008). Asiatic cheetah is smaller than their African cousins with shorter legs and thicker, more powerful necks. Until 2009 it was believed that the Asiatic cheetah has been separated from the original African population in about 5000 years ago. Later genetic studies however concluded that the Asiatic cheetah has

a significant genetic difference suggestive of separation from the original population between 34000 to 64000 years ago (Charrau et al., 2011).

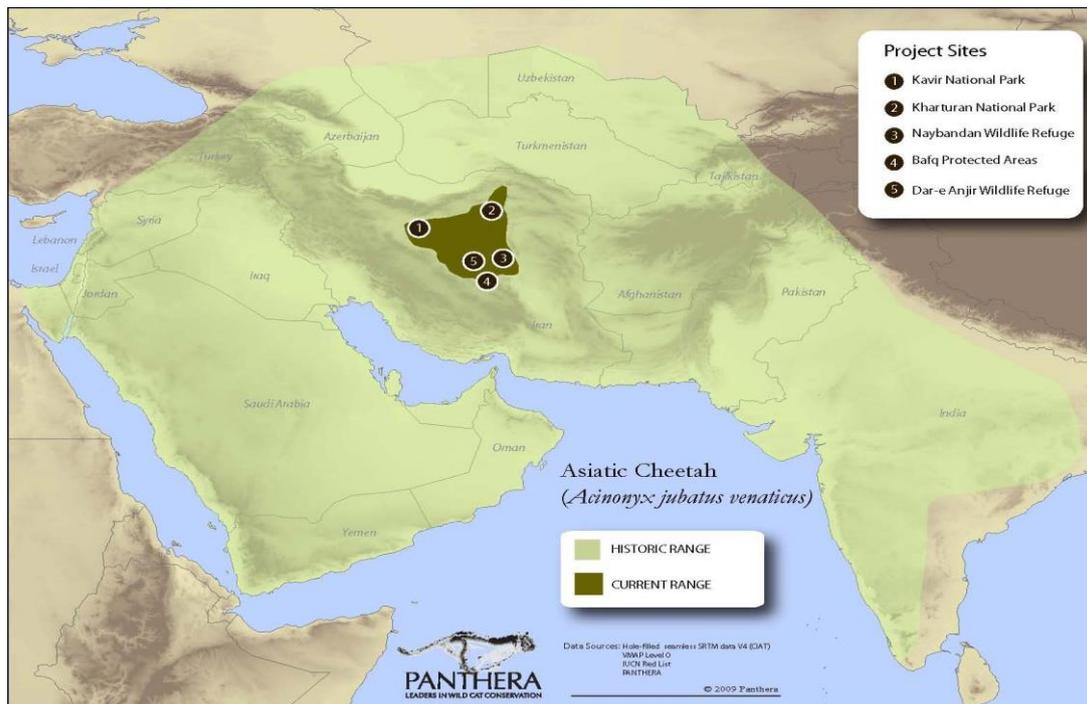


Figure 2: Historical range of Asiatic Cheetah (shown in light green) and the current range (dark green), along with current target sites for conservation of cheetah.

History and Culture

In Persian culture, large cats are the symbol of power and royalty. They were used in stamps and carvings since 3000 years ago and even now, they are still popular. Lion and sun is one of the main emblems of Iran which was used throughout Persian history and later on became a part of Persian identity standing for Power, freedom and nationality. After sudden extinction of Asiatic lion and with conservation attempts failing to save tigers, Cheetah

became to attention of the nation. Cheetah is traditionally less depicted in historical Persian culture (Lydekker R.A. 1894). This however was simply because most depictions were of the perceived strongest animal (lion) and cheetah being the only large animal that can be tamed was used by Persia's kings and later, general public, as hunting pets so much like nowadays hunting dogs. This all meant that some of the strongest conservation acts of Iran were formed during pre-Islamic governments based on Persian identity. This might be one of the main reasons that cheetah's are still present in Iran. However, after Iranian revolution in 1957 all the conservation acts were abandoned in favor of future and better legislation which



Figure 3: a symbol in Zoroastrian for Nowruz— eternally fighting bull (personifying the moon), and a lion (personifying the Sun) representing the Spring. Sculpture from 330BC

unfortunately did not happen. Extensive poaching of cheetah and their prey species, led to widespread decrease in population reducing it to about 40 individuals by 1998(Wagner H ,2008).

Current management Model,

The Iranian law system is based on top down governance with president as the head of the government whom decides on the budget of each subsequent organization with acceptance of congress. National Consultative Assembly (NCA) is responsible for individual legislations and subsequent control of it. Environmental Protection Agency (EPA) receives a yearly budget and as a governmental organization is responsible for dividing the budget for different environmental and wildlife conservation or restoration. Smaller county representatives of EPA are present in each county which themselves manage the forthcoming issues in the direction of national legislations. These county administrators are responsible for portraying the current issues at their county to the environmental agency which collaborates with them in assessing and finding the most useful decision. Lack of input from smaller organizations, non-governmental organizations and especially local residents indicates the top-down governance of this system (Abrahamian 2008).

Iranian Conservation Model,

The Iranian Conservation Model consists of regulations which have been developed for the Iranian conditions of wildlife and habitat alongside cultural necessities. Following items are suggested as the main characteristics of this model.

- Species based conservation
- Based on industrial assessments of environment
- According to species of concern habitat conservation is considered
- Finances are provided by government
- Each county has the right to manage the area at hand under nations regulations
- NGOs and citizens are not involved in decision making
- Special law enforcements are present (limited power)

With respect to Cheetah, the governance is decentralized with input from UNDP, Panthera, IUCN specialist group and Cheetah conservation trust. Co-management is usually sought after to gain public support and advocacy for conservation efforts (Decker et al., 1996). In this case however, all these stakeholders worked together and identified a two phase conservation plan which EPA agreed to implement. UNDP also supports the project by investing 530,000\$ per year in Cheetah conservation(UNDP report 2010). Wildlife Conservation Society, Panthera, Cheetah Conservation Fund and IUCN's Cat Specialist Group in the other hand has been a more hands on partner in this co-management by implementing population counts. However the devised conservation plan was a result of collaboration of all these groups. While the top-down governance is not the most effective

method for management, the highly successful co-management practice is a good representative of benefits of this management model.

Phase I of cheetah conservation, started by 2001 and included mostly biological studies including population counts and also further increase in awareness in society. Also five areas were suggested for conservation which was agreed upon by government. This phase of the program ended in 2008 (UNDP report 2010).

Current actions in cheetah conservation (Phase II)

According to UNDP report published in 2010, phase II of conservation is aiming at the broader perspective in management. 6 main components can be identified in this phase.

Species management: This is aimed to manage harvest of cheetahs prey species. Trade management has been highly focused to eliminate chances of direct trade of fur.

Land/water management: With consideration of extensive water loss and low chance of long term retrieval of natural water sources, small water pounds are designed which are regularly field with water. Habitat restoration is also underway by eliminating human base disturbances using fences and locals intervention.

Law and policy, International, national and subnational level legislations have been provided which provide better enforcement of current legislations. This includes suggestion of 5 new conservation areas which are under government's investigation.

Livelihood, economic and other incentives: Support for national resources of Iran is directly provided by government. No direct or indirect source of income has been assessed for management which limits the activities of conservation society but the project is supported by UNDP. Licensed hunting of other species is another option which is under investigation.

Education and awareness: This aspect of management appears to have received a considerable level of attention. It is important to note that Iranian society has become highly urbanized and due to low interaction level of people with cheetah there was a general lack of awareness in regards to presence and conservation state of cheetah. This meant a very weak attitude in general Iranian society in regard to cheetah. To compensate for this, EPA decided to connect cheetah with Iranian national football team which in Iran has a strong attitude attached to it. To do so,



Figure 4: Iran's National football team jersey with cheetah depicted on it.

cheetah's logo was printed on the national team's shirts and the team was constantly called the Iranian Cheetahs in media. This attachment of a weak attitude to nation's strong attitude of national football team produced a very strong attitude.

Currently involved stakeholders, United Nations Development Program (UNDP)

United Nations Development Program appears to provide the main support for protection of Cheetah. UNDP is the embedded trustee for all organization and as so has become a major source for management discussion and decision making processes which are then presented to government by EPA.

Iran's department of environmental protection agency

Wildlife is not owned by anyone in Iran. As so, EPA is the trustee of the nation for protection and sustainable use of wildlife. EPA also has the highest level of authority and is in charge of guiding the council toward better and more sustainable environment. In case of cheetah, EPA is the sole decision making organization with no direct need for National council's approval.

Research teams/Universities

As a part of second Phase of UNDP program, many universities have become further involved in the conservation program with focus being on sociology, environmental and technological aspects of conservation. Considering that UNDP is providing a considerable amount of finances for this specific conservation, it is a surprise that no individual study of Cheetah has been performed. My direct contact with the conservation group was welcomed with full financial support for population/human dimension assessment of cheetahs.

NGOs

Various NGOs have become extensively involved with Cheetah conservation. Asiatic cheetah conservation trust, Wildlife Conservation Society, Panthera, Cheetah Conservation Fund are the most prominent of these NGOs. These NGOs are providing scientific knowledge to managers but the input of these groups will not necessarily be used in decision making process. This said, many of these conservation groups are involved on their own and are mainly supported by different funding's provided for conservation of animals in developing countries.

Literature review of management practice

To better understand the type of studies performed on Cheetah, a pool of all published papers of Asiatic Cheetah were gathered and investigated to identify the type of subject that they address. Subjects were categorized into Biology, General assessment of situation and human dimension. Interestingly, none of the published studies were directly aiming at the human dimension of the issue. However, three reports were present that involved media and the football teams jersey. Most studies performed were of population dynamics with major focus on total population size and genetic diversity (3 studies). Some assessments were also present that were mostly provided by UNDP or EPA (3 in total). I was only able to find one study (unpublished) which also includes human dimension. In this study which is governed by

Panthera and EPA, direct interview with some of the locals has been used to identify their attitude toward Cheetah which provided surprising results. None of the locals whom were interviewed appear to have any negative attitudes toward cheetah, this study also concludes that cheetahs have so far attacked sheep herders very few times and are responsible for a total of 2 sheep per year in that area (from total herd size of 16000)(Panthera Report 2009).

Assessment of current management practice,

Conservation of Asiatic cheetah was considered to be highly successful until later studies suggested that the original population size was in fact bigger than 24 individuals. With a management plane that is organized and managed by science base management. It is highly valuable to investigate why this management model is dysfunctional.

Conflict identification,

Conflict between locals and conservation enforcers

Conservation enforcers have been traditionally used in Iran. While these enforcement officers are usually selected from locals, they have been forced to enforce governance rules that have changed constantly in the last 3 decades. This has caused a lack of trust between enforcement officers and locals. Also, the officers are the only representatives of government that locals are in touch with. This, along with lack of involvement of these stakeholders in decision making means that the basic values such as freedom, Social recognition and self-respect is highly threatened.

Conflict between stakeholders,

UNDP is actively supporting the Iranian conservation society and NGOs in their conservation act. UNDP along with multitude of research groups have provided an extensive and comprehensive program for cheetah conservation. While UNDP website is suggestive of great progress, the actual result of these studies appears to be unpublished or not present. Apparently, all previous stakeholders were far more interested in biological studies of cheetah and now that is time for human dimension, none of the organizations is accepting the challenge of this type of studies.

Lack of Public engagement

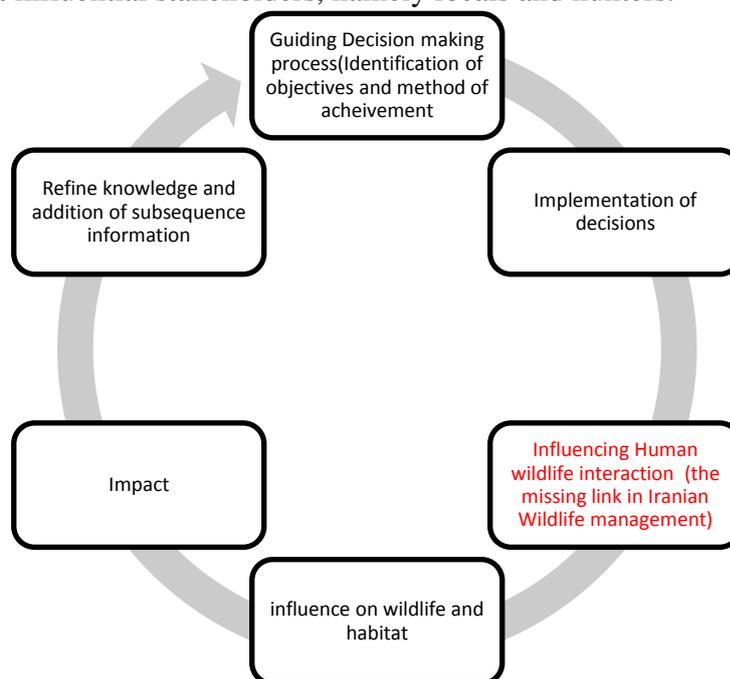
So far there have not been any studies to investigate nation's attitude toward preservation of cheetah. Iran has become extensively urbanized with majority of people having no contact with the environment. This is relatively positive for wildlife because people have gradually moved out of animal's habitats but it also means that the newer generations have never had any direct experience with nature and have a relatively weak attitude in regard to its conservation. This coupled with lack of possibilities for citizen's participation in decision making means that while people appear to be supporting the cheetah conservation, they have a weak attitude which results in absence of any specific behaviors. It has to be noted that this all have never been directly tested and the actual behavior or attitudes might be very different from expectation.

Attitudes and behaviors,

The information campaign with national teams jersey depicting cheetah was successful but unfortunately it was aimed at the wrong set of stakeholders. The general Iranian population did not have any behavior (due to lack of contact) in regard to cheetah, so even if the campaign could change attitude, it could not have possibly induce a behavior or change the non-existing behavior. The latest report of Iranian wildlife society did not find enough/reasonable support from Iranian nation in form of donations or volunteer works. Iranian Conservation society, has given a considerable level of attention to education of local youths of the area, hoping to guide them to have a more positive attitude. However, the efforts are not well organized and I was not able to find any type of studies of the local's current attitudes.

Lack of participation by significant stakeholders

In the current system of management, none of the main stakeholders whom have a significant effect on cheetah has been involved in decision making process. While a great deal of attention has been given to the nation's attitude toward cheetah, no effort has been put to engage the most influential stakeholders, namely locals and hunters.



Legal system flexibility toward bottom up approach

Iranian legal system is fairly open to cooperation and the co-management practice in cheetah conservation is also a sign of the willingness of the system in achieving positive impacts.

This flexibility and involvement of multiple systems however is producing an unorganized chaos in efforts. As an example the finances of this project are being spent on substitute projects which have no direct or indirect bearing on the cheetah conservation front. A great deal of effort is put on camera traps and follow ups on known cheetah individuals while the main idea of the second phase of the project was to incorporate and investigate human dimension issues at hand. With all these considered, the Iranian legal system is extremely resistant against direct involvement of individuals in decision making process.

Is cheetah situation a wicked problem?

Somehow the Cheetah situation in Iran is being more and more considered as a wicked problem with majority of NGOs and scientists stepping away from it. This is partly because it is becoming a too much of a hot topic to work with! But it is hard to imagine why Cheetah situation can be put in wicked problems category. There is a general agreement amongst stakeholder, the system is not complex and solution to it is at hand. Furthermore there are no negative attitudes attached to cheetah conservation. As so, I would suggest that this is not a wicked problem.

Suggestions for better management practice

In short: Ecosystem base, Science base adaptive management in the light of preliminary studies of attitudes and integration of bottom up governance/management. This however is impossible to achieve at once. As so, it is suggested to continue with the current specie based management while following steps are incorporated,

Further human dimension studies of the nation's attitude and behavior in regard to cheetah, providing better possibilities for strategic engagement of politicians in these processes. Also, detailed assessment of attitudes, norms, behaviors and conflicts of local residents and cheetah. This would bring about better understanding of required management planes which incorporate local stakeholders as a part of decision making and also implementation of the project. For this step it is suggested to start group open ended interviews with locals and then meetings between the local's representative and the county's EPA manager. Iranian legal system does allow for participation of stakeholders in the counties management procedure, as so, I would suggest meetings with locals and other stakeholders for decision making process.

Hunter association has to be organized that would initiate, shooting education programs, license handling initiatives and other services to attract current hunters. In the second step the association can be in direct contact with EPA for future quota hunting planes, involvement of hunters in elimination of illegal hunting and so on.

EPA has to take charge of the whole process with firmer grasp, meaning that they would be the leader/moderator of the co-management program. This would decrease the current confusion and increase scientific output and positive impacts.

Adaptive management is suggested to be implemented instead of the current double phase program. This along with yearly milestones that are in line with the original second phase program would provide better communication opportunities and reduce the lack of trust of NGO's in regard to finances. The adaptive management would also benefit the main projects since multitude of involved factors would change in the distance of current 8 year programs and the management team can have better chance of adapting to the situation.

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