

Technology Challenge to develop Low cost Wild animal Tracking Technology

The state of Gujarat is increasingly witnessing Human animal interface issues. The Forest Department becomes anxious whenever such issues happen and finds increasingly hectic and difficult to deal such scenarios in present socio-political, media and sentiment driven environment. Apart from the administrative, legal and emotive issues, there is important element of animal behavior that is involved in dealing with the conflict. The accurate information about animal location and resultant analysis of behavior provides us important tool to educate, inform and mitigate crisis situation that may arise due Human animal interface.

1. The State of Gujarat faces Human Animal interface with carnivores as well as herbivores. However, The interface calls for emergency response with large carnivores especially Leopard, Sloth Bear, Crocodile and occasionally Lion and society expects Forest Department to respond to it.
2. Where as, it is easy to track and keep a watch on movement of lion, the animals like leopard, Sloth bear and Crocodile to certain extent are difficult to monitor with existing observation based skills. The observation based skills are must and are the most necessary when dealing with such situation, an technology based support can enhance it even more. The current technologies being used by Forest Department bases on Radio Collar with satellite communication, E-eye are quite expensive and have limited applicability.
3. Therefore, a low cost solution is being thought of to track Animals. As the Leopard-Human interface calls for maximum emergency response including that of loss of life and serious injury a **“Technology Challenge”** is being thrown by Forest Department for **‘Developing low cost technology to track designated Leopards for long duration’**.

4. The broad parameters of technological solution should be as under,
 - a. The tracking device should not weigh more than 500 gms with all necessary accessories.
 - b. The tracking device should work for 3 years.
 - c. The tracking device should also record animal-id, time and date, Location, Temperature and movement data of Animal.
 - d. The tracking device should not be injurious to wild life.
 - e. The embedded firmware should have provision of variable GPS Polling (possibility of trade off with battery power)
 - f. The signal discovery and local cache should be maintained.
 - g. Gaps in coverage is to be addressed by Bayesian logic in analytical Model.
 - h. Power source may innovatively provide to maximize life and reduce weight.
 - i. The Conflict areas are generally close to human habitation also have Mobile network. In emergency situations the possibility of tracking animal at much faster frequency should be possible.
 - j. Data base server to run the application/UI should be provided. The Archiving solution, Hot backup RAID Volume, Application Design, Geo-fencing and other features, Security firewall to be provided.
 - k. The User analytics standard output can be of Time line of individual animal, Population timeline/ GIS spread.
5. The above parameters are spelt keeping in view GSM based Collar. The innovators are not required to be limited by this communication network only. If they are able to meet the parameters with some other technology at Low cost then those solutions are also welcome.
6. The Prototype or Proof of Concept may be provided before 15.06.2019 and submitted to Chief Conservator of Forests, Wildlife, Junagadh with details and sample.

Address :

Chief Conservator of Forests, Wildlife, Junagadh
Sardarbaug, Junagadh.

Email: cf.wl.jun@gmail.com; dcf.gir.taskforce@gmail.com.

7. The Field testing of Sample will be done and once the solution is found suitable then will be recommended for future use in whole of Gujarat. The requirement may be up to 50-100 Collars per year.
8. More clarification may be sought through email on dcf.gir.taskforce@gmail.com.
9. The final procurement will be done through Gem Portal.
10. The Submission of proposal/ Sample, Development and Testing and demonstration will be borne by the proponent only. The Gujarat Forest Department will not bear any cost what so ever. The loss of product sample during field will not be compensated in anyway by Forest Department.
11. The Gujarat Forest Department will not be bound to purchase the item at any stage.
12. Interested person may submit the details of product and information as provided in Annexure - I.

Annexure I

1. Name of proponent:
2. Address :
3. Contact Person:
4. Cost of Product : (INR)
5. Annual recurring cost per year for three years:
6. Brief Description of Product.

7. Important Parameters Details

8. Ready for demonstration on scheduled date?

9. Capability to provide required no in time?