Project Update: February 2019

Summary
We aimed to investigate the differences in reptile communities between natural forest and farmed areas and estimate their abundance in farmlands with different farming practices (manual labour and mechanised farming). Fieldwork was conducted over a period of 7 months (March–September 2018). Reptiles were trapped twice during late spring and summer (before and after harvesting) with each survey being 10 days in length. A total of 400 traps were installed across eight different landscapes with five sites each. A total of 128 reptiles from 10 species of squamates were collected including snakes (two), geckos (two), dragons (one), skinks (three), lactertid (one) and goanna (one). Non-target animals, including 1616 anurans and 139 rodents, were also caught in the traps. Targeted trapping nights could not be achieved at the selected sites, as the traps were stolen by the local nomads in both sessions.

Calotes versicolor was also tracked by radio telemetry to observe the use of different habitat elements by this species in agriculture landscape and their importance as means of connectivity and shelter sites. First session of radio-tracking was conducted in May 2018 with five lizards captured initially. This session aimed to provide training on radio-tracking by Australian Research Fellow Dr Tim Doherty (Co-Investigator) to young Pakistani researchers in the field. Second session began in June 2018 where a total of 32 lizards were tracked till September 2018. Movement was observed across all selected sites in both forest and agriculture.

Publications
Two academic publications are underway that will soon be submitted to a conservation and ecology journal. As we are currently working on the data analysis, a paper focusing on the 'Effect of agricultural management practices on the abundance and conservation of reptiles in Chakwal, Pakistan' will involve all the trapping data and another research article focusing on 'Reptile movement in agriculture landscapes: an analysis of home range and habitat use by *Calotes versicolor*' will soon be submitted to leading ecology journals.

However, preliminary results are shared a few local conference in Australia (details and links mentioned below).

1) **CIE Annual Conference**- 12th October 2018. Deakin Downtown, Melbourne.
   Centre of Integrative Ecology, School of Life and Environmental Sciences, Faculty of Science Engineering and Build Environment, Deakin University, Melbourne Australia.

   https://cie-deakin.com/2018/08/13/cie-annual-conference-12th-october-2018/
2) **ASH 2018**- 10-13 December, 2018. Kindilan, Redland Bay, south-eastern Queensland
   Joint Meeting of the Australia Society of Herpetologists (ASH) and Society for Research on Amphibians and Reptiles in New Zealand (SRARNZ)

https://static1.squarespace.com/static/5448a9abe4b0ad6dc5e6fe6d/t/5bff6c9f03ce64a53af2940b/1543466154632/ASH-SRARNZ-2018-abstracts.pdf

3) **VicBio 2019**- 7th - 8th February 2019. University of Melbourne, Parkville.
Victorian Biodiversity Conference offers a platform to early-career researchers to share their research from a diverse range of Victorian institutions, Australia.
https://www.vicbiocon.com/program

As results are still under analysis, once completed details of the publications will be shared with Rufford Foundation soon which will then be available to be shared publicly. However, only media assets shall be shared at this stage.

Rufford has always been acknowledged at all the platforms, Rufford Foundation logo is always displayed in the presentations.

Contribution of the project for social and professional development

Awareness workshops in partnership with WWF Pakistan were held twice in the beginning and towards the end of the project. We aimed to provide recommendations to farmers on how to reduce the negative impact of agriculture on reptiles. These workshops appeared to be helpful in raising awareness amongst the farmers about 'wildlife friendly agriculture' and build their sense of place for the role of reptiles in ecosystem services. The first workshop attracted the small farmers from different villages of the district. Local farmers were briefed about the aims of the project and the resulting future benefits. Guest speakers were invited from local collaborators; WWF Pakistan and PMAS Arid Agriculture University, Rawalpindi. All the talks were communicated in local language and local print media was invited to cover the event. Besides this outreach no other media coverage was approached. Another workshop was held in a local Government school in District Chakwal in order to attract an audience of young school children, who are deprived of the knowledge on the importance of reptile's survival in the ecosystem. Students showed keen interest in knowing about the research which was novel for the people of these remote areas. The pictorial presentation attracted the attention of the audience and young students seemed fascinated rather than fearful about the reptiles. A number of lizards and snakes are killed by the local villagers for being venomous in nature, these awareness talks helped in clarifying the myths about various valuable reptile species.

Pakistan being a developing country is struggling with the use of advanced research techniques in ecological studies. This research opened doors for young researchers to learn different field techniques including experimental design, trapping and radio tracking of reptiles. Young ecology students from different institutes volunteered in the field where they were trained on designing the research techniques and methods, handling and trapping reptiles and radio tracking of *Calotes versicolor*. Seminars were held at collaborating institutes for the visiting research fellows from Australia, who shared their work with the young scientists of Pakistan.

Articles

Field activity held at Margalla Hills National Park

Patriot Report

ISLAMABAD: To further the recently established collaboration between department of Wildlife Management, Faculty of Forestry, Range Management and Wildlife, PMAS-Arid Agriculture University Rawalpindi and Centre for Integrative Ecology, Deakin University, Melbourne, Australia, a one day field activity was organized at Margalla Hills National Park, Islamabad recently.

The event included a comprehensive talk of Dr. Tim Doherty, Post-doc research fellow, Deakin University, Melbourne, Australia. He presented a global overview of reptile diversity and conservation, and eloquently described the need to conduct research on reptiles. The group of tetrapod animals-reptiles- constitutes second highest number of known species (birds being the first). Unfortunately, 1 out 5 reptile species is data deficient and 223 of the 1500 assessed reptiles are threatened with extinction.

Mr. Sakhawat Ali and Mr. Shafique Ahmed, Assistant Director, Islamabad Wildlife Management Board, explained purpose, constitution, organization, functions and achievements of the board. The event was attended by over 60 students from department of Wildlife Management and Forestry, PMAS-AAUR. The students carried out various activities such as bird watching, invertebrate survey and pug mark survey. Miss Sara Balouch, PhD Scholar, Deakin University, Melbourne, Australia, distributed souvenirs to the volunteers, faculty members and IWMB employees.

Deakin University Australia organizes national awareness seminar for school children

Specoal Report

CHAKWAL: Centre of Integrative Ecology Deakin University Australia organized a national awareness seminar for school children on 'Reptiles conservation' in Government Secondary School for Boys, Daleel Pur, Chakwal. The event engendered awareness about the significant roles of reptiles in stability and maintenance of ecosystem. The seminar was organized as part of a Ph.D. based project led by Ms. Sara Balouch, which was launched in villages across District Chakwal aiming to assess the impact of agriculture on assemblages of reptiles (funded by National Geographic Society and Rufford Small Grant for Nature). Ms. Sara presented the role of different lizards and snakes across the villages of Chakwal.

She briefed the students about benefits of various lizards in different ecosystems. The participants were briefed about the objectives of the project and how local community will be benefited through the results of the study.

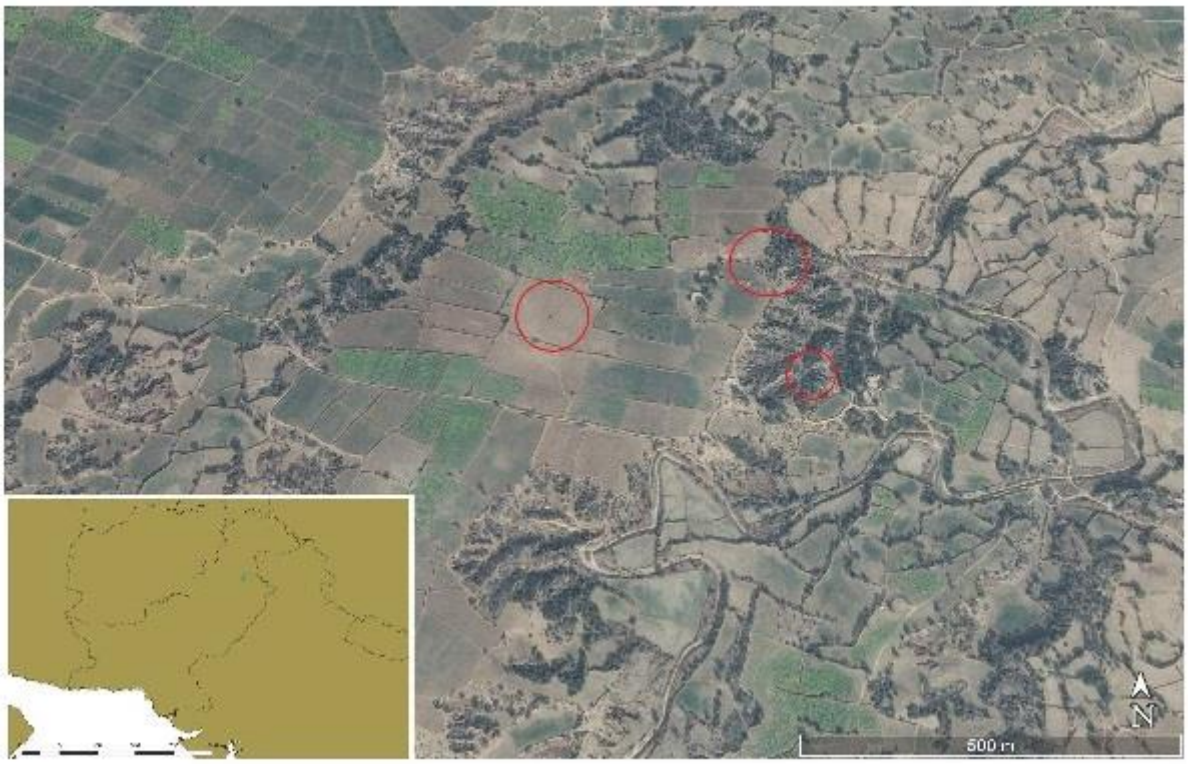
The students actively participated in the seminar and were astonished to see the photographs and videos of different reptile species which were observed during the project period.

National awareness seminar on 'Wildlife Friendly Agriculture

RAWALPINDI: Centre of Integrative Ecology Deakin University Australia organized a national awareness seminar on 'Wildlife Friendly Agriculture' in Dhata Kot, Choa Sedan Shah, Pakistan. The event was organized in collaboration with World Wide Fund for Nature Pakistan, Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi and Punjab Wildlife Department. The event engendered awareness about the significant roles of reptiles in stability and maintenance of ecosystem.

The seminar was organized as part of a Ph.D. based project led by Ms. Sara Balouch, which is recently launched in villages across District Chakwal aiming to assess the impact of agriculture on assemblages of reptiles. Muhammad Waseem, Conservation coordinator, WWF, presented the role of different lizards and snakes across the villages of Chakwal. He briefed the local farmers about benefits of various lizards as major pest controllers in agricultural ecosystems. Rana Shahbaz, Deputy Director, Wildlife Department, Chakwal, appreciated the efforts being performed on the project and offered his support to promote the work in far-flung areas of district Chakwal. Raja Muhammad Zulfiqar, Chairman, Union Council, Dalwal recognized the efforts of the team behind the project and offered his services to promote these public education campaigns. Aamir Naseer, assistant curator Wildlife Department and Syed Ali Hussnain Mosvi from PMAS- Arid Agriculture University, Rawalpindi briefed the participants about the objectives of the project and how local community will be benefited through the results of the study.

Map



Pictures


جنگلی حیات
دوستانہ زراعت
08 07 2018


جنگلی حیات
دوستانہ زراعت
08 07 2018


جنگلی حیات
دوستانہ زراعت


BD

Common name	Species Latin name	Total
Rodents		
Lesser bandicoot rat	*Bandicoota bengalensis*	2
House mouse	*Mus musculus*	71
Asian house shrew	*Suncus murinus*	66
Anurans		
Indus valley toad	*Duttaphrynus stomaticus*	1178
Cricket Frog	*Fejervarya syhadrensis*	179
Ant Frog	*Microhyla ornata*	183
Burrowing Frog	*Sphaerotheca breviceps*	76
Reptiles		
Common Tree Lizard	*Calotes versicolor*	1
Fat- tail Gecko	*Eublepharis macularius*	11
Asian snake-eyed skink	*Ablepharus pannonicus*	27
Alpine Punjab skink	*Eurylepis taeniolatus*	15
Spotted Barn Gecko	*Hemidactylus brookii*	17
Rugose Spectacled Lacerta	*Ophisops jerdonii*	14
Striped Grass Skink	*Eutropis dissimilis*	31
Bengal Monitor Lizard	*Varanus bengalensis*	2
Brahminy Blind Snake	*Ramphotyphlops braminus*	9
Saw-scaled Viper	*Echis carinatus*	1