



Darwin Initiative: Half Year Report

(due 31 October 2014)

Project Ref No 19024

Project Title: Enhancing the relationship between people and pollinators in East India

Country(ies): India

Lead Organisation: Game and Wildlife Conservation Trust

Collaborator(s): Dr Parthib Basu, University Calcutta; Dr John Mauremootoo, Inspiral pathways; Dr James Cresswell, University Exeter.

Project Leader: Dr Barbara Smith

Report date and number (eg HYR3): HYR3

Project website: www.cpescu.in

1. Outline progress over the last 6 months (April – Sept) against the agreed baseline timetable for the project (if your project has started less than 6 months ago, please report on the period since start up to end September).

Progress carrying our activities against those scheduled for April 2014 – October 2014

Activity 2. Training

(Activity 2.1 MSc students trained in taxonomy and research techniques (3 per year): exceeded) The target number of MSc students trained in taxonomy and research techniques has been exceeded. Three students in the first year were trained and completed experimental work in the CPS. In the second year 11 students were trained on a formalised certificate course in 'Pollination Ecology & Agro-ecosystem Studies' run by the Centre for Pollination Studies. Of these students three have joined as interns and continue their training in this third year. A fourth student, having come 70th in the all India scholarship exams has chosen to bring her scholarship for a PhD to the CPS. The certificate course will be available for MSc students again in January 2015.

(Activity 2.2 a. Farmers trained in pollinator survey and recording (12 per year) b. In years 2 and 3 farmers from the previous year will help with training: Exceeded) 30 farmers have been trained this year in long-term monitoring techniques and pollinator awareness on the project. This work is done during the farmer festivals and events, the last of which took place in Agartala, Tripura on 09.08.2014. Three farmer co-ordinators in Orissa have been trained and continue to guide farmers in Orissa in long-term monitoring of pollinators.

(Activity 2.3 Research fellows trained and CPS staff trained in long-term monitoring methods and data management: Met) All research fellows have been trained in the long-term monitoring, data management training is on-going and the most recent training was given by Barbara Smith during her visit in October 2014. This is now less formalised and consists of sitting with the Fellows and discussing analysis and management of the collected data.

Activity 3. Survey and Monitoring.

3.2 a. Field surveys on farm and in surrounding area b. Pollinator visitors to permanent gourd plots recorded c. Gourd yield recorded. Adjusted target: met.

Long-term monitoring in Tripura and Orissa continues with one round of sampling each month. Surveys of pollinators in natural vegetation are part of the work carried out by Supratim Laha as part of his PhD programme and this is progressing very well. The permanent plots were excluded from the programme of works in the first year as stated in previous reports. These were impractical and have been replaced by evidence gathering from farming communities in focus groups and structured surveys. Surveys took place in January 2014 and will take place

again in 2015.

Activity 4. Research at CPS.

4.1 Research questions refined
4.2a. Experimental work initiated
b. Pollination ecology experimental work
c. Testing beehive utility at CPS
d. Testing beehive utility in the field.
e. Testing native floral strips to benefit pollinators (at CPS)
f. Testing native floral strips to benefit pollinators (in the field).
Adjusted target: met.

Experimental work is designed and nearing completion, this relates to the experimental work being carried out by the two core Research Fellows attached to the project (Arnob Chatterjee and Pushan Chakraborty) and the additional Research Fellow who joined the CPS (Supratim Laha). The beehives and strips were not tested at the experimental farm as field testing was more practical given the short time-frame available. Beehives have been put out in the state of Tripura where adequate monitoring is possible. Floral strips are also being sown now (post-monsoon).

Activity 5. Advisory.

5b. Advisor attending all training courses. Advisor engaging with farming community.
Target: met.

Rural advisors and farmer coordinators attended the farmer events this year and are in regular contact with farmers.

Additional activities

- The CPS participated in the Organic Buyers-Sellers meet organized by the Department of Biotechnology in Agartala, Tripura. There was an exhibition by the CPS. The event was visited by farmers, government officials, general public including a large gathering of students. Date: 09.08.2014. Number attended 300.
- One manuscript has been accepted for publication: Chakrabarty, P., Rana, S., Sarkar, S., Smith, B., Basu, P. Pesticide induced oxidative stress in laboratory and field populations of native honey bees along intensive agricultural landscapes in two Eastern Indian states." *Apidologie*. *In press*.
- Identification of specimens from 8 months of Orissa and Tripura pan trap samples completed. This was a huge achievement. The process is on-going.
- Trait library of the voucher specimens has been established.
- Pollen library established for Tripura as well as Orissa.

Points flagged –up from the Annual Report

'While output level indicators are stated in the logframe, the report does not consistently quantify progress against these indicators in the text. Some of this information is captured in the appendices, but it would be useful if this could be summarised in the body of future reports. The use of initials to identify individuals throughout the report will doubtless be easy to understand by the project team, but is less easy for those who are unfamiliar with the team. Future reports might benefit from the use of fewer acronyms.'

In response I have included quantities in the body of the text and reduced the use of initials and acronyms.

2a. Give details of any notable problems or unexpected developments that the project has encountered over the last 6 months. Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.

1. LTM in Orissa and Tripura disrupted during July – September in some locations due to flooding.
2. The PhD students will not have submitted their final theses formally. It is now apparent that the Indian system will not accommodate three year PhD projects. However, all three PhD students aim to have a publication submitted by the project end and this will count towards their PhD submission process (a published manuscript is essential to obtain a PhD in India). There is no reason to believe that they will not achieve this aim.
3. The number of scientific papers to be published was rather optimistic (three – Standard measure 11 A). To date there is one manuscript accepted for publication. Another five are due to be submitted by the project end (meeting standard measure 11 B).

2b. Have any of these issues been discussed with LTS International and if so, have changes been made to the original agreement?

Discussed with LTS: No

Formal change request submitted: Yes - submitted

Received confirmation of change acceptance No

3a. Do you currently expect to have any significant (eg more than £5,000) underspend in your budget for this year?

Yes No Estimated underspend: £

3b. If yes, then you need to consider your project budget needs carefully as it is unlikely that any requests to carry forward funds will be approved this year. Please remember that any funds agreed for this financial year are only available to the project in this financial year.

If you anticipate a significant underspend because of justifiable changes within the project and would like to talk to someone about the options available this year, please indicate below when you think you might be in a position to do this and what the reasons might be:

4. Are there any other issues you wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures?

No

If you were asked to provide a response to this year's annual report review with your next half year report, please attach your response to this document.

Please note: Any planned modifications to your project schedule/workplan can be discussed in this report but **should also** be raised with LTS International through a Change Request.

Please send your **completed report by email** to Eilidh Young at Darwin-Projects@ltsi.co.uk . The report should be between 2-3 pages maximum. **Please state your project reference number in the header of your email message eg Subject: 20-035 Darwin Half Year Report**