



Darwin Fellowship - Final Report

*Due within one month of the end date of the Fellowship -
maximum 6 pages)*



Department
for Environment
Food & Rural Affairs

Darwin Fellowship Ref No.	Dr. Parthiba Basu
Name of Darwin Fellow	Centre for Agroecology, Water & Resilience, Coventry University
Host organisation	Centre for Pollination Studies, University of Calcutta
Fellow's organisation(s)	Associate Professor & Director, Centre for Pollination Studies
Fellow's role within the organisation	September, 2015 to September, 2016
Start/end date of Fellowship	Coventry University
Location	
Darwin Fellowship grant value (£)	Research and Training
Type of work (e.g., research, training, if other please specify)	Dr. Barbara Smith
Main contact in UK organisation	Dr. Parthiba Basu.
Author(s) and date	13 th September, 2016

1. Background

- I was involved as the host country (India) Coordinator in a past Darwin Initiative project titled 'Enhancing relationship between people and pollinators in Eastern India' (19-024). I was involved in designing and implementing the project in two Eastern Indian states – Odisha and Tripura and led a team of researchers and field staff in association with the Project Leader Dr. Barbara Smith. As part of the project I also facilitated the process of establishing the Centre for Pollination Studies at the University of Calcutta and has been serving as its Director along with Dr. Barbara Smith as its Joint Director. The Centre continues to function even after the completion of the project.

During implementation of The Darwin Initiative project (19-024) mentioned above and that focused on the conservation of insect pollinators in Eastern India it was revealed that conservation of pollinators is likely to be compromised by chemical pesticide use and that this understanding is shared by the farming community. Due to the absence of any effective alternative solution, those conserving non-target invertebrates are unable advise farmers to abandon pesticides. There is an urgent need to develop methodologies of ecologically prudent pest regulation. Addressing this need is our principle aim. However, we acknowledge that across the globe there have been efforts to develop sustainable approaches to ecosystem service provision but these have not been collated and integrated, Furthermore there is a division in approaches between 'north and south' . There would be real benefit in integrating research and understanding to inform policy.

The aim of the Fellowship is to twofold:

- 1.) to develop capacity in the Centre for Pollination Studies, Calcutta University to design and implement research and policy development for natural pest regulation in the subsistence farming context thereby protecting ecosystem service delivery

2) to deliver a review of North / South efforts to conserve ecosystem services and produce a policy document which will in combination with 1) inform Indian state governments on best practice for policy development.

Five objectives have been designed to achieve these aims:

Objective 1.1: Build capacity via training with partners whose expertise lies in natural pest regulation

Objective 1.2: Develop methodologies in natural pest regulation for the Indian subsistence farming context

Objective 1.3: Develop a participatory research programme to test pest regulation methodologies

Objective 2.1: Build capacity in review techniques and review North / South advances in ecosystem service provision.

Objective 2.2: Develop a shared understanding of the respective advances in agro-ecology and produce a working policy document to advise state governments in India.

Centre for Agroecology, Water and Resilience (CAWR), Coventry University is hosting me. CAWR is facilitating my training and interaction with Fellowship partners regarding the natural pest regulation under the supervision of Dr. Barbara Smith. CAWR is also facilitating my interaction with agro-ecologists at the centre regarding the assessment of the North – South perspectives in agroecology. The Centre for Pollination Studies, my institution, is in the process of setting up field experiments on natural pest regulation in India involving multiple partners based on inputs I received from the host institution and other partners.

I did not take any formal course

2. Achievements

The main activities included:

- a. Interaction with researchers and actors who are either involved in research on natural predators of pests or are involved in campaign for IPM in order to develop a research program on natural predators of pests in India. During the first three months' of my stay at CAWR (November, 2015 – February, 2016) I have had very fruitful discussions with Dr. Mark Ramsden a researcher in natural pest regulation from ADAS UK Ltd. (www.adas.uk), a leading environmental consultancy organization in UK. Based on the discussion I have initiated a systematic review of the information on natural pest regulation in India involving my doctoral student at the University of Calcutta. We are to set up field experiments on natural pest regulation in the post monsoon season (September onwards). I also met Dr. John Holand at GWCT.

During my second stint during April – July, 2016 I had visited PAN at Brighton received two days training with Dr. Stephanie Williamson and her other colleagues at PAN. In particular I learnt about their work in Africa including the project they had implemented as part of a Darwin Initiative project. I was briefed about the Food Spray method for attracting the natural predators that PAN had employed in the Cotton growing system in Africa and subsequently we have been in the process of replicating the method in Indian vegetable growing system. I had also presented the work at the Centre for Pollination Studies in India and had also contributed an article highlighting our work in the PAN News Letter. PAN has also prepared a policy brief based on our work to be presented in the Rotterdam International Convention on Highly hazardous Pesticide regulation. PAN has shown interest in sharing knowledge and collaboration wherever possible.

- b. Interactions with researchers at CAWR and other institutions in UK on their perceptions and views about agro-ecology and food sovereignty. These interactions and additional research into secondary sources have led to a book manuscript under preparation that

would focus on the various trajectories agro-ecological research and movements have been taking. The book would attempt to suggest a political theory of agro-ecological changes. During the process of developing the manuscript I have developed an active collaboration with Prof. Mark Tilzey at CAWR particularly on the political theory of agroecology. The manuscript is still taking shape and I hope to complete the manuscript before the year end. The manuscript has benefitted enormously from my numerous ongoing discussions with Dr. Barbara Smith. I also participated in a writing workshop organized by CAWR and benefitted significantly from it.

c. I was subsequently invited by Prof. Dave Goulson, University of Sussex for a discussion on mutual research interests and exchange of ideas. During the visit I was also joined by Dr. Stephanie Williamson and Dr. Colin Tinglewood. Dr. Goulson has shown interests in research collaboration.

- During the fellowship I was able to build a very meaningful network with researchers at CAWR and other UK institutions.
- PAN-UK has made a policy brief for the international policy making community based on research carried out at my research group.
- Back in India I have now initiated a research program on natural predators of pests. The research is being carried out by a doctoral student under my supervision.
- A series of talks are lined up in India on the manuscript under preparation.

3. Outcomes, lessons and impact

The work undertaken during the fellowship has certainly improved my skills and I have started to apply them in India. I have already initiated a research program on natural predators of vegetable pests involving a doctoral student. The doctoral student is already in the process of writing a systematic review on the topic.

My understanding on Agriecology sharpened further during the fellowship. I shall now apply them in the Post Graduate Certificate course on Agroecology that I have been leading in my university.

A research program titled Tripura Agroecology Initiative funded by the Agroecology Fund will start from November this year. This research project has been co-developed by Dr. Barbara Smith who will be the project leader and I shall implement the project in India as its Indian coordinator. University of Calcutta has agreed to extend full support towards implementation of the program.

The program definitely has improved my skills.

I have been able to make contacts with a good number of UK NGOs and research institutions. These contacts will be of great use in my future work. I am quite actively in touch with my contacts through email and skype.

However, I feel that the fellowship amount has to be increased for a more effective mobility and sustenance.