



Learning Note from Mid Term Review: Pesticide Impacts on Biodiversity in Ethiopia & Agroecological Solutions

A Mid Term Review was conducted in November 2014. This learning note provides key lessons for the project and the wider development community.

Key Messages

- The project is designed to address the overuse of pesticides in agricultural practice in Ethiopia's Rift Valley, which have resulted in detrimental impacts on biodiversity, human health and agricultural productivity.
- There is evidence that the project is making a positive impact on the lives of smallholder farmers through the adoption of organic cotton farming methods and the application of integrated pest management practices.
- This is a good example of a project that has able to balance the Darwin Initiative's dual objectives of supporting biodiversity conservation and poverty alleviation.
- However, weak M&E including a poor logframe means the team have struggled to demonstrate progress above the activity and input level.

The Darwin Initiative supports developing countries to conserve biodiversity and reduce poverty. The Darwin Initiative (funded by Defra, DFID and FCO), provides grants for projects working in developing countries and UK Overseas Territories (OTs).

Projects support:

- the Convention on Biological Diversity (CBD)
- the Nagoya Protocol on Access and Benefit-Sharing (ABS)
- the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)
- the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES)

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Introduction to the Mid Term Review

Summary of the project

Funded in 2013, this project is designed to address the overuse of pesticides in agricultural practice in Ethiopia's Rift Valley, which have resulted in detrimental impacts on biodiversity, human health and agricultural productivity.

Ethiopia's Rift Valley is an important route for migratory birds, particularly wetland species but many of these birds are declining in number. There is some evidence to suggest that part of this decline may be linked to increasing reliance (without proper safeguards) on agrochemicals in cotton, flower and vegetable production in Ethiopia. The pesticides used include those known to have significant implications for human health including endosulfan, an organochloride insecticide which is acutely neurotoxic to humans and was banned under the Stockholm Convention in 2012.

The project aims to build capacity in Ethiopia to monitor ecotoxicology, to assess the impact of pesticides on ecosystems, to increase awareness of the impacts of pesticide use and the benefits of agro-ecological methods, to boost the productivity, health and the environmental condition of two sites through the promotion of agro-ecological methods, and to boost market potential for agricultural production of cotton through cooperatives and organic certification.

Main Conclusions of the Evaluation

In November 2014, an evaluation of this project was conducted to assess progress achieved to date and to collect lessons to share with the wider Darwin community. There is evidence that the project is making a positive impact on the lives of smallholder farmers in southern Ethiopia, reducing pesticide use yet increasing yields through the adoption of organic cotton farming methods and the application of integrated pest management practices. This is a good example of a project that is able to easily balance the Darwin Initiative's dual objectives of supporting both biodiversity conservation and poverty alleviation.

Despite these successes the project has struggled to demonstrate its progress and impact in a concise and coherent way. These issues stem from the project's logical framework and workplan which are focused on inputs and activities but has few useful SMART indicators. As a result the team are unsure of their expected milestones, or what constitutes evidence of the outcome of their work. Consequently the evaluation was very iterative.



Evaluation outcomes

Partnerships

Pesticide Action Network (PAN) Ethiopia is a relatively new NGO established in 2008 as a stand-alone NGO from PAN UK. However, they retain a strong, mature relationship due to PAN Ethiopia's origins and ongoing collaboration. Relationships with other partners also appear strong and are largely based on individual connections which have developed into formal, working relationships.

Relevance

This project seems well designed to fit national priorities including the NBSAP and Ethiopia's Growth and Transformation Plan. Pesticide use by both smallholder and commercial farms is widespread in southern Ethiopia. Prior to this project there had been a small number of studies of pesticide use suggesting that it was having a detrimental effect on biodiversity and human health but systematic collection of evidence of the location and volume of pesticide use. Similarly systematic monitoring of the impacts of this activity on human health and biodiversity did not occur. Consequently, current agriculture, health, and

biodiversity policy has not taken into consideration pesticide use; this project has successfully identified and engaged with a real policy relevant knowledge gap.

Efficiency

The project is running efficiently with a detailed project plan, clear roles and responsibilities and regular meetings between the partners to discuss progress. Where efficiencies are being lost is due to the weak logical framework and its associated indicators. Despite repeated revisions the logframe still lacks a coherent framework of SMART indicators capable of demonstrating and measuring progress. However, a large quantity of data is being collected by the project which could be used to evaluate project successes.

Effectiveness

Good progress is being made at Arba Minch with monitoring data being fed into decision making at the local level – through the Ministry of Agriculture and the Plant Health Clinic. There is clear demand for this



Evaluation outcomes continued

data and some verbal commitment to include this in local government activities post-Darwin.

There is evidence from field monitoring that pesticide use is falling amongst farmers targeted by the project. In addition, there is clear evidence that yields for these farmers are increasing when they apply the integrated pest management principles taught by the project.

Impact

At the Arba Minch Site, biodiversity impact is clearly attributable to the project. The project is boosting local capacity to understand the link between biodiversity, pesticide use and productivity in this region. Project data is directly feeding into local government decision making and as a result of the positive TRAIID-funded field trials there is clear commitment to ensure this practice is rolled out to other areas. Therefore there is likely to be a positive long-term biodiversity impact in this region.

Poverty impact is also emerging in the Arba Minch region more broadly. Firstly expected health benefits

have resulted from the reduction of use of harmful pesticides, measurable using pesticide prevalence as a proxy indicator. Secondly improved cotton yields are anticipated and thirdly benefits are expected to result from the improved social structures (farming cooperatives and cotton spinning cooperatives) that should secure greater values for cotton and its products. Both are directly measurable. The spinning cooperatives are specifically focused on women generating financial benefit.

Biodiversity impact in the Ziway area is more uncertain than Arba Minch. Changes to how pesticide use is managed to improve biodiversity status will be clearer, once the monitoring report is released in the final months of the project. The planned format and method of release of the report (technical report with no associated communications strategy) is unlikely to meet a receptive policy environment, based on previous experience in Ethiopia.

Key Lessons for the Darwin Community

Investment in M&E is of value to projects

This project was well designed, through an inclusive process with a clear division of roles and responsibilities between partners. It was let down, however, by its poor logframe that fails to accurately reflect the outcome of the work. As a result the team have struggled to demonstrate progress above the activity and input level.

Project staff have made valiant attempts to address the limitations of the logframe on several occasions, with ever more complex M&E plans being developed. Sadly a lack of understanding of good M&E practices means these have missed the mark, and possibly even increased workloads.

Investment in M&E from the outset is vital to help projects measure their effectiveness and efficiency. It will also support them when communicating their progress and success with outside parties. Key questions to ask yourselves:

- What does success look like to this project?
- How can we measure that success?
- How do we best demonstrate our success to others?

Balancing Biodiversity and Poverty

This project has managed to balance the issues of biodiversity and poverty. In that pesticide use in Ethiopia is closely linked to both environmental and human health impacts. However, while they have found it relatively easy to establish a monitoring program to understand the impacts on biodiversity, measuring the project's contribution to improved human health has been far more tricky.

There are no national or local reporting mechanisms on pesticide poisoning – either acute poisoning or chronic poisoning. Indeed, those instances that are recorded as pesticide poisoning are often incorrect or unsubstantiated. Instead, the project has developed proxy indicators (such as agricultural yields) and used qualitative approaches to measuring human well-being of those directly affected by the project.



Define who your audience is and how they can be influenced

From the outset this project has had a mature communications strategy at the international level but within Ethiopia has relied on a more generic approach comprising:

conduct research >> write technical report >> publish report

Previous reports, that have been critical of Government and Private Sector practices, have resulted in the 'audience' becoming disengaged with project findings and the review team expressed concerns that a continuation of an overly critical style wouldn't result in the positive policy changes the project team were seeking. A more to deliberative approach working with their intended audience to identify opportunities for mutual gain – i.e. reduce environmental impacts while boosting commercial value of crops (cotton and commercial flower farms) could be a more effective route to changing practice in Ethiopia.

Prioritising activities based on impact

At the outset this project was focused on an issue surrounded by significant gaps in knowledge and understanding. The organisations involved are also amongst the few entities focusing on the issue of pesticide use and environmental and human health. Deciding between what needed to be done and what could be done in the time available was a significant challenge.

When designing a project it is important to consider: How much can be achieved in the time? Where can you have the greatest impact? Would focusing on multiple issues dilute overall project impact? Are you trying to tackle so many issues that the core values of the project are being eroded?

This project has done well, making significant impacts in Arba Minch on pesticide use and cotton production (yield increases of up to 100%). However, by also attempting to tackle the issue of pesticide use in flower farms in Ziway, the project has faced different challenges and risks to success. The approach has been less effective in addressing the wide variety of objectives.

The Darwin Initiative aims to promote biodiversity conservation and sustainable use of resources around the world including the UK's Overseas Territories. The Darwin Initiative projects work with local partners to help countries rich in biodiversity but poor in resources to fulfil their commitments under the CBD, the Nagoya Protocol, the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) and CITES. The Initiative is funded by the UK's Department for Environment, Food and Rural Affairs and from 2011, the Department for International Development. It is administered by the UK Government's Department for Environment Food and Rural Affairs (Defra). Since 1992, the Darwin Initiative has committed over £113million to over 943 projects in 159 countries.

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For more information on the Darwin Initiative see <http://darwininitiative.org.uk>

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