



DCED

The Donor Committee for Enterprise Development

Case Study 1: Impact assessment of promoting the use of appropriate soil nutrients by palm oil producing farmers in Thailand with T-G PEC¹

DCED Practical Guidelines for Conducting Research

The DCED has published [Practical Guidelines for Conducting Research](#) for programmes using the DCED Standard.² The guidelines include three case studies:

- **Case Study 1:** This discusses how T-G PEC, funded by BMZ in Thailand, assessed the impact of promoting the use of appropriate soil nutrients by palm oil producing farmers, using semi-structured interviews and a small sample size.
- **Case Study 2:** This discusses how Katalyst, a multi-donor market development programme in Bangladesh, addressed the challenge of identifying user farmers of a minipack seed intervention. Once users were identified, Katalyst were able to conduct an impact assessment using a control group.
- **Case Study 3:** This discusses how TradeMark East Africa, a multi donor business environment reform programme in East Africa, assessed the impact of a training course for freight forwarders in Rwanda used quantitative data on freight forwarder performance.

This document contains the first of these case studies. To download the others, visit the DCED website [here](#). To download the practical guidelines for conducting research, click [here](#).

Overview of TG-PEC

Description of the program: The Thai-German Programme for Enterprise Competitiveness (T-G PEC) was a programme funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) and implemented by GIZ. The objective of the programme was to improve the competitiveness of small and medium sized enterprises in the Thai agro-industry sector. The programme specifically focused on improving the institutional environment for specific value chains, like palm oil, fresh fruits and vegetables, using a market development approach.

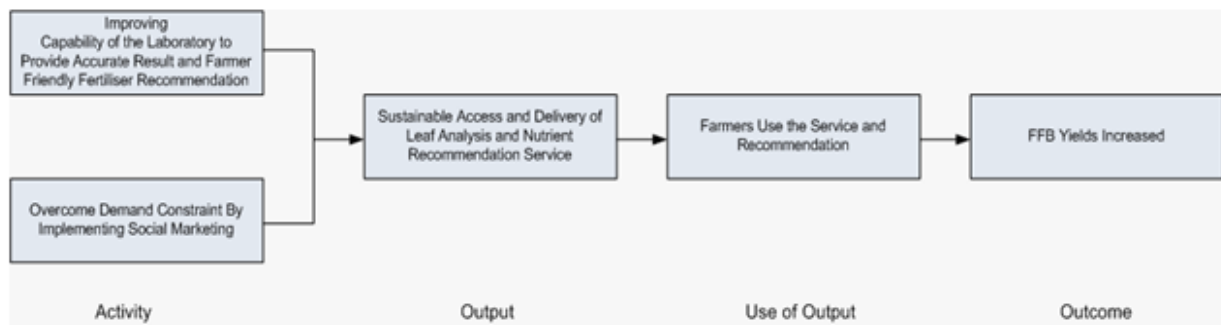
Impact assessment of the leaf analysis intervention

Background: Palm oil is the second most consumed vegetable oil globally, and is the second most important cash crop in the southern part of Thailand with around 70,000 SMEs involved in palm oil

¹Special thanks to Phitcha Wanitphon for his assistance in preparing this case study.

² The guidelines were written by Mohammad Muaz Jalil for the Donor Committee for Enterprise Development, and can be downloaded at <http://www.enterprise-development.org/page/case-studies>.

production in the country. However Thailand hardly contributes to this global market. One of the key reasons for this is due to low productivity resulting from poor farm management³. T-GPEC worked on number of interventions focusing on improving the competitiveness of these small palm oil producers and one of them was to facilitate the growth of a market for leaf analysis services for fertilizer recommendation. The idea being that judicious use of fertilizer would result in optimal cost effective yield of Fresh Fruit Bunches (FFB). TG-PEC has worked with the company Vichitbhan Palm Oil to turn its leaf analysis laboratory into an accurate and cost-effective facility for the Thai palm oil industry. The aim of this intervention was to provide about 1,000 plantations with expert recommendations on the economic use of fertilizer. The following diagram gives a simplified view of the result chain of the intervention⁴.



Impact assessment: The program used a difference in difference methodological framework for estimating impact of this intervention to compare difference between treatment group (farmers who received recommendation on fertilizer use) and control group (farmers who did not receive such recommendation). The Impact assessment guideline TG-PEC stipulates that the programme will use a before and after methodology usually with a control group for this type of embedded services. The guideline suggests that at least 30 treatment and 10 control farmers should be taken per intervention during an assessment. While this may not be statistically significant but given the modest size the sample it is possible to conduct in-depth interviews with semi-structured questionnaire, which allows for evaluation of more qualitative indicators like satisfaction with the services, which is crucial for the sustainability of the intervention. Furthermore it recommends that 2 interviewers conduct each interview together; this reduces interviewer bias, and reduces error.

In case of the present intervention, 50 treatment and 12 control farmers were interviewed. A baseline was conducted before the service was launched; the treatment farmers were selected non-randomly⁵ based on the training invitee list and the control farmers were chosen based on their similarity (age, plantation size, geographic spread) with the treatment group. From the assessments it was found that for the small farmers accessing the service, yield increase was about 20% and net income increase was about 26%.

³ For more detail on the sector and T-G PEC's contribution read: *Significance of the Model for Thailand – Role of the State, Constitutional Values, and Planning Models* by Visoot Phongsathorn

⁴ From the presentation "The Thai Palm Oil Sub Sector" by Jim Tomecko

⁵ It was done purposely using age and size of plantation as criteria. This ensured sufficient heterogeneity within the sample