Case Study 3: Impact assessment of EACFFPC Training Course on Freight Forwarder Performance in Rwanda with TMEA[1]

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 third 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 TMEA

Description of the Programme: TradeMark East Africa (TMEA) provides technical and monetary support to the East African Community (EAC) Secretariat[3], national governments, private sector and civil society organisations so that there is greater integration of markets and improved trade within the East African region[4]. TMEA is a not for profit organisation that receives funding from the governments of Belgium, Denmark, Netherlands, Sweden and United Kingdom. TMEA projects include infrastructure, business environment, public sector organisational development and private sector and civil society advocacy for greater regional integration.

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[1] Special thanks to Adam Kessler and Donna Loveridge for all of their 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.
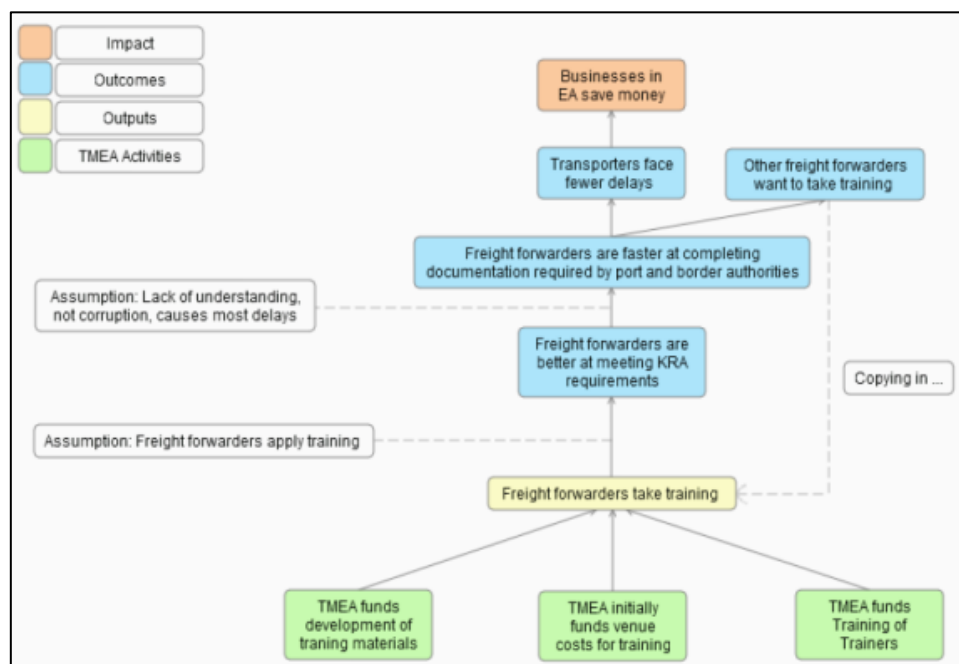
[3] East African Community (EAC) is an intergovernmental organisation comprising five countries in East Africa - Burundi, Kenya, Rwanda, Tanzania and Uganda. TMEA also operates in South Sudan which has yet to join EAC.

[4] For more information on TMEA, visit : http://www.trademarkea.com/

Impact assessment of the training course

Background: The Federation of East African Freight Forwarders Associations (FEAFFA) is an apex body of national associations of clearing and forwarding agents in the EAC. Their primary responsibility entails training of clearing and forwarding agents, advocacy, transport logistics information dissemination, and membership development. In 2007, with support from USAID, the association launched a training program called the East Africa Customs and Freight Forwarding Practising Certificate (EACFFPC). The EACFFPC is a joint program between East Africa Revenue Authorities (EARAs) and the national freight forwarding associations affiliated to FEAFFA. The training is expected to increase the competencies of customs and freight forwarding agents. Improved knowledge and skills can help the agents to make fewer deliberate and inadvertent errors in completing import and export documentation. This knowledge also allows them to more easily identify inconsistencies or mistakes in information submitted from importers. If documentation is correct, this is expected to reduce import and export processing time delays, and finally reduce transaction cost of doing trade and business in EAC region.

Since 2011, with assistance from TMEA, the training program has been reviewed, curriculum improved and training capacity expanded in order to achieve a critical mass of 4,500 trained customs agents by end of 2013. From 2014, it is expected that the possession of the certificate will become a precondition for acquiring all agent operating licenses within the EAC. The Rwanda Revenue Authority has already started implementing this requirement. The following figure shows the impact logic of the intervention.

Result chain of the EACFFPC training program intervention[5]

Impact assessment: The assessment in this present case focused on impact of EACFFPC training course on freight forwarder performance in Rwanda. It addressed this by exploring the impact of the training course on the number of errors made by freight forwarding companies in Rwanda. This was measured by means of a proxy indicator, which was the number of modifications made on a lodged

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[5] Case Study on TradeMark EA's Experience with the DCED Standard, *op.cit.*
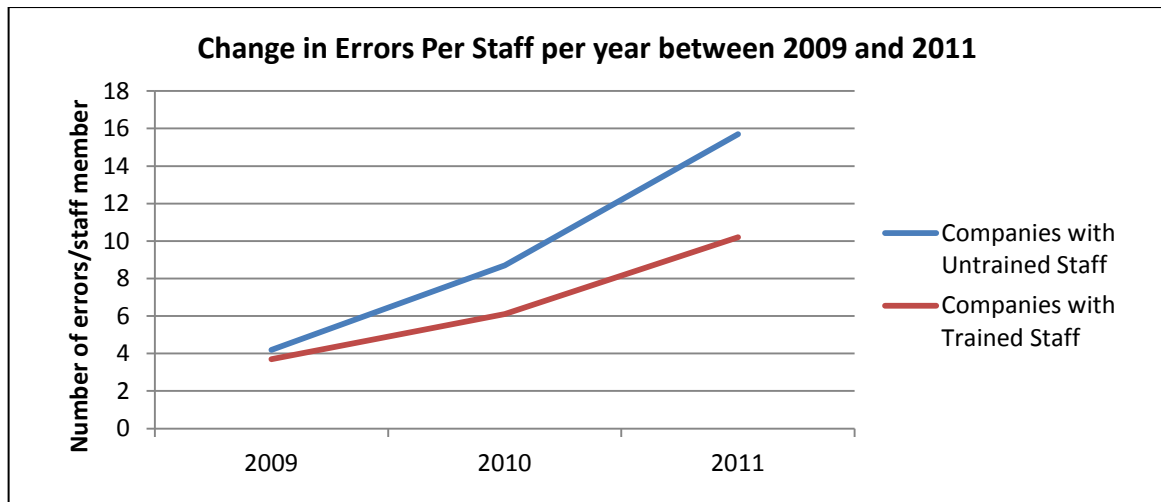
document and recorded on the Rwandan Revenue Authorities' electronic system. The assessment covered the period between 2009 and 2011, and data were collected for all 97 freight forwarders operational during that period. It examined the efficacy of the existing course and therefore tested the assumptions outlined in the results chain. . Following the implementation of further training, the assessment can be re-run and a comparison made between the effectiveness of the previous course and the updated course. Further assessments could also be expanded to cover more countries.

Methodology and findings: The study used a difference-in-difference research design with quantitative data using available secondary sources, namely data from Revenue Authorities' electronic system and the list of trained staff from the training institute's reports. The study compared errors made by companies with trained staff (treatment) with those with untrained staff (control) at two points from 2009 and 2011. If training caused trained staff to make less errors then the difference between companies with no trained staff and those with trained staff would gradually increase in time as companies had an increasing number of trained staff and they would make fewer errors. The results were further strengthened by triangulation[6] using various statistical analyses. If the training is useful then one should expect a statistically significant difference in errors between the control and treatment group. The following analyses were carried out to ascertain the impact of the training:

- The percentage of trained staff in an organisation was correlated with the number of errors each staff made. A correlation test is used to see the statistical relationship between a dependent and independent variable. For this case the percentage of trained staff was the independent variable and the errors per staff was the dependent variable.[7] A weak, albeit statistically significant, relationship was found that showed that an untrained staff member makes nine errors per year, while a trained staff member is likely to make just one error per year.
- The finding was further strengthened by the fact that no such relationship was found when a similar analysis was carried out with number of errors per staff against percentage of staff failed in the training. Which meant just by participating in the course did not result in improved performance, one had to pass the test implying internalize the learning.
- The following figure shows that between 2009 and 2011 the difference in errors per staff is increasing between the treatment and control companies. It might seem that the total number of errors has gone up for both the groups. Consultation with experts suggested that there could plausibly be two explanation for this : 1) Increased volume of traffic over this period naturally placed greater burden on freight forwarders hence for both treatment and control group the trend is upward sloping; 2) Employee numbers were only provided for 2012, and therefore it was assumed that this remained constant over all years. However, this is unlikely and it is more probable that employee numbers were less in previous years and as a result errors per staff are likely to be understated in 2009 and 2010. If errors per staff are actually greater, the difference between the treatment and control groups would be higher.

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[6] Theory triangulation: use of multiple perspectives and theories to interpret the results of a study.

[7] A regression line was drawn with % trained staff as an independent variable and errors per staff as dependent variable

Change in Errors Per Staff per year between 2009 and 2011

- From the graph it can be seen that the difference in errors per staff between treatment and control companies is around 5.5 in 2011. The Rwandan Revenue Authority charge $10 for each modification (classed as an error for the purpose of the assessment) to lodgement forms. Notwithstanding other costs such as time delay, loss of customers etc, $10 is the minimum cost of one error and as such companies with trained staff spent $55 less per staff member on correcting errors in 2011. . The study found that firm had six or seven staff, on average, resulting in unnecessary costs of $385 a year, which is a substantial cost for the company.

- It could be argued that companies who train their staff are better performers to begin with and hence there might be a case of selection bias. However, no correlation was found between company ability[8] and number of staff trained, meaning better performing companies were not more likely to send their staff on training. Therefore, the relationship between training taken and reduced number of errors is likely to be causal.

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[8] Number of errors made in 2009 was taken as a proxy for company ability.