

**Joint Ex-post evaluation 2010  
– Brief Report  
Dual Vocational Training, Philippines**



Centre for International  
Migration and Development  
a joint operation of GTZ and the  
German Federal Employment Agency



On behalf of  
**Federal Ministry  
for Economic Cooperation  
and Development**

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This report was compiled by the independent external evaluators. It is solely a reflection of their opinions and assessments.

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## Overview (tabular form)

### The evaluation mission

Evaluation period	08/2009 - 02/2010
Evaluation team	<ol style="list-style-type: none"> <li>1. Stefan Silvestrini (CEval, contracted by GTZ)</li> <li>2. Peter Maats (CEval, contracted by GTZ)</li> <li>3. Melody Garcia (contracted by KfW)</li> <li>4. Jacqueline C. Bacal (contracted by InWEnt)</li> </ol>

### Subject of the evaluation

Title	Dual Vocational Training, Philippines
Implementation period by implementing agencies	CIM: before 1996 to 2004 DED: before 1996 to 2007 GTZ: 1996 to 2007 InWEnt: 1996 to 2007 KfW: 2000 to 2007
Period subject to evaluation	1996 to 2007
Total costs	30.83 Million Euro
Overall objective according to joint results chain	<ul style="list-style-type: none"> <li>• Improved employment situation of TVET graduates</li> <li>• Enterprises have a better qualified workforce at their disposal</li> <li>• Increased productivity of enterprises that employ TVET graduates</li> <li>• Supported training institutions forward their knowledge to other institutions</li> <li>• Nationwide introduction and establishment of DTS and dualized training programs</li> </ul>
Lead executing agencies (political partner)	Technical Education and Skills Development Authority (TESDA)
Implementing organizations in the partner country	98 vocational training institutions (public, private and religious institutions and TESDA regional training centres)

## The rating

Overall rating <i>On a scale of 1 (very good, significantly better than expected) to 6 (the project is useless, or the situation has deteriorated on balance)</i>	4
Individual rating	Relevance: 2; Effectiveness: 2; Impact: 4; Efficiency: 3; Sustainability: 4

## Summary

The development of the 'Technical Vocational Education and Training' (TVET) sector in the Philippines has been characterized by fundamental changes in recent history, culminating in the creation of a new national agency named TESDA (the Technical Education and Skills Development Authority) in 1994. The TESDA implemented a number of reforms to restructure the education system towards the establishment of a qualified workforce that meets the demands of the labour market, i.e. the enterprises and employers.

One major achievement in that regard was the introduction of two entirely new vocational education and training concepts: competency-based training (CBT, introduced for example by the Australian Agency for International Development, AusAID) and dual/dualized training approaches (also named as Dual Training System [DTS] and Dual Training Programs [DTP], introduced mainly by the German Development Cooperation [DC]). While the CBT focuses on imparting particular know-how components following a demand-driven approach, the DTS and DTP follow a more holistic approach, providing comprehensive knowledge and skills in the respective work field through long-term vocational education combining school-based theoretical lessons and enterprise-based practical training. Both components are laid down in a systematic curriculum and the training implementation is embedded in an elaborate legislative framework that regulates, for example, the remuneration of the students (at least 75% of the minimum wage) and the rights and duties of the cooperating partner enterprises (cf. Republic Act No. 7796).

Accordingly, the subject of the evaluation was the German contribution to the Philippine TVET system relating to the introduction and establishment of dual and dualized training approaches. On the whole, the evaluation comprised ten different contributions in terms of programs and packages of measures implemented between 1996 and 2007 by the GTZ, the KfW, InWEnt, the DED and the CIM.

The intended highly aggregated impacts of the individual programs were to reduce poverty and strengthen the Philippine economy by increasing employment (of the target groups) and improving the TVET system. These impacts relate directly to Millennium Development Goal

(MDG) 1 (“eradicate extreme poverty and hunger”), particularly to target 1.B (“achieve full and productive employment and decent work for all, including women and young people”). As several programs focused on the improved access of young women to the labour market they also relate to a certain extent to MDG 3 (“promote gender equality and empower women”; cf. Chapter 4.1).

These highly aggregated impacts can be broken down into five verifiable goals<sup>1</sup> that reflect the goal conceptions of the individual programs from the different German Implementing Organizations (GIOs):

- Improved employment situation of TVET graduates
- Availability of a better qualified workforce to enterprises
- Increased productivity of enterprises that employ TVET graduates
- Forwarding of knowledge to other institutions by supported training institutions
- Nationwide introduction and establishment of dual and dualized training programs

In order to achieve these goals, various program outcomes were defined in the individual program concepts of the GIOs. These can be summarized into four main program objectives:

1. Improved employability of graduates from supported training institutions
2. Increasing participation of enterprises in dual/dualized training and/or employment of graduates from dual/dualized trainings
3. Improved management and training capacities of public and private vocational training institutions
4. Improvement of TESDA's steering capacities and advocacy by the TESDA of the introduction and establishment of dual/dualized trainings

These outcomes were to be achieved by the following measures implemented by the different GIOs:

- Counselling of TESDA headquarters and regional centres in the conception and implementation of an appropriate vocational education and training system using the German dual vocational training approach.
- Short and long-term ToT (training of trainers) in Germany and the Philippines in specified subject areas (curriculum development, training consultancy) to enable the teaching staff of training institutions and enterprises to design and conduct dual trainings.

<sup>1</sup>

It should be pointed out that verification includes both *measuring* quantitative empirical data (on the level of the direct beneficiaries) and *plausibility checks* based on the comparison of qualitative, quantitative and statistical (secondary) data.

- Counselling and short and long-term trainings in Germany and the Philippines for management and administrative staff (human resources management, industry coordinators etc.) to build up capacities within the training institutions for the development and implementation of dual training programs and to support these institutions in improving their management structure.
- Provision of training material and technical equipment for specified subject areas to improve learning conditions at the schools.
- Maintenance support for training material and technical equipment supplied. The objective of this measure was to enable the staff at the training institutions to handle the equipment provided appropriately and thus ensure its sustainable use for the future.

The evaluation was funded by the GTZ, the KfW, the DED and InWEnt and implemented by a four-member evaluation team (three international, one national consultant) between September and December 2009, led by the Center for Evaluation (CEval). As far as possible, the evaluation design followed a rigorous impact evaluation approach by testing the applicability of quasi-experimental research designs during the data collection process. This design included a comparative analysis between graduates of supported and unsupported training institutions on the basis of a standardised survey as well as an on-line survey with former ToT-participants.

As stated above, the programs were aiming at the capacity development of the strategic partner (TESDA) and the implementation partners (training institutions). In this regard the evaluation results confirm that the training and consulting services and the provision of equipment made a definite contribution to the overall improvement of the training institutions' performance, which is also confirmed by the absorption rate of the graduates by the labour market. Both the interview findings and the results from the graduate survey indicate that the support caused a comparative advantage for their graduates.

Assessing the capacity-building effects of the support at the TESDA is more difficult. Although the interviewees assess the consulting and training as important measures for setting up and improving the administrative and regulatory prerequisites, it does not (any longer) enforce the nationwide introduction of dual training approaches as a paramount vocational training scheme.

According to the GTZ guideline for independent evaluations, the evaluation focused on assessing the relevance, effectiveness, impact, efficiency and sustainability of the intervention. The assessments followed a six-step scale (1 = very satisfactory to 6 = very poor), except the assessment of sustainability, which followed a four-step scale (1 = very good sustainability to 4 = inadequate sustainability).

The evaluation team rates the intervention as a whole as **unsatisfactory (level 4)**, since its sustainability appears to be rather inadequate. In detail, the individual ratings of relevance, effectiveness, impact, efficiency and sustainability can be described as follows.

The **good rating (level 2)** of the **relevance** results comes from the fact that vocational trainees were in need of an improved qualification and that the industry was in need of a better qualified workforce. The training and consulting services and equipment support were highly relevant for the training institutions as they had to improve their capacities to render adequate training to their target groups. For the TESDA too, the support was crucial for building up the institution. At systemic level (TVET system, labour market system) it can be stated that the subject areas selected (target branches/sectors of the trainings) were appropriate at the time and that the measures were aligned for achieving MDG 1 (poverty reduction) and to some extent MDG 3 (gender equality). However, the decline of the sectors (manufacturing, trade, gastronomy etc.) in which the subject areas were supported (electronics, welding, automotive etc.) also has to be taken into account. Finally, at donor level too, the intervention proved to be highly relevant as it complied with the strategic orientation of the German DC in the education and labour market sector.

The **effectiveness** of the intervention is rated as **good (level 2)** since three of the four program objectives have been widely achieved. The empirical data provide evidence that the employability of graduates from supported training institutions has improved, and that the enterprises employ graduates from those institutions and have in some cases also increased their cooperation with them. The management and training capacities of the training institutions have been improved considerably by the support measures. Only the strategic partner TESDA appears not to have performed as supportively as expected by the GIOs.

The **unsatisfactory (level 4)** rating of the **impact** is based on the finding that none of the overall goals appear to have been achieved. Although it was possible to confirm significant positive effects for the graduates from the supported training institutions and the partner enterprises of these institutions (i.e. the beneficiaries), the diffusion effects at institutional level (i.e. that the training institutions forwarded their knowledge to other institutions) were too small to make a difference at systemic level (e.g. better employment situation of TVET graduates in general, nationwide introduction of dual/dualized training programs etc.).

The **satisfactory (level 3)** rating of the **efficiency** is the result of (a) the high cost-efficiency of the measure implementation in comparison to measures of other donors, (b) the benefit created at beneficiary and institutional level and the (c) largely missing impact at systemic level. If the impact had not been restricted to the beneficiaries of the intervention (or if sufficient dissemination effects had occurred) the efficiency could have been rated as very good, as it appears that the 'costs per trainee' were very low in comparison with other support measures.

The **inadequate rating of sustainability (level 4)** is the result of the shortcomings of the intervention at systemic level (see above). The lack of inter-institutional diffusion effects, the inability of the training institutions to maintain the technical equipment, the missing supportive framework and the foreseeable future development of the importance of the supported subject areas (e.g. automotive, electronics, welding) on the labour market lead to the conclusion that the intervention results will not persist in the long run.

The evaluation results widely confirm that on the one hand the intervention has reached the right target groups and accordingly made a significant difference for the beneficiaries (supported training institutions, their graduates and participating enterprises), while on the other hand it has failed to create an impact at systemic level (TVET system, labour market). Accordingly, the following recommendations address the linkages between these levels and how these linkages could be used to increase the impact of future interventions in this field. The first six recommendations refer in this regard to the GIOs:

- Although relying on the TESDA as the regulatory authority was the only feasible strategy, the TESDA has not proved to be a true ‘change agent’. Thus the top-down approach was not effective. In future the focus should be more on those stakeholders who have an intrinsic motivation to see the entire TVET system (and not only their own institution/organization) benefit from improved approaches to qualify the workforce. This would be the private sector, i.e. the enterprises, represented through their associations and networks. Although they were involved in some of the programs and measures (particularly of the CIM, InWEnt and the DED) they were not systematically approached in most programs. In contrast to training institutions, which more or less have an intrinsic motivation to keep the advantage they have gained in their working field for themselves (in order to maintain their competitive advantage), the private sector could act as that necessary change agent by lobbying improved training approaches, for instance in setting minimum requirements or providing incentives for a better trained workforce.
- In the present case, given a total size of the workforce of about 30 to 35 million and an average number of more or less 800,000 graduates per year and about 100 supported training institutions with each providing 50 (dual trained) graduates in the same period, this still makes less than one per cent of the total number entering the labour market per year. It could be estimated that the intervention would have had to be scaled much larger than it actually was to make a difference at systemic level (i.e. TVET system, labour market). In this regard donor alignment at international level appears to be the only feasible strategy since one country alone does not seem to do the trick.
- When selecting training institutions, stronger emphasis should be placed on the aspect of how far an institution is networked. The empirical data confirm that the perception of the



multiplier role of an institution depends most notably on its connectedness with other institutions or a superior agency (like the religious training institutions). So if dissemination effects are intended, those institutions should preferably be selected that can prove that they are linked to other relevant institutions.

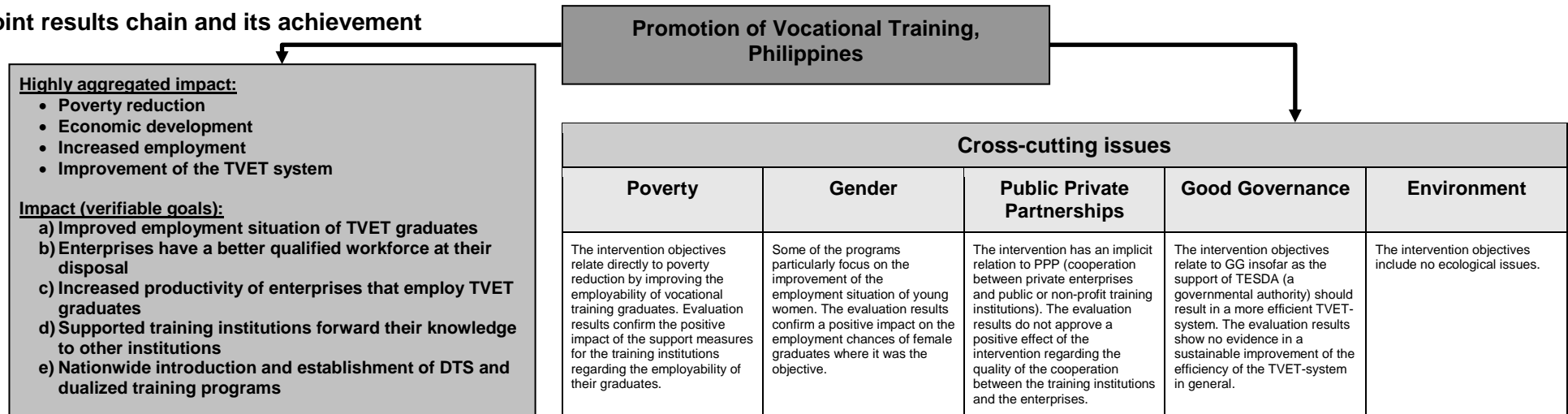
The following three recommendations focus on the supply of technical equipment and teaching aids in particular:

- First of all it is of the utmost importance to monitor the implementation process when responsibility for it is being passed over to the strategic partner (i.e. the TESDA). As the empirical findings show, it cannot be taken for granted that the partner will act in compliance with one's own regulations when it comes to the deployment of equipment in terms of timeliness and the efficient utilization of financial resources.
- Secondly, supplying high-tech equipment requires high-tech servicing which is mostly associated with high costs. The empirical data suggest that more simple equipment is more likely to remain operational after a certain time than costly material. According to the interview results, most high-tech equipment can only be operated by experts who are hard to find in many training institutions in the Philippines. If the equipment is used by insufficiently qualified staff, the chances that it will break down or at least fail to fulfil its intended purpose increase. Hence adaptation of the 'technology level' to the needs and capabilities of the target groups needs to be improved. This should be done not only by asking the partners what they think they need, but rather by checking what their competences are and looking at the technology level to which their current equipment (before the start of the program) corresponds.
- Thirdly, the maintenance of the equipment should be monitored. The interview data confirm that at the start every training institution provided with technical equipment (28 out of 98) had to establish a maintenance plan that had to be approved by the GIOs. The interview data also confirm that at most training institutions this maintenance plan did not work out. The reasons were manifold. Either the financial contributions did not achieve the intended amount, or unforeseen repair costs by far exceeded the savings at the time. Basically it can be stated that for each euro spent on high-tech equipment another euro was needed for its maintenance within the first three to five years.

The last recommendation refers to the TESDA:

- Although it may be an understandable strategy to go with the donor who comes next due to the limited funds from the government, this strategy is likely to cause a number of problems in the long run. The TESDA would be better advised to shape its own strategy based on a substantiated needs assessment and to promote that strategy among the donor community instead of frequently changing its 'preferred mode of training delivery'.

### Joint results chain and its achievement



Impact indicators and anecdotal evidences <i>(all comparisons refer to non-dual/dualized trained TVET-graduates)</i>	Direct beneficiaries	All target groups
a1) Reduced unemployment rate of dual/dualized trained TVET-graduates	■	■
a2) Higher wages dual/dualized trained TVET-graduates	■	■
a3) Higher job satisfaction dual/dualized trained TVET-graduates	■	■
b1) Enterprises rate qualification dual/dualized trained TVET-graduates better	■	■
c1) Higher productivity of enterprises that employ dual/dualized trained TVET-graduates	■	■
d1) Rising number of training institutions that adopt dual/dualized training approach (without the assistance of the GIOs)	■	■

Program objective 1 (outcome on beneficiary level): Improved employability of graduates from supported training institutions
Graduate survey
<p><b>Indicator 1.1:</b> Graduates from supported training institutions are taken over more often by the enterprises in which they were trained.  <b>Status:</b> DS show significant positive average treatment effect (+18%) but PSM does not approve results.</p> <p><b>Indicator 1.2:</b> Training tasks are rated as more useful for employment by graduates from supported training institutions.  <b>Status:</b> DS and PSM (NN&amp;KM) show significant average treatment effect (DS: +11,1%, PSM: +27,2%).</p> <p><b>Indicator 1.3:</b> Training is rated as more useful for specific job related aspects (e.g. finding a job, possibility to change employer) by ... (s.o.).  <b>Status:</b> Statistical analysis shows no evidence.</p> <p><b>Indicator 1.4:</b> Graduates from supported training institutions find a job faster.  <b>Status:</b> DS and PSM (KM) confirm that graduates find significantly more often a job directly or within a few weeks (DS: +15,1% PSM: +8,8%).</p>

Program objective 2 (outcome on beneficiary level): Enterprises increasingly participate at dual/dualized trainings and/or employ graduates from dual/dualized trainings
Graduate survey
<p><b>Indicator 2.1:</b> Graduates from supported training institutions are taken over more often by the enterprises in which they were trained.  <b>Status:</b> Cf. indicator 1 for component objective 1.</p> <p><b>Indicator 2.2:</b> Participating enterprises are able to comply with the legislative framework for dual trainings (i.e. to pay trainee 75% of minimum wage).  <b>Status:</b> DS show that only bigger enterprises are able to provide adequate financial support (significant correlation between no. of employees and average wage).</p>
Interviews with representatives from training institutions and participating enterprises
<p><b>Indicator 2.3:</b> Participating enterprises assess the qualification of the trainees from the supported training institutions higher.  <b>Status:</b> Results from interviews with participating enterprises provide strong evidence (nearly 100% approval).</p>

Program objective 3 (outcome on institutional level): Improved management and training capacities of public and private vocational training institutions
ToT survey
<p><b>Indicator 3.1:</b> The ToTs achieved their target groups (trainers and administrative staff).  <b>Status:</b> DS show that about half of the ToT-participants still work at the training institution and/or implement dual/dualized trainings, for only a third of them it is the main task.</p> <p><b>Indicator 3.2:</b> Training institutions increasingly implement dual/dualized trainings.  <b>Status:</b> DS show that the teaching load for dual/dualized trainings increased for more than two thirds since the ToT, ¼ reported no change.</p> <p><b>Indicator 3.3:</b> The content of the ToTs was relevant and useful for the target groups.  <b>Status:</b> DS show very high ratings of all relevance and effectiveness related aspects (average means: 7,88 and 7,97 out of 10).</p> <p><b>Indicator 3.4:</b> The trained trainers are capable to apply and develop further their gained knowledge.  <b>Status:</b> DS show that about 80% were able to adapt their gained knowledge to changing demands, 20% report further training needs.</p>

## Joint results chain and its achievement (ctd.)

**Impact indicators and anecdotal evidences (contd.)**

e1) Rising number/share of training institutions that offer dual/dualized trainings

**Graduate survey (contd.)**

**Indicator 1.5:** Female trainees benefit likewise from the support measures.

**Status:** Statistical analyses show no evidence for significant differences in the treatment effect regarding the gender of the graduate except for the first salary.

**Interviews with representatives from training institutions and participating enterprises**

**Indicator 1.5:** See above.

**Status:** Interview results approve the gender equity of the support measures where intended.

**Indicator 1.6:** Qualification of graduates from supported training institutions is rated better by employers.

**Status:** Interview results strongly approve positive treatment effect.

**Program objective 4: (outcome on institutional level)**  
 Steering capacities of TESDA have been improved

**Interviews with TESDA representatives**

**Indicator 4.1:** TESDA's management capacities have been improved.

**Status:** Interview results are ambiguous; respondents are positive but cannot show examples.

**Indicator 4.2:** TESDA increased its resources allocated to supporting the introduction of an establishment of dual/dualized trainings.

**Status:** Interview results do not support the assumption.

**Indicator 4.3:** TESDA monitors the implementation of DTS.

**Status:** Interview results do not support the assumption.

**Interviews with representatives from training institutions and participating enterprises (contd.)**

**Indicator 2.4:** Attitude of participating enterprises regarding dual/dualized trainings improves.

**Status:** Results from interviews with participating enterprises approve positive attitude towards dual/dualized training, however benefit does not always outweigh the investments.

**Indicator 2.5:** Number of participating enterprises rises.

**Status:** Results from the interviews with the training institutions show a positive development, however this development seems to be independent from the applied training approach.

**Indicator 2.6:** Participating enterprises promote the dual/dualized training approach within their networks.

**Status:** Results from the interviews with the enterprises do not support the assumption.

**Document analysis**

**Indicator 4.2:** See above.

**Status:** Analysis results show a strategy change in the recent years due to other support offers.

**ToT survey (contd.)**

**Indicator 3.5:** The provided technical equipment and teaching aids are still in use.

**Status:** DS show that about 2/3 of the technical equipment and 3/4 of the teaching aids are still in use.

**Indicator 3.6:** The training institutions are able to maintain sustainable the provided equipment.

**Status:** 1/3 of the respondents report problems in maintaining the equipment, about 29% state too high costs of running it, 11% report problems to obtain spare parts.

**Interviews with representatives from training institutions**

**Indicator 3.2:** See above.

**Status:** Interview results do not confirm survey results. In contrast only half of the visited training institutions increased the number of dual/dualized trainings, about 1/3 reported unchanged number, 1/6 reported reduction.

**Indicator 3.3:** See above.

**Status:** Interview results confirm survey results.

**Indicator 3.5 & 3.6:** See above.

**Status:** Interview results show a worse picture: 7 of 11 training institutions with equipment support report problems with the use and maintenance of the technical equipment.

**Indicator 3.7:** Training institutions adapt the introduced innovations (curricula, teaching aids etc.) to changing demands and develop it further.

**Status:** Interview results indicate a wide range of activities in order to adapt and improve the introduced innovations in most cases.

**Indicator 3.8:** Management efficiency has been improved by training measures.

**Status:** Interview results are ambiguous; respondents are positive but cannot show examples in most cases.

**Indicator 3.9:** ToT participants disseminate their knowledge within the training institution.

**Status:** Interview results show a variety of examples of multiplier effects within the training institutions.

**Legend:**

- Indicator achieved
- Indicator partly achieved or results ambiguous
- Indicator not achieved
- Indicator not measured/not measurable

DS Descriptive Statistics  
 KM Kernel Matching (matching algorithm)  
 NN Nearest Neighbour (matching algorithm)  
 PSM Propensity Score Matching

Percentages quoted for DS results are the differences between treatment and comparison groups in percentage points.  
 Percentages quoted for PSM results are average treatment effects with a sufficient standard error coefficient.