*Australian Agency for International Development*

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# The Philippines-Australia technical and vocational education project (PATVEP)

*Evaluation No: 4 - March 1998*

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# Evaluation Responsibilities

The evaluation was carried out by a team consisting of:

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The evaluation was undertaken in April and May 1997, and comprised a period studying relevant desk documents in the AusAID Head Office, Canberra, followed by three weeks in the field, and a period in Canberra finalising the report.

**Acknowledgments**

The Evaluation Team received considerable cooperation, assistance and logistical support from the GOP agencies involved in the project; the Educational Development Projects Implementation Task Force (EDPITAF), Technical Education and Skills Development Authority (TESDA), the National Economic Development Authority (NEDA), the National Training Centre for Technical Education and Staff Development (NTCTESD), and the PATVEP schools which the Team visited. The AusAID Post Manila provided excellent support and cooperation. The Team thanks all those who assisted the evaluation.

# Abbreviations and Acronyms

| | |
|---|---|
| ADB | Asian Development Bank |
| AUD | Australian dollars |
| AusAID | Australian Agency for International Development |
| BNSAT | Bataan National School of Arts and Trades |
| BSAT | Bohol School of Arts and Trades |
| BSIE | Bachelor of Science in Industrial Education |
| BSIT | Bachelor of Science in Industrial Technology |
| BTVE | Bureau of Technical and Vocational Education |
| CBVE | Competency Based Vocational Education |
| CCAT | Cavite College of Arts and Trades |
| CHED | Commission for Higher Education |
| CT | Certificate of Technology |
| DACUM | Acronym for the process of Developing A Curriculum |
| DD | Design Document |
| DECS | Department of Education, Culture and Sports |
| DOST | Department of Science and Technology |
| DOLE | Department of Labour and Employment |
| DT | Diploma of Technology |
| EDPITAF | Educational Development Projects Implementation Task Force |
| GAA | General Appropriations Act |
| GOA | Government of Australia |
| GOP | Government of the Philippines |

| | |
|---|---|
| In-Service Training | Training given to a permanent employee in his/her field of expertise |
| M&E | Monitoring and Evaluation |
| MTDP | Medium Term Development Plan |
| NEDA | National Economic Development Authority |
| NITVET | National Institute of Technical Vocational Education and Training |
| NMYC | National Manpower and Youth Council |
| Non-Formal Education | Study courses outside the formal education system which cater to all levels and classes |
| NTCTESD | National Training Centre for Technical Education and Staff Development |
| OD | Organisational Development |
| OFTVET | Office of Formal and Technical Vocational Education andTraining |
| OJT | On the job training |
| PATVEP | Philippines-Australia Technical and Vocational Education Project |
| PID | Project Implementation Document |
| Pre-Service Training | Training preceding employment in the job for which the training is designed |
| R&M | Repair and Maintenance |
| RMTC | Regional Manpower Training Centre |
| RO | Regional Office |
| SNSAT | Surigao del Norte School of Arts and Trades |
| TESDA | Technical Education and Skills Development Authority |
| TOR | Terms of Reference |
| TVE | Technical and Vocational Education |
| TVEP | The ADB Technical and Vocational Education Project which preceded PATVEP |
| ZCPC | Zamboanga City Polytechnic College |

# Executive Summary

## Evaluation Outcome

The Philippines-Australia Technical Vocational Education Project (PATVEP) has proved to be a good development project. It has had a substantial impact in developing the technical vocational education (TVE) sector. It was effective in strengthening nine target TVE schools and the National Training Centre for Technical Education and Staff Development (NTCTESD), in seven designated project technologies. It had a positive though lesser impact on curriculum development in the Bureau of Technical and Vocational Education (BTVE).

PATVEP was more successful at local than at national level. Locally, the project TVE schools are now strong institutions in the assisted technologies. They are producing technicians with improved skill levels who are better able to meet industry requirements. Graduates of these assisted schools are obtaining higher levels of employment and in general, higher pass rates in the national skill tests than graduates from non-assisted schools.

At the national level the project was successful in helping establish an operational NTCTESD to provide in-service training for TVE staff. The NTCTESD provides a range of courses in seven technologies, and in educational technology, for a large number of public TVE institutions across all regions of the Philippines.

The fellowship training in Australia was very successful. It developed a pool of TVE teachers with improved technical, teaching, curriculum and workshop management skills. Direct beneficiaries of the project, the teachers will be a valuable long-term resource in developing the TVE sector.

At the design, appraisal and initial implementation stages of the project, the costs of constructing facilities and utilities were under-estimated. This increased Government of Australia (GOA) costs by 17 per cent, and Government of Philippines (GOP) costs by 50 per cent.

The GOP authorities have commented on the draft report. They confirmed and supported the conclusions. A representative of the National Economic Development Authority (NEDA) was a team member for the in-Philippines work.

## The Project

The GOP formally requested assistance from the GOA in 1986 for a project to improve the TVE sector, which was identified as an important constraint in national development. A Pre-Feasibility Study was undertaken in 1986, followed by a Feasibility/Design Study in 1987, and a Field Appraisal in 1988. The appraisal identified several constraints in the effective training of technicians and tradespersons. They included lack of practical training among administrative and teaching staff, insufficient and inappropriate equipment and learning facilities, ineffective curricula, limited learning materials, limited skills for developing and implementing curricula, and insufficient recurrent budgets to provide consumables and teaching materials, and repair and maintain equipment and facilities.

The project was implemented from 1990 to 1994. Its goal was "to improve the education and training of technicians and tradespersons from selected schools offering technical and vocational programs, to meet industry standards". The project was large and complex. It involved national and local components. At the national level they included curriculum development, in-service training of technical teachers and administrators, preparing and disseminating learning material, organisational development, and strengthening inter-agency linkages. At the local level they included strengthening nine TVE schools by providing equipment, training and improved curriculum.

The Project Completion Report (1996) detailed costs as GOA $A28.65 million and GOP $A7.47 million. Additional GOP outlays to PATVEP assisted institutions in 1995 increased the GOP cost to $A10.74 million. Delays in constructing workshop facilities and installing equipment reduced the effectiveness of the technical advisers. In addition, delays in formally establishing the NTCTESD hindered institutional development and the creation of linkages with related agencies. A Joint Review in 1993 included a detailed timeframe for implementing the critical activities which had been delayed.

## Impact Assessment

The project had a large and significant impact on the nine TVE schools it assisted, and a smaller impact on the NTCTESD. The equipment, training and technical advisory inputs enabled the NTCTESD and its staff to prepare and deliver courses to upgrade relevant skills of staff in the TVE sector. It also assisted the nine schools by providing well equipped workshops in which students could gain good practical skills. The impact on the BTVE was smaller because of a change of focus from that detailed in the Project Implementation Document (PID) of developing curricula to preparing learning modules.

During the project there was a slight increase in the number of females participating in the seven technologies assisted. Although environment was not a significant issue, the overall long-term impact of the project is considered to be positive.

The project increased recurrent costs for the nine schools and the NTCTESD by enlarging budgets required for utilities, materials, and repair and maintenance.

During the latter part of project implementation, policy changes and institutional restructuring in the TVE sector resulted in the formation of the Technical Education and Skills Development Authority (TESDA). The formal and non-formal TVE sectors were combined. TESDA's role was defined as facilitator and administrator rather than a direct provider of TVE services. The authority is entrusted with improving the efficiency and cost effectiveness of different delivery systems in the TVE sector to meet industry requirements.

## Sustainibility

The institutional and technical sustainability of the institutions assisted by the project depend on adequate GOP recurrent funds. At current levels of GOP funding the equipment and facilities cannot be adequately maintained. Over time this will result in operational inefficiencies. To increase recurrent budgets most schools are undertaking activities to generate income, but these are still considered below sustainable levels.

## Lessons Learned

The project design involved a relatively high cost intervention per target institution. The potential for replicating the project could have been improved through greater attention to one of the key constraints affecting the sector, namely, GOP's limited capacity to provide recurrent funding.

Examining alternative low-cost approaches during the design phase may have resulted in a more cost-effective design, which could have enabled wider distribution of project benefits. In addition, a structured monitoring and evaluation system built into the project design would have improved project outcomes.

# Evaluation Outcome

The Philippines-Australia Technical Vocational Education Project (PATVEP) has proved to be a good development project:

- It has had a substantial impact on development of the technical vocational education (TVE) sector.
- It effectively strengthened nine target TVE schools and the National Training Centre for Technical Education and Staff Development (NTCTESD), in the seven designated project technologies.
- It had a positive though lower impact on curriculum development in the Bureau of Technical and Vocational Education (BTVE).

The project was more successful at local than at national level. Locally, the project TVE schools are now strong institutions in the seven assisted technologies (automotive, electronics, mechanical, welding and fabrication, civil, refrigeration and air conditioning, and electrical). They are producing technicians with improved skills and better able to meet industry requirements. Graduates are obtaining higher levels of employment and on average, higher pass rates in the national skill tests than graduates from non-assisted schools.

At the national level, the project helped establish an operational NTCTESD to provide in-service training for TVE staff. The NTCTESD offers a range of courses in seven technologies, and in educational technology, for a large number of public TVE institutions across all regions in the Philippines.

The fellowship training in Australia was also very successful. It developed a pool of TVE teachers with improved technical, teaching, curriculum and workshop management skills. The teachers, who are direct beneficiaries of the project will be a valuable long term resource in developing the TVE sector.

At the design, appraisal and initial project implementation stages, project costs for constructing facilities and utilities were under-estimated. This increased Government of Australia (GOA) costs by 17 per cent, and Government of Philippines (GOP) costs by 50 per cent.

# Background to the Project

## Development Context of the Project

In March 1986 the Government of Philippines formally requested assistance from the Government of Australia for a project to improve the TVE sector, identified as an important constraint on national development. In 1987 a Pre-Feasibility Study was undertaken, followed by a Feasibility/ Design Study in 1987. In 1988 an AusAID Desk Appraisal recommended significant changes to the design and a Field Appraisal was undertaken.

## Philippines Economy

The Philippines economy performed poorly in the decade to 1986. It was characterised by decreasing per capita output in real terms, and a rapidly increasing labour force which resulted in growing unemployment. In response to the increasing unemployment and underemployment, the Philippines Medium Term Development Plan (MTDP) 1987–1992 sought to alleviate poverty, generate employment, and promote equitable access to education and social justice, combined with economic growth. The plan's emphasis on rural based activities, labour intensive technology and small scale enterprises highlighted the need to raise and develop technical and vocational skills. This need was to be addressed by improving the quality of technical and vocational training at secondary and post secondary schools.

The introduction of free secondary education at the start of the 1988-89 school year expanded enrolment in the secondary and post secondary schools, with a significant number of post secondary students enrolling in TVE in the following years.

## Technical and Vocational Education Sector

At the inception of PATVEP and through most of its implemention, the TVE sector was divided into formal and informal systems. The two systems operated relatively independently, with different delivery systems and structures, and different government institutions

responsible for programs. This resulted in a fragmented approach to TVE.

Private and public institutions provide training in the formal and informal systems. Private institutions account for about 90 per cent of graduates. The Department of Education, Culture and Sport (DECS) was the government agency responsible for formulating education policy, planning, regulating and coordinating education sector agencies. Bureaux under the department included the BTVE and the Bureau of Non-Formal Education (BNFE).

The BTVE was responsible for the formal TVE system under which the PATVEP project operated. It was responsible for policy direction and administration, though it did not have direct supervision over the schools in the sub-system.

The National Manpower and Youth Council (NMYC), a government agency under the Department of Labour and Employment (DOLE), was the main provider of non-formal TVE. Other providers in the non-formal system included the BNFE and the Department of Trade and Industry.

### TVE Sector Constraints

The 1988 AusAID Field Appraisal Study identified several factors constraining the effective training of technicians and tradespersons. These included the lack of practical training among administrative and teaching staff, insufficient and inappropriate equipment and learning facilities, ineffective curriculum, limited learning materials, limited skills for developing curricula and managing its implementation, and insufficient recurrent budgets to provide consumables and teaching materials, and repair and maintenance of equipment and facilities.

## Description of the Project

The main focus of PATVEP was:

- Support for the National Training Centre for Technical Education and Staff Development (NTCTESD), the national level technical teacher training centre for in-service upgrading of teachers and administrators in the TVE system;
- Establishing the capacity of the NTCTESD materials production unit;

- Improving the capacity and operation of the BTVE in curriculum development and organisational development; and
- Strengthening nine Technical Education Institutes (TEIs) and Schools of Arts and Trade (SATs) to train tradespersons and technicians to industry standards.

The project was implemented from 1990 to 1994. GOA involvement finished in June 1994 with the formal transfer of project equipment and buildings to the GOP. GOP inputs continued to 1996. In 1995 the GOA provided an additional input, a competency based vocational education adviser (CBVE) to work in the BTVE for one year.

The Project Goal was "to improve the education and training of technicians and trades persons from selected schools offering technical and vocational programs, to meet industry standards". The major project components and outputs are set out in Table 1.

Annual project costs for the GOA and GOP are detailed in Table 2. GOA and GOP costs increased during project implementation by 17 per cent and 50 per cent respectively. This is largely because costs for facilities and utilities were underestimated. The lack of a thorough technical survey of existing facilities during the design and PID stage also resulted in delays in constructing facilities. This in turn delayed delivery of the equipment and in some cases, reduced the effective time that technical advisers were available to assist in installing and operating workshops. The nine schools and the NTCTESD were grouped in three batches, with facilities and equipment developed in phases., The delays meant that batch three schools had only a limited period with operating workshops before the project ended.

At the national level, delays in the formal establishment of the NTCTESD had an impact on its development and integration with related institutions. Inter-agency and project relationships with the BTVE had an impact on the focus of some of the inputs into curriculum development, and resulted in reduced effectiveness.

In response to delays in implementing the project activities, AusAID commissioned a Joint Zero Base Review in 1993. The review indicated that while project training was successful, the development of the NTCTESD and management training courses were less than planned in the PID. Further, the physical outputs of the upgraded curriculum and learning elements from the BTVE did not meet PID

targets. The review detailed a timeframe for completing these critical activities.

The review recommended that the project focus on making the workshops operational, strengthening curriculum development processes at the BTVE, medium term planning at the NTCTESD, and activities to generate recurrent cost budgets at the schools. These recommendations were adopted, and provided the basis for project activities during the remainder of the project.

Note: The project components are based on the logframe, as presented in the Project Completion Report (1996).

The managing contractor for GOA project implementation was a consortium lead by SAGRIC International and comprised the Overseas Projects Corporation of Victoria and the International Development Program of the Australian Universities and Colleges. The GOP project management agency was the Educational Development Projects Implementation Task Force (EDPITAF), the DECS project management office responsible for administrating foreign aid projects. A PATVEP project management unit was established in this office.

## Table 1: Project Components and Summary of Project Outcomes

| | Project Component | Project outcomes |
|---|---|---|
| Component 1 | Operational NTCTESD for in-service training in TVE | Well equiped and operational NTCTESD, with upgraded workshop in 7 technical areas and in education technology |
| Output 1.1 | Teacher upgrading courses and staff development programs implemented | Well trained NTCTESD staff implementing training courses for staff fromTVE institutions |
| Output 1.2 | Education technology and material production units established, material tested and disseminated | Operational education technology and materials production unit.<br>Limited production of instructional course material, copies to course attendees only.<br>Limited dissemination of materials to project schools and other schools |
| Component 2 | Establishment of management training and other staff development programs at NTCTESD. | Management training and project development courses provided by NTCTESD |
| Component 3 | BTVE organisational development, curricula development and facilities design | With restructuring, BTVE fellows with improved curriculum skills now working in related areas in TESDA. It is difficult to assess organisational development impact on BTVE due to meger. |
| Output 3.1 | Support Services established for: | Learning modules prepared and staff skills upgraded |
| | - Curricula | Self paced learning modules prepared in 7 technical fields as part of curriculum development in CBVE. These are being piloted in 33 schools.<br>7 fellows trained in technical curriculum areas, 2 fellows trained in CBVE. |
| | - System monitoring skills | 1 fellow trained in systems monitoring<br>Limited evidence of improved monitoring procedures |
| | - Student evaluation | Limited evidence of improved data collection systems. |
| | - Facilities and equipment | 1 fellow trained in facilities design. |
| | - Organisational development | Difficult to access due to meger and TESDA formation.<br>1 fellow trained in strategic planning |
| | - Workforce data interpretation | TESDA is now using World Bank project assisted PSALM approach in identifying industry skill requirements. |
| | - Skills testing | National Skills Testing System being used by the schools. Not all students in all PATVEP technologies, which are producing skilled technicians. |
| Component 4 | Strengthening of 9 TEIs/SATs | 9 Strong schools with skilled staff and well equiped workshops in the PATVEP technologies, which are producing skilled technicians |
| Output 4.1 | Upgraded teachers | Very high retention of the 112 trained fellows (greater than 90%) with improved technical and teaching skills. |
| Output 4.2 | Improved curricula | 3 fellows trained in CBVE.<br>Some local enrichment of curriculum by teachers.<br>Fellows involved in curriculum committees<br>Each school in distinctive area of competence (1 technology/school) is piloting the learning modules which have been prepared as part of the CBVE program. |
| Output 4.3 | Improved equipment | 9 PATVEP assisted schools with well equipped and operating workshops in the 4 technology areas in which each school received support |
| Component 5 | Stengthen coordination with DECS Regional Offices in the 8 regions where the project schools located | Increased awareness of project, and support for the project schools |
| Output 5.1 | TVE Staff capability improved | Study tours and training provided to DECS Regional Office staff, increased awareness of and support for project. |
| Component 6 | Trainees in trade and technicians programs, and graduates meet industry standards | PATVEP schools producing students with better practical skills, who are achieving higher pass rates at the National Skills Tests and higher levels of employment. |

Table 2: Annual Project Costs, Australia and Philippines, 1990-95

| | GOA Annual Project Costs, 1989 -1994 | | | | | | GOP Project Costs 1990-95 |
|---|---|---|---|---|---|---|---|
| $A thousand | 1989/90 | 1990/91 | 1991/92 | 1992/93 | 1993/94 | TOTAL GOA | TOTAL GOP |
| GOA Costs | | | | | | | |
| Personnel | 331.69 | 1822.29 | 1833.38 | 2069.29 | 1277.27 | 7333.92 | 1176.49 |
| Procurement | | 86.04 | 6189.49 | 6672.13 | 1105.98 | 14053.64 | 6601.34 |
| Training | 216.35 | 1456.83 | 1673.18 | 569.29 | 324.59 | 4240.24 | 900.79 |
| Other | 63.91 | 204.49 | 541.89 | 917.64 | 1297.98 | 3025.91 | 2065.18 |
| TOTAL | 611.95 | 3569.65 | 10237.94 | 10228.35 | 4005.82 | 28653.71 | 10743.8 |

Source: SAGRIC Project Completion Report and EDPITAF Completion Report, with additional information from the managing contractor. The exchange rate is based on the average exchange rate of 20 Peso to the $A1.

# Impact Assessment

## Institutional Impact

The project had a strong focus on strengthening institutions. Equipment, training and technical advisory inputs were provided at the national level through NTCTESD and BTVE and at the local level through the nine target PATVEP schools (TEIs/SATs). In the eight regions where the target schools were located, support was provided through training and study tours for key staff in the DECS regional offices. The project assisted in strengthening the capacity and capabilities of these institutions.

### NTCTESD

The project provided the NTCTESD with equipment, workshop facilities, a resource centre, staff training fellowships, and technical advisory inputs in seven technical areas assisted by the project and in educational technology. The project assisted in establishing a strong NTCTESD to provide in-service training for teachers and administrators in the TVE sector. While training focused on technology, it was also provided training in teaching methods and in management. The NTCTESD developed and undertook limited distribution of instructional materials for these courses. As a result of the project, the institution has well trained instructors, operational workshops, undertakes a range of training courses, and has the capacity to produce learning materials.

The impact of strengthening the NTCTESD was constrained by the delays in its formal establishment until the Executive Order in 1993. The institution's lack of formal status led to uncertainty about its role and delayed the development of an appropriate organisational structure and the formation of strong links with related client organisations (BTVE and TEIs/SATs). While the NTCTESD was involved in preparing course and instructional material, the dissemination of these materials was limited. This role of preparing course material overlapped with the BTVE.

The NTCTESD's operations were influenced by policy changes in the TVE sector, restructuring of institutions, the enactment of the TESDA Law in 1994, and the formation of TESDA. While the

Implementing Rules and Regulations for TESDA became effective in March 1995, the Executive Order (No.337) transferring the NTCTESD to TESDA only became effective in May 1996. As a result, decisions on the role of the NTCTESD in the new institutional structure came slowly.

TESDA's industry based approach required the NTCTESD to form new linkages and redefine its role, as its client base had been public schools in the formal TVE sector. In discussions with the NTCTESD and TESDA, the NTCTESD's role in the new structure is yet to be finalised. It is planned that the NTCTESD will become a division of National Institute of Technical Vocational Education and Training (NITVET), focusing on technology training for TVE sector trainers.

## BTVE

The project strengthened the BTVE Curriculum Development Division. The Evaluation Team met with some staff who were originally from this Division and had been training fellows. They indicated that their training and the technical advisory inputs facilitated the implementation of curriculum tasks in the division.

However, the impact of the project on the BTVE was constrained by weak inter-agency linkages between the NTCTESD and BTVE, and the project team. This delayed the BTVE's commitment to the project. As a result, inputs into the curriculum development process were not fully effective. The Project Completion Report (PCR) states that these inputs lacked focus and coordination until the curriculum development adviser arrived in 1992, and training fellows had returned from study in Australia.

With the formation of TESDA, which involved merging the BTVE and the NMYC, two of the fellows who had received training in the BTVE relocated to the Curriculum Development Division of NITVET and eight to the Office of Formal Technical Vocational Education and Training (OFTVET). From discussions with staff in these two divisions it is apparent that at an operational level some functions are duplicated, and there is a lack of clear responsibility for curriculum development and reproducing learning materials. While in theory the Curriculum Development Division is responsible for curriculum development and OFTVET for specific courses in the curriculum, OFTVET is taking an active role in curriculum

development and may not involve staff from the Curriculum Development Division in the process. Such conflicts have reduced effective outputs and had an impact on the institution.

## DECS Regional Offices

DECS was the line agency responsible for the TVE schools during project implementation. Each regional office had a division covering BTVE functions at a regional level. The project's study tours and training, designed to provide an awareness of project objectives and long-term support, assisted in project implementation. However, the restructure of DECS and the transfer of BTVE functions to the TESDA Regional Office, combined with the TVE policy changes and some staff transfers, appear to have reduced the impact of this training and the likely level of any long-term support to the project schools.

## PATVEP Assisted TVE Schools (nine TEIs/ SATs)

The project strengthened these schools by providing equipment and buildings, training, and technical advice in four technologies per school. The result is strong institutions capable of producing skilled technicians in these PATVEP technologies.

While the project had a technology focus, it also provided some management, administration, and project implementation training through study tours and training courses. More training in the management of and the financial systems needed to operate schools with complex workshop structures would have strengthened the schools' management systems after the project.

Delays in construction and installing equipment reduced the contact time for the technical advisers to assist in installation and establishing operating workshops. In a few workshops this resulted in not all equipment being fully functional. Factors included non-delivery of some parts and lack of equipment manuals.

When DECS was restructured, eight of the PATVEP assisted schools came under the supervision of the Commission for Higher Education (CHED). Sorsogon College of Arts and Trade had become a state college prior to the restructure. While CHED now has administrative responsibility for PATVEP assisted schools, TESDA has program responsibility for post-secondary programs in these schools. The General Appropriations Act (GAA, 1997) outlined the

transfer of administrative responsibility for 218 public TVE schools to TESDA. While most of these schools are very poorly equipped, the transfer was to include all TVE schools assisted under foreign funded projects. In discussions with the PATVEP assisted schools and TESDA, it appears unlikely that the assisted schools will be transferred from CHED to TESDA. This institutional structure weakens the links between TESDA and PATVEP schools and is likely to limit the influence of the assisted schools on other TVE institutions.

# Technical Impact

## Human Resource Development and Skills Transfer

Individual teachers, as beneficiaries of the project training fellowship program, demonstrated a spread of knowledge and skill far in advance of those who did not gain places in the scheme. Some 70 returned fellows from the five PATVEP schools visited by the Evaluation Team indicated to the team that they had benefited from the training. They had gained increased skills in their chosen technical field, improved their range of technical teaching methods, and increased their skills in managing workshops. They indicated that they had applied these skills in their work. The very high retention rate of fellows (greater than 90 per cent in 1997), indicates their positive attitudes to their role in the schools.

The PATVEP fellows influenced their school environments in that the schools generally had a stronger industry focus. Non-PATVEP workshops in the schools had been restructured using the workshop management principles the fellows had acquired during training. The PATVEP workshops visited were clean and well ordered, in marked contrast to those in some non-PATVEP schools.

The NTCTESD is a well equipped, functioning training centre with skilled staff. The project made a large investment in the centre. Teaching staff who undertook fellowship training in Australia indicated that their improved skills and staff development techniques had enabled them to improve training course structures, presentations and skill transfer techniques.

The NTCTESD's national impact is through its training program. Participants in its courses have come from all regions in the Philippines and include teachers and administrators from more than

340 public TVE institutions and state colleges. Only two courses involved participants from private institutions. The training program has grown significantly. There were 9 to 18 courses in the seven PATVEP technical areas and educational technology in 1991 and 1992. This increased from 42 to 56 courses between 1993 and 1995. The total number of courses, including non-PATVEP courses, ranged from 54 to 81 between 1993 and 1995. In 1996, 35 out of a total of 71 courses were in PATVEP technologies. The NTCTESD plans to run 78 courses in 1997.

The NTCTESD considers that although it has the resources and skilled staff, its more limited GAA budget post PATVEP is constraining its ability to provide training courses and will reduce use of its facilities.

The NTCTESD's role in producing materials was less than planned in the PID. While much print material has been developed, production of an item is limited to a print run of one copy for each course participant plus four spare copies. As a result a lot of material remains in house and only a limited amount is distributed to a few schools. Limited funds were identified as the key constraint. TESDA indicated that other factors influenced the extent of material production. These were, the limited reproduction capacity of the NTCTESD, and the NTCTESD dependency on program directives from the BTVE.

With the restructuring of the TVE sector, it was difficult to assess the impact of human resource development inputs into what was the BTVE and DECS. Discussions with individuals who were originally from these organisations and who had undertaken fellowship training indicated that they have excellent working knowledge in their areas of expertise. The impact of the interventions in organisational development could not be determined.

The project provided management training to school principals and administrators. It is difficult to assess the benefits of this training. In a number of the schools visited by the Evaluation Team the school principal had changed. In some of these schools, the new administrator had received training under PATVEP. The schools varied in the level of their financial management and management information systems, budget processes and repair and maintenance (R&M) systems. While some administrators were very capable managers, others appeared to be less so. Planning provides one

indication, in particular the lack of fully documented R&M plans, limited staff development plans, and the lack of documentation from which to plan and coordinate materials budgets for individual workshops. Given the increasing management and financial demands of these more complex workshop structures, additional training assistance was needed in this area.

## Technology/Equipment/Resources

Equipment provided under PATVEP has raised the standard of the nine TVE schools and had a significant impact on the institutions. Each of the PATVEP schools was provided with workshops in four of the project technologies. The NTCTESD received the largest capital investment under the project: it was provided with equipped workshops covering each of the seven project technologies.

Most of the equipment purchased by the project was suitable for the planned training of students to meet industry standards. While the equipment was in advance of most industry in the Philippines at the time of its purchase, industry has introduced it in the intervening period. However, some of the equipment does not reflect the Philippines' situation in that it is foreign supplied, has no representative agency in country, and is not replicated in local industries. Two examples are the ice making machines and the cool stores, which the schools consider have limited application as well as R&M problems.

The project also provided equipment to establish a video production facility. The introduction of video programs for sections of the teaching program has been well received in PATVEP schools. The impact of the investment in video is restricted to schools in the TVE sector with operating video machines. While the production facility may be considered preparation and piloting for a later stage development, currently few schools have video facilities. There has been very limited dissemination of video material outside PATVEP schools.

The improved workshops in the PATVEP schools are used for the range of technology courses taught in the schools. Workshop use varied in the five schools visited. According to information provided, the maximum workshop use was nine hours a day, that is, three sessions of three hours per day. The workshops are used by certificate

and diploma-level students, degree level students in these technologies, and in some cases by short-course participants.

Most PATVEP equipment was fully functional on project completion. However, delays in the building and refurbishment program meant that some schools did not receive their equipment until very late in the project. In some workshops installation was not completed until the technical advisers had left. As a result, some equipment was not fully commissioned or operational. Key factors were a lack of essential parts, lack of operator and workshop manuals, and failure to provide recipient schools with the addresses of suppliers of individual pieces of equipment. This was a problem at two of the five schools visited: Surigao del Norte School of Arts and Trade (SNSAT) and Bohol School of Arts and Trade (BSAT). SNSAT had two problems: a MIG welder lacking the right regulator and which cannot be used; and a milling machine in the electrical workshop, which lacked essential parts. BSAT lacked both a manual for its spot welder and accessories for its milling machine.

PATVEP workshops in project schools showed good stock control for hand tools, with few tools missing since project installation. The Evaluation Team found evidence in PATVEP schools of PATVEP instigated repair and maintenance systems for workshop equipment. Of the five schools visited, only one school produced records for individual machines that had been maintained after project completion. One school, a late recipient of equipment, had no job cards or documentation system in place. At this stage, both the NTCTESD and PATVEP schools are enjoying a repair holiday because the equipment is new. In all institutions R&M planning is needed and must be supported by the school budget.

The introduction of new equipment has increased recurrent costs for the NTCTESD and the PATVEP schools. The schools' power budgets have increased at least threefold with the installation of equipment. Materials costs have increased and R&M costs will increase. The GOP GAA allocation has not been able to match the recurrent budget for these items, which was allocated by the GOP under PATVEP.

The transfer of technical skills to non-project institutions has occurred at the national level through the NTCTESD training courses. At the local level it occurred with the outreach activities, which terminated with the finish of GOP PATVEP funds. TESDA

indicated that other government agencies will undertake these training programs at the local level.

Links to other schools to increase the use of the better equipped workshops, while not included in the project design, was occurring in two of the five schools visited. The schools—BSAT and Bataan National School of Arts and Trade (BNSAT)—have developed links with the Cebu State College of Science and Technology and the Don Honorio Ventura College of Arts and Trade. For example, three classes from the Cebu State College of Science and Technology (electrical, refrigeration and welding) travel to BSAT to gain practical skills from the staff and from using the workshops upgraded through PATVEP, and two classes from BSAT (automotive and metal working) travel to Cebu to use workshops which are better than those at Bohol.

## Curriculum/Curriculum Development

In the PATVEP technologies much has been achieved in developing self-paced learning materials or modules, and syllabi. During PATVEP project implementation the focus was on learning materials. While this is part of the process following curriculum development, it occurred at the expense of overall curriculum development. The project objective as detailed in the PID, of producing improved curricula in seven technical fields and twelve trades was not achieved. The PCR identifies a lack of focus with curriculum development early in the project, in part due to BTVE's lack of awareness of its curriculum needs. The absence of a close working relationship between the BTVE and the project technical advisers hindered the effectiveness of some inputs, and delayed BTVE ownership of the project. The PCR indicates that "a deleted paragraph from the PID draft (August 1990) alienated the BTVE Director and almost brought the project to a halt in 1992. It influenced the nature and duration of curriculum assistance throughout the project" (PCR, page 84). If this was the case it should have been rectified through the annual planning process, with the required logframe changes incorporated in a change frame.

The project design document logframe has two entries for curriculum:

a. Under the NTCTESD component, the Narrative Summary refers to "Learning resources production workshop established and operational" with the Verifiable Indicator being "Learning

resources produced". The PID changed this section to read: "Educational technology and materials production units established and improved, resource materials tested, disseminated to project schools and available for use at other schools."

b. Under the BTVE component, the design document tasks the project to "Improve BTVE capacity to support and plan services to technical and vocational education sub system." The PID changed this to read, "Assist BTVE in organisational development (OD), curriculum and facilities design;" then, inter alia, "BTVE support services established for Curriculum" with Verifiable Indicators being "Effective curriculum and facilities provided to sub sector", and again, "Improved curricula, 7 technician fields and 12 trades."

Technical teachers in the fellowship program were given some curriculum instruction during their courses, seven members of BTVE staff studied specialist technical curriculum and five fellows were sent to Australia for CBVE. In addition, specialist advisers gave fifteen months of curriculum advice in country. An additional advisory input in CBVE was provided to the BTVE. The focus of the technical advisory inputs was on curriculum theory and developing self paced learning modules. Each of the technical advisers was given curriculum tasks.

Curricula given to the Evaluation Team, and issued under DECS Order 45 of 1994, do not contain objectives, equipment or text references. In this respect, the curricula disseminated under the Order resemble syllabi rather than curricula. A range of schools visited produced curricula. They varied from subject lists to syllabi, some dating back to 1974. Private schools appear to develop their own courses and again, considerable variation was seen. Much remains to be done with the curricula proper.

The project focus on learning modules has limited the project's impact at a national level. While 33 schools are currently piloting the modules in the PATVEP technologies, the spread of these learning modules to other schools will require an equipment range, consumables and teaching skills far beyond the capacity of the majority of TVE schools. Self paced learning modules are one type of delivery mechanism; traditional teaching and CBVE methods are alternatives. Each of these can produce competency outcomes as

indicated by those who pass the national skill test. Effort is still required to develop programs capable of being taught in schools with low levels of resources.

The issue of local content or enrichment in curricula needs to be clarified. Across the schools visited, most school staff referred to a 30 per cent allowance for local content.

## Competency Based Vocational Education

In the PATVEP PCR and in discussions with a range of teaching staff, there was considerable emphasis on progress made in developing CBVE. Overall the modules prepared as part of the CBVE program are very good self-paced learning modules. There is some variation in quality of content.

Preparation of learning modules for CBVE started in 1991. The project facilitated this development through provision of: a Curriculum Adviser in 1992, fellowship training for BTVE staff, and a CBVE Adviser in 1995.

Since project completion, the process has continued and the number of modules has increased from the 218 learning modules mentioned in the PCR to a total of 681 in April 1997. These modules are for operator, craftsman and technician level, with the number at each level detailed in Table 3.

Table 3: CBVE Learning Modules

| TECHNOLOGY | LEARNING ELEMENTS | | | TOTAL |
|---|---|---|---|---|
| | Operator | Craftsman | Technician | |
| Electrical | 14 | 13 | 29 | 56 |
| Electronics | 21 | 26 | 32 | 79 |
| Automative | 14 | 36 | 16 | 66 |
| Welding | 32 | 19 | 17 | 68 |
| Building Construction | 51 | 35 | 27 | 113 |
| Furniture and Cabinet Making | 15 | 38 | 20 | 73 |
| Refrigeration and Air Conditining | 29 | 19 | 24 | 72 |
| Metalworking | 45 | 25 | 26 | 96 |
| Metal Casting | 17 | 19 | 22 | 58 |
| TOTAL | 238 | 230 | 213 | 681 |

As yet none of these modules have been fully approved. A key constraint is that the required modules have not been disseminated to all the 33 schools nominated for piloting the program in the PATVEP technologies.

While the modules are very good self-paced modules, most lack a true test of competency. The testing sections of most modules are subjective in that they require the instructor to make a judgment without reference to a test schedule incorporating knowledge, attitudes and skills. Some modules relating to a psychomotor skill are tested with a series of multi-choice questions.

The focus on CBVE has resulted in better learning in some trade areas in PATVEP schools and other selected schools. The approach is in advance of the TVE system's ability to deliver. CBVE, as developed, closely follows the types of equipment provided under PATVEP and requires the backing of the improved teaching skills developed through the human resource development program. Currently the lack of appropriate equipment and teaching skills in most schools would limit its usefulness in most non-project schools.

The school break meant the Evaluation Team did not see the modular approach in operation in workshops. A lack of industry acceptance is also limiting the impact and spread of CBVE. Some of the schools visited indicated that some employers wish to see a student's actual marks indicating proficiency rather than guarantees of competency. Three schools piloting the CBVE programs stated that student drop out rates were higher than in other courses, and that there was difficulty with industry acceptance of the marking methods used in the system.

The limited distribution of these modules even to the pilot schools has limited their effectiveness during the pilot program. Some schools are still awaiting modules developed several months ago; others were able to show modules with text but lacking illustration. The situation at BNSAT provides an example to illustrate the difficulties. Course modules at operator level have been completed, at craftsman level they have been piloted but not approved and, at technician level they are being used as teaching material rather than for self paced learning. Lack of money for printing and disseminating material was identified as the key constraint. This has not been rectified and will limit any benefit and impact from the modules.

## TVE Graduates/ Skill Levels

The Evaluation Team discussions with industry representatives and commercial groups indicated that graduates from the PATVEP schools have developed more practical skills than those employed before the project intervention and those from less well endowed schools.

On average, PATVEP schools are achieving higher pass rates in the national trade skill tests than those achieved from other schools. In some PATVEP technologies, these rates have reached 80 to 100 per cent, well above the national average of around 50 per cent. Results are difficult to quantify since not all students take the tests. Industry representatives indicated they were able to reduce the time spent in induction/pre-service training because of the higher skill levels. A general criticism made of all new employees was the need to inculcate attitudes and work ethics.

The greater acceptability of TVE graduates from PATVEP schools has assisted in developing better industrial linkages and made progress towards a partnership between industry and TVE. The

improved focus on industry has been assisted by the on-the-job training program. The TESDA focus on servicing industry needs has resulted in some of this attitude being replicated in other schools.

### Industry/Meeting Industry Standards

Industry bodies and individual firms indicated a high degree of satisfaction with the skill standards of PATVEP graduates in areas close to development zones or with high employment. Supporting evidence is the high employment prospects of PATVEP school graduates in these areas. In regions with low employment prospects, there has been limited local impact. Graduates from these regions are finding employment in the development zones of Cebu and Manila, and to a lesser extent in overseas positions in Taiwan and Saudi Arabia.

BTVE's introduction of the process for developing a curriculum (referred to as DACUM) has led to better understanding of industry needs and standards in regions where development zones exist. This is not necessarily the case in other places where some industry representatives do not regard TVE as a partnership arrangement but rather, because their companies pay taxes, a Government responsibility to provide fully trained technical workers.

### Delivery Efficiency

PATVEP schools are producing better skilled tradespersons with greater employment opportunities than they would have before the project. The internal and external efficiency of the project assisted delivery system cannot be assessed quantitatively because although prescribed in the design, the project did not undertake a baseline survey of data, establish formal tracer surveys of students and graduates, or establish a monitoring and evaluation system which would enable quantitative analysis.

## Social Impact

### Target Beneficiaries

The strengthening of institutions by providing physical resources and improving staff resource skills was designed to improve the students' technical skills. At the national level, through the NTCTESD the project provided courses in upgrading skills and management training for teachers and administrators from public TVE institutions. Through the BTVE it assisted in developing learning

modules. At the local level this occurred through the strengthening of the nine assisted TVE schools.

The teachers were direct beneficiaries of the project. The fellowship training in Australia was very successful and has developed a pool of TVE teachers with improved technical, teaching, curriculum and workshop management skills. These teachers are a valuable long-term resource for TVE sector development.

While there are no formal survey and M&E systems to assess the PATVEP's wider impact, in the local PATVEP schools the indications are that the project has resulted in a marked improvement in teachers' and students' technical skills. Students with access to well equipped workshops are obtaining improved practical skills required by industry. The indicators are:

- **Higher National Skill Test Pass Rates**. While not all schools insisted that students do the national skill test, four of the five schools visited during the evaluation indicated that their pass rates had improved. In these schools the pass rates were higher than they were before PATVEP, higher in comparison to the non PATVEP assisted technologies, and higher than local non PATVEP schools. The test pass rates in three of the PATVEP schools visited by the Evaluation Team ranged from 48 to 70 per cent, 85 to 90 per cent and 90 to 100 per cent. This compared to the national average of 50 per cent.
- **Higher Levels of Employment**. Employment rates will be influenced by external factors such as industry growth and development in particular regions. While aware of this, the indications from the five schools visited by the Evaluation Team are that generally, PATVEP school graduates have higher levels of employment when compared to non PATVEP school graduates in the region and to the pre PATVEP situation. The schools visited generally undertook informal tracer surveys to monitor employment. While no standard method was used, the employment percentages indicate very high employment percentages in PATVEP technologies in those schools in or relatively close to development zones.
- **Industry Feedback**. The Evaluation Team held discussions with industries representing small, medium and large employers. The firms indicated that PATVEP students have

higher levels of practical skills when undertaking on-the-job training, and are sought for employment. While no quantitative evidence was provided, it was indicated that in some cases, the graduates' improved skill base has lowered industry training costs.

- **School Impact**. The schools assisted by PATVEP have improved their reputation, attracting more applicants, stronger industry support and in some cases, scholarship funding. In the five project schools visited by the Evaluation Team, the total number of students in certificate or diploma courses (CT, DT), bachelor courses (BSIT, BSIE) and CBVE courses who used the four PATVEP equipped workshops in each school, ranged from approximately 450 students/year at the Cavite College of Arts and Trades (CCAT) to 1100 students/year at SNSAT. The mean is around 650 to 700 students per year. These numbers do not include any short course users, and do not differentiate between certificate and diploma students and bachelor degree students. The number of students graduating per year in PATVEP assisted technologies ranged from 80 at CCAT to 260 at SNSAT.

- **Regional Impact**. In selecting the nine schools the project had a regional focus "to ensure equitable distribution of educational opportunities". This resulted in the selection of some schools in regions with limited development and employment growth opportunities. Of the five schools visited, this was particularly the case with Zamboanga City Polytechnic College (ZCPC) (Region 9) and SNSAT (Region 13). In these two schools there were limited local employment opportunities, with most graduates moving to Cebu, Manila, other development zones, and a limited number moving overseas. The graduate employment in these schools was lower, ranging from 30 to 50 per cent for SNSAT, and from 39 to 100 per cent for the PATVEP supported disciplines in the ZCPC. While the local region may not benefit directly from the local training, the training has improved the student employment and income prospects in these relatively poor areas. In those schools visited which are close to development zones (CCAT, BNSAT, BSAT) the levels of employment range from 80 to 100 per cent in PATVEP assisted technologies.

## Gender Impact

In the five PATVEP schools the Evaluation Team visited, there was an increase in the participation of females in the seven technologies assisted under the project. The number of females in six of the technologies increased marginally, while in electronics, in which females account for a greater percentage of the students, there was a more marked increase.

The schools used various approaches to increase female participation in these technologies, ranging from not promoting particular gender groups to encouraging female applicants. It is difficult to quantify the extent the project contributed to this increase in participation rate of females in these technologies.

In the Philippines' social environment these seven technologies, with the exception of electronics, have traditionally been dominated by males and perceived to be "male trades". The project had the chance to make females more aware of work opportunities in these technologies, and to address any gender bias in curriculum and materials. This did not occur to any extent as the project design and PID did not address the issue.

## Environmental Impact

The project had a direct although minor impact on the environment. Environmental issues were important in that the project involved establishing workshops, new equipment and technologies, training of staff and TVE students in seven technologies which utilise materials and generate waste products which can adversely impact on the environment.

Some of the selected project equipment and technologies included Chlorofluoro-carbon (CFC) gas recovery equipment. This equipment was some of the first of its kind introduced into the Philippines. The environment was not a key factor in the choice of project equipment and technology in this project. However, this situation should change with the introduction of AusAID's Environmental Assessment Guidelines and their implementation throughout the activity cycle.

The staff at the project schools which were visited, and the NTCTESD, indicated that the training that they had received had resulted in an increased environmental awareness. This, combined

with the increased GOP environmental focus, had resulted in schools adopting minimum waste or zero waste systems involving recycling of workshop by-products such as oil, metal scraps, composting sawdust, and CFC gas recovery. The schools indicated that in the teaching courses they now cover environmental issues such as good environmental management practices and their application in the workplace. This includes workplace safety.

While the project did not directly assist in establishing a uniform approach to incorporating these environmental topics in the teaching courses, it did help raise environmental awareness. Graduates from these schools will have an improved understanding of good environmental practices and, when they are employed, there is potential for this knowledge to be transferred to the workplace and reduce industry waste and adverse environmental impacts.

## Financial Impact

GOA and GOP project costs increased during project implementation, as both the project design and project implementation document underestimated project costs of constructing facilities and providing utilities. This resulted in increases in GOA costs by 17 per cent and in GOP costs by 50 per cent compared with PID cost estimates.

The direct financial impact of the project is increased operating costs for the NTCTESD and the nine PATVEP assisted schools. The improved PATVEP workshops have higher quality equipment which has increased utilities, maintenance and material costs. During the project GOP PATVEP funding assisted with these increased recurrent costs. Post project the institutions again depend on their GOP GAA allocations, which have not increased to meet increased recurrent costs. TESDA stated that the “restructuring is expected to provide increased funding for the PATVEP schools”. This has yet to occur, and while the institutions are generating some funds themselves, increased GOP funding will be needed to meet the shortfall if the institutions are to be maintained and operate at existing levels.

# Sustainability

## Education Sector: Policy and Institutional Restructuring

During project implementation the TVE sector underwent a period of major institutional restructuring and policy change. These changes resulted from adoption of the Congressional Education Commission Report recommendations. For the TVE sector these changes were enacted in the TESDA Law (1994) under which TESDA was created.

TESDA absorbed the functions and staff of the BTVE, NMYC and the Apprenticeship Office of the Bureau of Local Employment of DOLE, and included the DECS-RO personnel and functions pertaining to TVE. The TVE sub-sector now operates under a unified structure that embraces the full range of functions necessary to develop and promote TVE.

TESDA is responsible for restructuring the sub-sector institutions and programs during transition and continuing policy making, planning, regulating skills and testing standards, establishing and administering an accreditation system, and mobilising resources. Most BTVE functions are now lodged in the TESDA OFTVET Office.

PATVEP operated while these changes were occurring, with some of the institutional uncertainty affecting the development of linkages between institutions. The project goal of improving the skills and knowledge of technicians and tradespersons remained relevant in the new TVE policy environment.

## Technical Sustainability

### Equipment/Resources/Materials

The lack of management systems and realistic budgets for repairing and maintaining buildings and equipment make sustainability of the project assisted institutions a key issue. Systems need to be in place for overall school R&M, spare parts stockholding, and detailed workshop management.

Individual PATVEP workshops in the schools visited were well managed, with stock control systems in place for hand tools. These PATVEP schools were able to show some repair and maintenance concepts. While two schools were close to achieving a valid plan, none could produce a valid plan detailing the type of maintenance schedules to be implemented for individual equipment over the year. Schedules indicating operating or elapsed time, and various grades of maintenance from daily to annual, did not exist. Individual machine job card systems were not maintained.

Current R&M budgets for the assisted schools are totally inadequate to maintain the equipment and facilities at current levels. As a broad indicator, repair and maintenance budgets should reflect a minimum of 3 per cent of the capital value of the workshop buildings and the equipment it houses. Based on the GAA allocation to the school, their R&M budget, and the value of the PATVEP equipment, the R&M allocation ranges from 0.2 to 1.5 per cent in the five schools visited. This does not include any allocation to other equipment and facilities in the school. If it were included, the allocation figures would be significantly lower. The R&M percentages for the five schools and for the NTCTESD are detailed in Table 4.

Table 4: 1997 Repair and Maintenance Budgets for the NTCTESD and the five Schools visited

| Institution | Value of PATVEP Equipment [peso] | R and M Budget 1997 [peso] | % of Equipment Value |
|---|---|---|---|
| NTCTESD | 46 748 128 | 2 575 000 | 5.50 |
| BNSAT | 14 537 367 | 120 000 | 0.83 |
| CCAT | 14 699 664 | 217 000 | 1.48 |
| BSAT | 17 518 978 | 194 000 | 1.11 |
| ZCPC | 18 824 545 | 29 000 | 0.15 |
| SNSAT | 14 225 770 | 85 000 | 0.60 |

Note: No capital allocation is included for the capital cost of buildings or the value of equipment in non-PATVEP workshops.

Continued R&M funding at this level will result in equipment decline. The schools have the will to keep workshops operational, even to the point of planning to cannibalise non-functioning items. Over time, such action will result in deteriorating learning and a reduced ability to produce skilled operatives for industry.

During the project there was limited dissemination of project produced materials. While participants in the NTCTESD courses obtained a set of course materials, the material was not produced for dissemination or available for sale to other schools. This has limited the project's impact. Further, the self paced learning modules prepared under the CBVE program were not adequately disseminated to the pilot schools, and the schools were not able to reproduce them. These financial constraints continue to exist and constrain the benefits to be obtained from adopting and using the improved materials.

Any national level benefits beyond the course participants and the pilot schools will be severely limited unless funding is increased to enable these materials and modules to be reproduced and disseminated, this process is not sustainable at current funding levels. It is possible that further income generating activities could reduce this constraint.

## Staffing

Sustainability of staff skills depends on maintaining pre-service and in-service training courses. At the NTCTESD it is crucial to maintain skill levels if the institution is to continue to have an impact on teachers in the TVE sector. The sustainability of the NTCTESD depends on adequate GOP funding, and its role within NITVET. Some staff development programs were outlined in the schools visited by the Evaluation Team. These programs were undertaken through internal activities and industry attachments.

Both the NTCTESD and the schools visited had very limited funding for staff training. The risk is that the available funds will be inadequate to maintain the skill base of existing and new staff.

TESDA has indicated "that as part of its quality management and assurance system, it plans to provide staff training".

## Training

The NTCTESD has been a key institution for upgrading the skills of public sector TVE teachers. The number of courses and number of

participants in each year is detailed in Table 5, and has remained at similar levels post project. The NTCTESD indicated that 1997 is the first year without GOP PATVEP funds, and its GOP GAA allocation is limited and will affect the courses provided.

The sustainability of the NTCTESD training function will depend on its future role as part of NITVET, and on its GOP funding. As outlined by TESDA, the NTCTESD's future role will be to train TVE teachers in technical areas. To maintain course standards and develop new courses will require adequate GOP recurrent funding.

The management training currently provided at the NTCTESD needs to be continued by either the NTCTESD or another division of NITVET as it is imperative that improved school management systems are established. To consolidate the gains made through PATVEP, it is essential to conduct management courses that cover financial and administrative systems, planning and coordinating school repair and maintenance, staff development and consumable requirements for the teaching program.

Table 5: NTCTESD Course and Particpation 1991 - 1996

| 1991 | | 1992 | | 1993 | | 1994 | | 1995 | | 1996 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C | P | C | P | C | P | C | P | C | P | C | P |
| 18 | 162 | 9 | 101 | 54 | 544 | 81 | 1438 | 80 | 1543 | 71 | 1199 |

Source: NTCTESD documentation

Note: C is the number of courses, P is the number of participants.

The finish of GOP PATVEP funds saw the cessation of the outreach programs conducted by PATVEP schools for out-of-work youths and for teachers from other schools in the region. The schools considered these courses were of benefit to the participants, and would continue with them if funding was available. The well equipped schools with their highly skilled staff are a resource developed by the project that could be used for outreach programs at a local level.

## Curriculum Development/ Materials

The sustainability of the PATVEP assisted curriculum outputs in the CBVE program will require increased GOP funding to ensure that the modules being piloted in the 33 schools can be adequately reproduced, disseminated to the schools, and finalised.

The modules are a very useful resource in these technology areas. However, the existing process is not sustainable at current funding levels. The adoption of the modules in all TVE schools is unlikely, and will be limited by constraints in school equipment, resource and finances. Much of the modules' content could easily be converted into teacher/student texts which would be a valuable teaching aid.

Curriculum development needs to continue, with a focus on national curriculum which are applicable in all TVE schools.

# Institutional Sustainability

Since the TVE policy and institutional restructure, the functions and roles of a number of the PATVEP assisted institutions have altered drastically. The sustainability of all the assisted schools depends on adequate GOP funding to maintain their human and physical resource capabilities to meet TVE sector requirements effectively.

## NTCTESD

At the national level the NTCTESD is now a division of NITVET (under Executive Order 337). The Centre's future role as a technical training centre needs to be clarified. In discussions with the Evaluation Team, the NTCTESD and TESDA raised the issue that in future, the NTCTESD may combine with the Office of Management and Skill Development to form a national training academy.

Post PATVEP, the NTCTESD has maintained its level of training courses at PATVEP project levels. This has been possible in part with the continuation of GOP PATVEP funds during 1996. These funds have covered repairs and maintenance, operating and material costs for the courses.

The NTCTESD indicated that funding will be a major constraint in 1997, the first year without PATVEP funds. The GOP GAA recurrent funding allocation will be inadequate to cover repairs and

maintenance, utilities and material costs. Similar sentiments were expressed in the NTCTESD 1996 Annual Report.

The NTCTESD is at risk at current GOP funding levels. The Centre will not be able to sustain its current level of training, maintain equipment, meet utility costs, or continue in-service staff training to ensure staff skill levels meet TVE sector requirements.

## Curriculum Development Process

Within TESDA, two offices are involved in curriculum development: the Curriculum Development Division within NITVET, and OFTVET. TESDA outlined the curriculum development responsibilities of the two offices, with "NITVET responsible for providing the curriculum frameworks of large technology areas, curriculum research as well as instructional materials development. OFTVET on the other hand, is responsible for specific course design and implementation". In discussions the Evaluation Team held with these two offices there appeared at an operational level an overlap in responsibilities for curriculum development, production and dissemination of materials.

Preparing curricula, learning modules, material reproduction and distribution requires adequate GOP funding for the process to be sustainable. Additional levels of funding are required if these resources are to spread to non-pilot schools. During and after the PATVEP project, funding shortfalls have constrained the dissemination of course materials and learning modules. This situation continues, and will need to be rectified with adequate GOP funding if the curriculum development activities are to be sustained and the materials disseminated.

## PATVEP Assisted TEIs/SATs

During the latter part of the project there was a major restructure of the TVE sector. As a result eight of the assisted schools came under the administrative responsibility of CHED. The ninth school had become a state college. Previously DECS had administrative responsibility for these schools.

In the five PATVEP assisted schools visited by the Evaluation Team, the GOP PATVEP funding finished by 1996. These funds were used to provide outreach training programs for out-of-school youths and to upgrade teacher skills, and to meet repair, maintenance, utilities

and consumable costs. With the termination of these funds the outreach programs have been discontinued. The schools now rely on the GOP GAA funding allocations, and any funds from income generating activities to meet operating costs.

All five schools indicated that the GOP GAA recurrent funding was inadequate to meet the increasing costs for repairs, maintenance, higher utilities and material costs associated with the better equipped workshops. The schools provided copies of the GOP GAA school budgets which indicated low levels of recurrent funding. These budgets are summarised in Appendix 1, Table 1. While TESDA has stated that "it is expected that TESDA and CHED will assist in increasing school budgets, and will look into alternative financing strategies", until firm commitments are provided by these agencies recurrent funding remains a critical issue.

To be sustainable and meet TVE sector needs, the schools will require adequate capital and recurrent funding to maintain facilities and staff resource skill levels. While in the short term the schools will be able to maintain plant without adequate repair and maintenance plans in place, operational effectiveness will be reduced. In some schools equipment is already being used as a source for spare parts.

The schools are very aware of their recurrent funding difficulties. They are trying to increase income-generating activities, or are considering options such as converting to a state college in order to improve funding security. At the schools visited, current income generating activities are generally small scale, though the potential exists to develop them.

Some of the PATVEP schools are planning to convert to a state college. As such they will have their own GOP budget line item. This will provide greater opportunities to maintain funding support, increase staff salaries and increase flexibility in courses and programs. The change will result in a stronger focus on degree and post graduate courses. Of the five PATVEP schools visited, three are planning this move. A fourth had tried previously when there was a moratorium on increasing the number of state colleges. Such a change will reduce the access to these schools of students who want to undertake certificate and diploma of technology courses.

Sustainability of these PATVEP assisted schools is at risk in the medium term because the current level of GOP recurrent funding is

inadequate. If the schools can generate alternative sources of income to meet this shortfall they will be able to maintain resource levels. At present the levels of these alternative activities are inadequate to generate the required funds.

## Financial Sustainability

Current GOP funding levels are inadequate for institutional and technical sustainability. Existing levels of recurrent funding are too low to maintain facilities, equipment, meet utility or material costs, or enable adequate levels of staff training. The impact of the project equipment is a requirement for increased GOP recurrent funding. From discussions with the five PATVEP schools and the NTCTESD, such levels of GOP funding are not being provided.

To address this constraint the schools are encouraged to implement income generating activities. Currently these activities are small. The approach in the five schools visited was strongly influenced by the Principals' attitudes. It ranged from an entrepreneurial approach whereby both production units and entrepreneurship are encouraged as ways to increase the school materials budget, to the other extreme, where the Principal considered any income generated by the school as direct competition with local earning activities involving business and graduates. No school was involved in running industry based fees-for-service courses.

In the schools visited there was a marked variation in how their auditors treated the funds generated by these activities. It ranged from submitting the funds to general revenue, to establishing a school based trust fund. The latest regulation indicates that schools can retain these funds.

For these income generating activities to be implemented effectively requires further training inputs and clear administration regulations about the income produced. If this occurs there is the potential to generate sustainable income, which would assist with school operating costs. Without a sustained increase in income from these activities, the lack of adequate GOP recurrent funding will adversely affect the technical and institutional sustainability of the PATVEP assisted institutions.

# Lessons learned

## Selection of Appropriate Delivery System Model in the Design

The model used in the project design is a relatively high cost intervention into the NTCTESD and the nine PATVEP assisted schools. Replication could have been improved through greater attention to one of the key constraints affecting the TVE sector: limited GOP funding. In the design and implementation stages, alternative design options should have been examined to determine the cost effectiveness of delivery and the potential for further adoption.

## Development of Mechanisms for Wider Distribution of Project Benefits and Outputs

The project design operated at two levels: at the national level through training and provision of course materials at the NTCTESD, and through assisting in curriculum development in the BTVE; and at the local level through establishing strong PATVEP workshops at the nine assisted schools. The NTCTESD materials were not produced for wider dissemination to other schools. Further BTVE funding constraints during and after the project resulted in limited reproduction and distribution of curricula materials and learning modules, even to the schools piloting the competency based material. These materials were not provided to other schools.

At the PATVEP assisted schools, while outreach training programs were provided during the project, the courses ceased with the completion of GOP PATVEP funding in 1996. The project should have incorporated mechanisms to enable the wider dissemination of project materials at a national level, and at the local level established linkages with other TVE institutions to give them access to the well equipped PATVEP workshops.

## Need to Establish a Monitoring and Evaluation Framework to Assess Project Impact

To assess the cost effectiveness of the delivery model, quality of training, skill levels and employment, structured project monitoring systems needed to be integrated into the design. This would involve tracer surveys, trade skill test results and industry surveys.

While tracer surveys were detailed in the project logframe, the project did not implement a coordinated approach. The surveys that were undertaken by school guidance officers did not use a standard method. In the schools visited, the survey methods ranged from tracer slips and responses, to using secondary sources (industry and local contacts), or were based on informal student feedback. In two of the schools the guidance officers did not undertake tracer surveys. While TESDA indicated that the EDPITAF Project Management Office coordinated the schools on the conduct of these studies, the methods used by the different schools lacked consistency.

Training evaluation reports were prepared for the staff who undertook training, though no work effectiveness reports were undertaken to assess the effectiveness of the skill transfer in the school or the NTCTESD work environment.

## Firm Counterpart GOP Funding Commitment Before Project Implementation

The key risk identified to project sustainability was the availability of GOP funding, particularly recurrent cost funding. Given this was vital, project implementation should have depended on firm GOP funding commitment. While recurrent expenditure may only be a small percentage of school funding, it is critical to the long-term sustainability of project benefits.

## Developing a Sustainability Plan

Post project, all PATVEP assisted institutions have indicated that GOP funding is a key issue, and that the very limited recurrent funding is a critical operating constraint. A number of the institutions are undertaking income generating activities to try to make up the shortfall. In most schools to date these have been ad hoc activities generating only limited funds.

Those institutions assisted by the project now have more complex workshop structures and higher operating costs. To help the institutions meet these costs, a sustainability plan should have been developed to determine management and financial requirements for sustainable operation post project and in the medium term. Such a focus would have identified risk areas and enabled the preparation of strategies to address these risks. Given that GOP funding is an issue, structured plans should have been developed to assist in meeting any funding shortfall. Further training requirements should have been identified to develop and implement improved financial and management planning systems for the institutions.

## Improved Planning and Timing of Project Activities

The PID did not allow adequate time for building construction and equipment installation, and underestimated the costs involved in construction and refurbishment. These delays had an impact on the effectiveness of the technical advisers' inputs, as there was reduced contact time for the advisers to assist in installing equipment and establishing operational workshops. The expectation that the technical advisers were also workshop designers was not met. This, combined with the substitution of the facilities designer for an organisational development adviser, further delayed the process.

In future projects, improved planning and costing procedures need to be established during the design or PID stage to minimise the likelihood of underestimating costs. Further, the project management process should have adequate flexibility to enable rescheduling of inputs to maximise their effective use.

## TVE Sector Focus

The project goal was to improve the skill levels of technicians in seven technology areas to meet industry standards. To achieve this goal the project helped a number of public TVE institutions. The public TVE schools account for about ten per cent of TVE graduates, with the majority of graduates from the private TVE schools. Given the importance of the private TVE institutions, which have constraints similar to the public institutions, the design should have incorporated features to enable spread of the training and curriculum development to these institutions.

## National Perspective on Curriculum Development

The project focus on CBVE and self-paced learning modules in the seven project technology areas, while having an impact on the pilot schools and the potential to spread to other well resourced schools, is unlikely to have a wide national impact. A project focus on developing curricula with the potential to be applied in a wide range of schools in both the public and private sector, would have made a greater development impact and would have been more sustainable in the long term.

# Appendix 1

## Table 1: GOP GAA Allocations and GOP PATVEP Allocations to the 5 Schools visited by the Evaluation Team (1990-1997)

| SCHOOL/ALLOCATION ITEM | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| **BNSAT (Bataan)** | | | | | | | | |
| **GAA** | | | | | | | | |
| Personal Services | | | | | 12165.75 | 14142.00 | 16740.34 | 24220.00 |
| MOOE | | | 1963.71 | 2313.29 | 2147.00 | 2228.00 | 2306.95 | 2594.00 |
| Travelling expenses | | | 97.73 | 117.01 | 168.22 | 180.16 | 305.20 | 310.00 |
| Communication expenses | | | 17.58 | 29.71 | 38.40 | 41.26 | 33.11 | 95.00 |
| Repair and maintenance | | | | | | | | |
| Gov't facilities | | | 59.08 | 81.61 | 112.50 | 93.32 | 4.51 | 120.00 |
| Gov't vehicles | | | 56.74 | 13.08 | 33.07 | 35.29 | 10.88 | 185.00 |
| Supplies and materials | | | 1036.81 | 1190.56 | 644.08 | 1102.17 | 1321.23 | 600.00 |
| Water, power/illumination | | | 326.81 | 256.03 | 411.39 | 109.29 | 228.70 | 900.00 |
| Other services | | | 368.97 | 625.90 | 739.33 | 666.50 | 403.32 | 384.00 |
| Capital outlay | | | | | 750.00 | 750.00 | 961.00 | |
| **Total** | | | **1963.72** | **2313.90** | **15062.74** | **17119.99** | **20008.29** | **26814.00** |
| **PATVEP** | | | | | | | | |
| Personal Services | 141.60 | 192.08 | | | | | | |
| MOOE | 324.00 | 304.20 | 320.00 | 2107.30 | 2764.00 | 2737.84 | 2133.58 | |
| Capital outlay | | | 500.00 | 900.00 | 439.36 | 1812.00 | 167.00 | |
| **Total** | **465.60** | **496.28** | **820.00** | **3007.30** | **3203.36** | **4549.84** | **2300.58** | **0.00** |
| | | | | | | | | |
| **CCAT (Cavita)** | | | | | | | | |
| **GAA** | | | | | | | | |
| Personal Services | | | | 5325.00 | 6720.00 | 4592.00 | 9457.00 | 9302.00 |
| MOOE | | | | 793.00 | 830.00 | 874.00 | 1296.00 | 1494.00 |
| Travelling expenses | | | | 34.00 | | 41.00 | 45.00 | 48.00 |
| Communication expenses | | | | 10.00 | | 6.00 | 15.00 | 10.00 |
| Repair and maintenance | | | | | | | | |
| Gov't facilities | | | | | | 196.00 | 125.00 | 217.00 |
| Gov't vehicles | | | | 33.00 | | 18.00 | 20.00 | 22.00 |
| Transportation services | | | | | | 2.00 | 2.00 | 2.00 |
| Supplies and materials | | | | 491.00 | | 414.00 | 764.00 | 770.00 |
| Water, power/illumination | | | | 199.00 | | 129.00 | 250.00 | 304.00 |
| Other services | | | | 26.00 | | 68.00 | 75.00 | 121.00 |
| Capital outlay | | | | 957.00 | 250.00 | 500.00 | | |
| **Total** | | | | **7075.00** | **6970.00** | **5966.00** | **10753.00** | **10796.00** |
| **PATVEP** | | | | | | | | |
| Personal Services | | | | | | | | |
| MOOE | | | | | | | | |
| Capital outlay | | | | | | | | |
| **Total** | **427.40** | **3371.15** | **1788.71** | **3738.02** | **3051.99** | **2990.00** | | |
| | | | | | | | | |
| **BSAT (Bohol)** | | | | | | | | |
| **GAA** | | | | | | | | |
| Personal Services | | | 6218.29 | 6366.29 | 7619.67 | 9349.48 | 10882.39 | 11741.00 |
| MOOE | | | 969.00 | 971.00 | 1022.00 | 1125.00 | 1555.00 | 1889.00 |
| Travelling expenses | | | 53.00 | 53.00 | 65.00 | 131.00 | 74.00 | 127.00 |
| Communication expenses | | | 9.00 | 7.00 | 11.00 | 20.00 | 15.00 | 17.00 |
| Repair and maintenance | | | 133.00 | 132.00 | 111.00 | 4.00 | 139.00 | 194.00 |
| Gov't facilities | | | 27.00 | 27.00 | 34.00 | 16.00 | 34.00 | 35.00 |
| Gov't vehicles | | | 23.00 | 25.00 | 27.00 | | 43.00 | 50.00 |
| Supplies and materials | | | 674.00 | 595.00 | 353.00 | 619.00 | 1005.00 | 1180.00 |
| Water, power/illumination | | | 50.00 | 61.00 | 334.00 | 58.00 | 100.00 | 118.00 |
| Other services | | | | 71.00 | 87.00 | 277.00 | 145.00 | 168.00 |
| Capital outlay | | | 90.00 | | 450.00 | 475.00 | 361.00 | |
| **Total** | | | **7277.29** | **7337.29** | **9091.67** | **10949.48** | **12798.39** | **13630.00** |
| **PATVEP** | | | | | | | | |
| Personal Services | | | | | | | | |
| MOOE | | | | | | | | |
| Capital outlay | | | | | | | | |
| **Total** | **329.91** | **5309.58** | **2816.27** | **3112.25** | **5376.51** | **3304.00** | | |

## Table 1: GOP GAA Allocations and GOP PATVEP Allocations to the 5 Schools visited by the Evaluation Team (1990-1997) cont...

| SCHOOL/ALLOCATION ITEM | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|---|---|
| **ZCPC (Zamboanga)** | | | | | | | | |
| **GAA** | | | | | | | | |
| Personal Services | 9525.86 | 11003.56 | 11223.91 | 12077.70 | 13543.00 | 16079.97 | 19566.18 | 19340.00 |
| MOOE | 1054.00 | 1039.89 | 828.90 | 914.34 | 961.92 | 1180.32 | 1023.20 | 1256.00 |
| Travelling expenses | 144.60 | 97.55 | 119.61 | 120.07 | 143.03 | 176.15 | 226.66 | 75.00 |
| Communication expenses | 32.17 | 35.25 | 32.86 | 33.67 | 49.21 | 36.05 | 47.18 | 23.00 |
| Repair and maintenance | | | | | | | | |
| Gov't facilities | 2.76 | 27.98 | 39.00 | 13.67 | 41.08 | 137.67 | 100.00 | 29.00 |
| Gov't vehicles | 17.22 | 8.84 | | | | | | 121.00 |
| Supplies and materials | 637.35 | 585.59 | 358.68 | 322.61 | 536.14 | 411.20 | 461.66 | 730.00 |
| Water, power/illumination | 151.82 | 229.64 | 205.28 | 341.10 | 68.85 | | | 125.00 |
| Gasoline, oil and lubricants | | | | | | | 6.37 | |
| Extraordinary and Misc expenses | 8.26 | 3.30 | 0.48 | 1.60 | 4.42 | 6.74 | 53.49 | |
| Training ans seminar expenses | | | | 38.96 | 62.48 | 63.73 | 66.65 | |
| Fidelity bond and insurance prem | | | | 2.96 | 8.58 | 8.18 | 9.12 | |
| Clothing/uniform allowance | | | | | | 274.15 | | |
| Other services | 59.82 | 51.74 | 72.98 | 39.71 | 48.14 | 66.45 | 52.08 | 153.00 |
| Capital outlay | 500.00 | 400.00 | 3045.60 | 289.90 | 9744.69 | 449.97 | | |
| **Total** | **11079.86** | **12443.45** | **15098.40** | **13281.95** | **24249.62** | **17710.26** | **20589.39** | **20596.00** |
| **PATVEP** | | | | | | | | |
| Personal Services | 86.57 | 74.64 | 192.10 | 202.35 | 42.68 | | | |
| MOOE | 200.64 | 289.83 | 357.04 | 252.40 | 161.81 | 2730.60 | 3659.67 | 109.18 |
| Capital outlay | | | | 230.07 | 405.90 | 1406.33 | 266.87 | |
| **Total** | **287.21** | **364.47** | **549.14** | **684.82** | **610.39** | **4136.93** | **3926.54** | **109.18** |
| | | | | | | | | |
| **SNAT (Surigao)** | | | | | | | | |
| **GAA** | | | | | | | | |
| Personal Services | | | 8284.00 | | 8823.00 | 8015.00 | 14295.00 | 17013.00 |
| MOOE | | | 3795.00 | | 3270.00 | 3270.00 | 3430.00 | 3597.00 |
| Travelling expenses | | | | | 232.00 | 232.00 | 232.00 | 232.00 |
| Communication expenses | | | | | 4.00 | 4.00 | 30.00 | 50.00 |
| Repair and maintenance | | | | | | | | |
| Gov't facilities | | | | | 72.00 | 72.00 | 72.00 | 85.00 |
| Gov't vehicles | | | | | 165.00 | 165.00 | 165.00 | 165.00 |
| Transportation services | | | | | 232.00 | 232.00 | 232.00 | 245.00 |
| Supplies and materials | | | | | 2097.00 | 2097.00 | 2097.00 | 2229.00 |
| Rent | | | | | | | 21.00 | 21.00 |
| Water, power/illumination | | | | | 98.00 | 98.00 | 150.00 | 200.00 |
| Training and seminar expenses | | | | | | | 60.00 | 63.00 |
| Gas, oil and lubricants | | | | | | | 80.00 | |
| Other services | | | | | 370.00 | 370.00 | 291.00 | 307.00 |
| Capital outlay | | | | | 450.00 | 500.00 | | |
| **Total** | | | **12079.00** | **12580.00** | **15813.00** | **15055.00** | **21155.00** | **24207.00** |
| **PATVEP** | | | | | | | | |
| Personal Services | | | | | | | | |
| MOOE | | | | | | | | |
| Capital outlay | | | | | | | | |
| **Total** | **490.80** | **541.79** | **491.04** | **7467.43** | **3977.01** | **2787.00** | | |

Sources: EDPITAF documents, PATVEP school financial data

Note:

1. MOOE Maintenance and other operating expenses
2. Not all schools were able to provide the financial data at the level of dissagregation equired for all years. This applied particularly for the years 1990 to 1993.
3. No data was available on any residual 1996 PATVEP allocations

## Table 2: Background Data on the 5 PATVEP Schools visited by the Evaluation Team

| Project Schools | CCAT | ZCPC | SNSAT | BSAT | BNSAT |
|---|---|---|---|---|---|
| **1996/97 School Data** | | | | | |
| **School Population** | | | | | |
| **-degree courses** | 280 | 1550 | 1080 | 860 | 1100 |
| **-post secondary (CT,DT,CBVE courses)** | 720 | 500 | 780 | 400 | 390 |
| **-secondary** | 480 | 1000 | 900 | 490 | 600 |
| **Total number** | 1480 | 3050 | 2760 | 1750 | 2090 |
| **PATVEP Assisted Technologies** | Auto<br>Electronic<br>Mechanical<br>Weld & Fabr'n | Auto<br>Mechanical<br>Civil<br>Refrig.& Air Conditioning | Auto<br>Mechanical<br>Electronic<br>Electrical | Civil<br>Electrical<br>Weld & Fabr'n<br>Refrig.& Air Conditioning | Electronic<br>Mechanical<br>Weld & Fabr'n<br>Electrical |
| **No. of students/year using PATVEP workshops** | 450 | approx. 650 | 1100 | Not available | 640 |
| **National Skill Test Results (using 1996 results)** | Improved pass rate | 56 to 90% | 48 to 70% | 85 to 90% | 90 to 100% |
| **Employment in PATVEP technologies (using 1996 graduates)** | approx. 100% | 39 to 100% | 30 to 50 % | 87 to 100% | 80 to 100% |
| **Tracer Surveys** | informal | informal | informal | informal, high response rate | informal |

Sources: School data, discussions with school staff.

# Appendix 2: Terms of Reference

## Philippines-Australia Technical and Vocational Education Project (PATVEP)

### Background

AusAID is undertaking an ex-post evaluation of the Philippines-Australia Technical and Vocational Education Project (PATVEP). PATVEP aimed at improving teacher training and institutional strengthening in the vocational and technical education sector. Activities targeted major national staff development institutions and nine key technical education institutions to meet industry standards. PATVEP was complementary to and followed the Technical and Vocational Education Project (TVEP) financed through an Asian Development Bank loan. Unlike TVEP, PATVEP provided skills development and technical assistance through long-term Australian advisers in-country, and specific long-term training in Australia for selected counterparts. The project also supplied significant quantities of workshop equipment and teaching materials. In the context of increasing industrialisation and export oriented trade liberalisation, upgrading of the vocational and technical training sector is assuming increasing importance for the Government of Philippines (GOP).

PATVEP exemplifies Australia's current development cooperation emphasis in the education sector, ie towards improving technical and vocational education. With an Australian contribution of AUD28.7 million, PATVEP was a large and significant investment in the context of 1996/97 aid flows of AUD60 million to Philippines.

### Evaluation Objectives

The primary objective of the evaluation is to assess the sustainability and the development impact of PATVEP with a view to drawing out lessons learned. A secondary objective is to assess the usefulness of a possible new project in the technical and vocational education sector.

Such a new project could expand the number of Technical Education Institutes (TEIs) and School of Arts and Trades (SATs) targeted by PATVEP and similarly assist them to produce graduates with the level of skills currently required by the private sector.

## Background to PATVEP

The goal of PATVEP was to improve the education and training of technicians and trades-persons at selected technical and vocational schools so that they meet industry standards.

The project had five components:

(1) upgrading the National Training Centre for Technical Education and Staff Development (NTCTESD), i.e. the national centre for in-service training of teachers; (2) establishing management training; (3) strengthening the Bureau of Technical and Vocational Education (BTVE); (4) improving the the capability of nine Technical Education Institutes (TEIs) and School of Arts and Trades (SATs); and (5) improving coordination within Department of Education, Culture and Sports (DECS). The project started in December, 1989 and was completed in June, 1994. Total project cost was about AUD36.1 million (Australia AUD28.7 million and Philippines AUD7.4 million).

The managing contractor of PATVEP claims that the project was highly successful. Improved curricula are in place and competency based training now better meets industry standards. Training of trainers, institutional strengthening and improved linkages ensure greater sustainability of project benefits. Some weaknesses are low levels of recurrent cost financing and poor maintenance of equipment.

The evaluation will concentrate on the extent to which the improved performance of the institutions targeted by the project are sustainable in the long-term. In addition, the evaluation will estimate the impact of the project in meeting the industries' needs for skilled manpower and by how much this adds value to the economy.

## Scope

The overall scope of the evaluation is to assess the sustainability, development impact and lessons learned from PATVEP, and to make any recommendations/observations on the likely concept of any new project. The evaluation will recognise the context in which PATVEP

was designed and implemented. The lessons to be learnt will be those that are applicable now. The Project Completion Report (PCR) and other documents will form the basis for the desk evaluation and provide guidance for the field evaluation. If a similar new project in the technical and vocational education sector is considered feasible, a concept paper will be prepared addressing key issues, including funding options.

Under the direction of the AusAID Task Manager, the evaluation team will:

- Review project documents and from them briefly describe the development context of the project and its objectives, and determine key questions and areas to be examined in the field.
- Meet with relevant GOP counterpart and implementing agencies to obtain their views on the performance of the project and its benefits.
- Collect an appropriate level of information relating to the current status of activities improved by or introduced by the project.
- Using a set of guiding questions undertake a rapid field evaluation (RFE) of a sample of TEIs and SATs targeted in PATVEP and some non-project institutions for comparison.
- Collect information on:
  - final project expenditure
  - ongoing costs of operations
  - current levels and values of benefits or output
  - levels and costs of necessary inputs needed to sustain activities
  - changes to institutional arrangements or structures.
- Assess the impact of the project on target beneficiaries.
- Undertake a cost-benefit analysis of the project if the data are considered reasonable and acceptable.
- Using the project implementation logframe assess the project performance and development impact against the specified outputs, purposes and goal.

- Assess any unintended outcomes.
- Assess the social and gender impact of the project.
- Assess the success of training programs associated with the project in terms of competency based skills upgrading, facilitating technology and industry best-practices transfer, and strengthening institutional management and coordination capabilities.
- Assess whether the project was consistent with AusAID's environmental guidelines.
- Assess the sustainability of the project, particularly the issues of recurrent cost financing arrangements, operation and maintenance of equipment, and any changes to institutional capability since Australian inputs finished.
- Prepare draft evaluation report in-country, including tentative conclusions, recommendations, and the concept of any new project. These will be discussed with the Post and GOP.
- Brief AusAID and finalise report, in close consultation with the PHIL Section, within four weeks of returning to Australia.

## Evaluation Team

The Evaluation Team will consist of three persons from Australia and one from Philippines. Dr S. Chandra, Evaluation Section, AusAID will be the Task Manager. Two short-term Australian consultants will be a Team Leader/Evaluation Specialist for about seven weeks, and a Vocational Education Specialist for about six weeks. The Team will be in the field for approximately four weeks, to be determined by the desk evaluation. Dr Chandra's prime responsibility will be to manage, coordinate and oversight the work of the consultants during the desk review and in the field to ensure that the contents of the draft report, including the conclusions, recommendations, and lessons learnt, meet AusAID's requirements. In addition, he will be responsible for ensuring that the final report meets AusAID's requirements for publication.

Manila Post is requested to assist the evaluation with arranging an evaluation expert from National Economic Development Authority (NEDA) to join the Evaluation Team for the in-country work. As the program develops the Post will be asked to set-up meetings and

arrange logistical support. The GOP counterpart agencies will be asked to provide counterpart staff and interpreters, particularly for the Team to conduct in-depth interviews with target beneficiaries.

## Workplan

The workplan for the evaluation will consist of two phases:

- a desk review of documentation within AusAID, beginning about 10 March, 1997 for about a week, and
- a field mission, beginning about 7 April, 1997 for about four weeks.

## Reporting

A short report of about 30 pages of text and any essential appendices is expected. A draft of the report will be completed in-country. The AusAID ex-post evaluation report format will be used as a framework.

## Australian Consultants' Terms of Reference

### Team Leader/Evaluation Specialist

The Team Leader/Evaluation Specialist will:

(i) As Team Leader:

- Be responsible to the Task Manager for the overall conduct of the evaluation.
- Coordinate discussions with the Managing Contractor, Technical Advisory Group for PATVEP and GOP agencies.
- Describe and assess the development context of the project.
- During the desk evaluation develop a set of key questions/issues for discussion with counterpart agencies in Philippines.
- With the Vocational Education Specialist identify the key lessons learnt for application to the concept of any new project.
- Undertake responsibility for the preparation of the drafts and final report.
- Carry out any other tasks for successful completion of the evaluation as instructed by the Task Manager.

(ii) As Evaluation Specialist:

- Review all the economic and technical aspects of the project to compare targets with actual achievements. Assess the extent of demand for trainees in the industries.
- With the Vocational Education Specialist plan and implement a rapid field evaluation (RFE) of a sample of TEIs and SATs targeted by the project and some non-project institutions for comparison.
- Assess the sustainability and the development impact of the project.
- Assess the impact of the project on the targeted industries and the extent of value-adding to the economy.
- Undertake a cost-benefit analysis of the project if it is considered that the data are reasonable and acceptable.
- Assess any social and environmental impact of the project.

## Vocational Education Specialist

The Vocational Education Specialist will work with the Team Leader to collect and analyse information relevant to all aspects of the evaluation exercise. In particular:

- Assess the performance, sustainability and impact of the design on human resources development within the targeted schools and the national training centre.
- Assess whether the training provided was appropriate.
- Assess the extent of support for project goal within the implementing agencies, in particular in Technical Education Institutes (TEIs) and School of Arts and Trades (SATs).
- Assess whether there have been any loss of TEIs and SATs to the private sector and its possible impact on project outcomes.
- With the Team Leader evaluate the consistency of skills learnt with industry standards, and the acceptability of graduates to industry.
- Assess the effect of institutional strengthening and training on target institutions to continue the momentum provided by the project and sustain project benefits.

- Check the operations and maintenance standards of the Australian supplied equipment, and whether they are fully utilised for the benefit of the project.
- Assess the GOP's recurrent cost financing arrangements for the project and their effect on project sustainability.
- Assist the Team Leader to undertake a rapid field evaluation of schools targeted by the project, and also some others nearby not targeted by the project..
- Check if there has been any replication of project objectives in other similar TEIs and SATs not supported by this project, and impact of the technical and vocational education system as a whole.
- With the Team Leader identify the key lessons learnt for application to the concept of any new project which may expand the activities to more TEIs and SATs.
- Undertake responsibility for preparation of appropriate major sections of drafts and final report as requested by the Team Leader.
- Carryout any other tasks for successful completion of the evaluation as instructed by the Team Leader.

## Development Specialist, NEDA

The Development Specialist, NEDA will work with the Team Leader to collect and analyse information collected in-country which is relevant to aspects of the evaluation exercise. In particular:

- With the Evaluation Specialist review all economic and technical aspects of the project to compare actual achievements with targets.
- With other team members be involved in the implementation of a field evaluation of a number of TEIs and SATs targeted by the project, and other non project institutions.
- Assist in assessing the development impact and sustainability.
- Be involved in assessing industry sector demand for trainees, and supply of trainees by discipline and vocation.

- Assess GOP's recurrent cost financing arrangements for the project, and their effect on project sustainability.
- Carry out any other tasks for successful completion of the evaluation as requested by the Team Leader.