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**Strengthening Private Sector Participation  
in Philippine Technical and Vocational Education and Training**

**Specialist Report No. 1:**

**Funding, Financial Analysis and Cost Effectiveness in the Philippine  
Technical and Vocational Education and Training Sector**

**Lynton Gray**

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## **SECTION 1: THE RESEARCH FRAMEWORK AND SCOPE OF THE STUDY**

1. The main issue addressed in this report is the provision of cost effective technical and vocational training. As the roles of the state and the private sector change, in catering for industrial human resources development to enhance economic competitiveness, it is increasingly felt that the private sector, as end-users of manpower, should participate more fully in shaping the human resources development agenda through involvement in the implementation of training programmes and by sharing the costs. Earlier assumptions that the state should necessarily be the major funder and provider of TVET are now being challenged. This study examines the implications of such a shift in terms of financial flows and cost-effectiveness. It develops an evaluation framework, derived from the study of existing training provision and investment, with which alternative scenarios can be analysed and informed proposals presented.
2. Section 2 provides an overview of the main concepts and issues involved in any analysis of the cost effectiveness of training provision. It draws on recent and relevant research to draw up a check-list of efficiency and effectiveness strategies, which are applied in later sections when reviewing ways of increasing private sector involvement in training to ensure that proposals for such increased participation will benefit the Philippine TVET system in terms of both greater efficiency and greater effectiveness. The following section (Section 3) reviews the global debate about how to pay for training, examining the relative merits of proposals to increase the involvement in and contributions from employers and trainees towards the costs of TVET.
3. The next three sections draw on the data collected by this project. A national perspective and overview is provided in Section 4, through an analysis of the national flow of funds to both private and public sector training activities, starting from the 1996 Philippines government budget together with data from a wide range of sources. This is followed (Section 5) by an examination of the costs, financial systems and comparative cost-effectiveness of public and private training institutions, obtained largely from an analysis of the data on 74 institutions collected by the national institutional survey. This data is augmented by financial information from TESDA (some collected from institutions in 1995 as an outcome of a TESDA cost-outcomes analysis workshop) and information from the case studies undertaken by the national team and expert panel.
4. Section 6 of this chapter focuses on four selected manufacturing sectors, using the data collected by the national survey of 142 enterprises. It provides a unique picture of current expenditure by firms on training activities within their premises and with external providers. Using 12 'training indicators', it identifies a sub-set of 'training-focused firms' from the sample. The associated case studies (Section 7) complement the national surveys and offer valuable perspectives of the needs, aspirations and expectations of sector representatives in both training institutions and enterprises with respect to the development partnership of public and private sector in the provision of Philippines TVET. The final section draws together some key lessons from the evidence and makes recommendations on ways of enhancing the effectiveness and efficiency of training provision through closer public and private sector partnerships.

## SECTION 2. COST EFFECTIVENESS OF TRAINING PROVISION: AN OVERVIEW

5. Skills training is universally regarded as an essential element in any nation's economic and industrial development. However, universal agreement goes only as far as this generalisation. There is no agreement as to the most appropriate forms of provision, and considerable controversy surrounds attempts to measure the cost effectiveness of particular modes of training provision. This section reviews the literature pertaining to cost effectiveness and identifies some ways in which key indicators of efficiency and effectiveness might be applied. It then distinguishes between three types of cost information needed when applying these indicators and reviews the extent to which this project has been able to collect and analyse this information. Finally, the section looks briefly at recent attempts to measure whether investment in training pays dividends.
6. Cost effectiveness analysis involves "the comparison of alternative courses of action in terms of their costs and their effectiveness in attaining some special objective" (Armstrong, 1986). It is a necessary component, therefore, of any analysis which seeks to identify ways in which the participation of the private sector in vocational training might be encouraged. This approach focuses upon choices, given common objectives, which achieve agreed ends while providing good value for money. It can be contrasted with cost-benefit analysis, which attributes monetary values to composite costs and benefits, including social costs and benefits and long-term outcomes. The absence of available data on the latter means that cost effectiveness analysis is the appropriate approach for this study.

### 2.1 The cost-effectiveness literature

7. Reviews of the literature on the cost effectiveness of vocational training<sup>1</sup> have contrasted qualitative and quantitative studies. Dougherty dismisses quantitative studies out of hand, stating that they are limited in scope, based mainly on US experience and trivialise the key qualitative discriminators. However, this does not lead to a ringing vote of confidence in qualitative studies. They are, according to Dougherty, beset by problems deriving from the complexity and variety of training provision, the difficulty of extrapolating experience from one training system to another, and the difficulties of incorporating work-based training and apprenticeships in evaluation schema which focus on the activities within training institutions. These problems are compounded by political pressures to produce evaluations which can sustain the provision of school-based vocational training and by the very different assumptions underpinning the work of the two main groups undertaking analyses of training effectiveness - economists and training specialists.
8. The arguments about the relative cost effectiveness of different training modes have been sharpened in recent years by the World Bank's vocational training policy shift in favour of private sector training provision<sup>2</sup>. The approach argues that public financing of training is rarely justifiable on the scale that it is currently undertaken and that enterprise-based and

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<sup>1</sup> C. Dougherty, *The cost-effectiveness of national training systems in developing countries*, World Bank, 1989;  
Lynton Gray *et al*, *Reducing the cost of technical and vocational education*, The Staff College for the Overseas Development Administration, 1993  
NCET, *Technology and Learning in the Further Education Sector*, National Council for Educational Technology, Coventry, U.K. 1995

<sup>2</sup> World Bank, *Vocational and Technical Education & Training: A World Bank Policy Paper*, 1991  
John Middleton, Adrian Ziderman & Arvil Van Adams, *Skills for Productivity: vocational education & training in developing countries*, Oxford University Press, 1993.

private sector training provision is usually more cost-effective than public sector provision. In turn this argues for the reform of public sector provision, using market forces and private sector best practice to improve its cost effectiveness. It further presses for a shift from public to private sector provision, within a more effective training 'market', restricting government intervention to:

- a) areas where the market is operating imperfectly;
- b) initial and short-term capacity building; and
- c) financing rather than directly providing training services.

9. A central problem in any analysis of cost effectiveness is the identification of the criteria whereby effectiveness can be measured. A very basic approach confines those criteria to measures of the impact on the labour market, in terms of the match between supply of appropriately qualified employees and the demand for such skills by employers. But even these simplistic criteria pose major methodological and organisational problems. For a start, the approach assumes that labour market needs are known - whether by employers, government agencies and thence by training providers - and that labour market information is available as a basis for shaping training delivery. Few economic and training systems are so well developed as to facilitate this interaction between demand and supply.

10. Gray and Warrender conclude their review of cost-effective technical and vocational education by identifying a number of ways in which the costs of training provision can be reduced and its effectiveness enhanced. They distinguish between:

- *efficiency strategies*, whereby internal efficiencies adjust the ratio between inputs and outputs to improve productivity; and
- *effectiveness strategies*, which relate the quality of training outputs to external systemic objectives, labour market requirements and broader national socio-economic needs.

These are summarised in Table 1.

Table 1: Efficiency and effectiveness measures for TVET<sup>3</sup>

Efficiency measures	Effectiveness measures
<p>Staff productivity agreements Improved space/facilities utilisation Equipment provision linked to spares, staff development &amp; maintenance infrastructure Comparative cost analyses</p>	<p>Investment appraisal: TVET v. basic education Labour market signalling by institutions Enhancing institutional autonomy Improving institutional management &amp; planning capabilities Encouraging inter-institutional competition for resources &amp; students Realigning planning responsibilities of national training agencies Experiments with resource bargaining &amp; incentive systems</p>

11. Preconditions for any training mode to be cost effective include:

- unemployment levels not so high as to eliminate the market for skilled employees;

<sup>3</sup> From Lynnon Gray & Ann-Marie Warrender *Cost-effective technical and vocational education in developing countries*, Coombe Lodge Report vol 23, no 5, The Staff College, Blagdon, 1993

- an adequate industrial base to sustain apprenticeships; and
  - necessary supportive measures when training modes are introduced or reformed<sup>4</sup>.
12. They also emphasise that the distinctive national, regional and local contexts in which training takes place militate against generalisations which suggest that cost effective approaches in one system can be applied with equal effect in other systems. The literature points consistently to the dangers of root and branch reform in technical and vocational education and training. The infrastructure - physical and human resources - has been built up over a period of time, demanding heavy investment. It is unlikely that, even where investment on that scale can be replicated, the costs involved would ever produce returns which could justify the displacement of the original infrastructure. All this argues for incremental approaches and modest reform based on existing training modes and providers.
13. National training authorities such as TESDA have a particularly important role to play in managing such incremental reform. Gray and Warrender draw attention to "the crucial importance of sound, robust planning mechanisms at both institutional and national levels". A national training authority can both deliver the latter and train and monitor institutional managers to deliver the former. Where the national authority has regional branches, as with TESDA, it is well placed to cope with the complexities of nationally planned and locally delivered training policies, not least because it is likely to be uniquely well placed to know which levers to pull at both national and local levels in order to get improve productivity and enhance the system's cost effectiveness.
14. All this needs information. The importance of labour market information is now well recognised as a prime basis for intelligent planning of TVET provision. The need for information on the relative costs of such provision, in formats which permit meaningful comparisons, is not yet as widely recognised in many training systems. It is, however, a basic requirement for sound decision making about expensive investment programmes and policy shifts. In particular, three types of financial information are required:
- information on the impact of training on economic development and organisational change and its private and social benefits (rate of return) over time;
  - information on the costs of training, focusing on unit costs to enable comparisons between training activities, institutions and programs and their relative cost-effectiveness; and
  - information about the costs and benefits of training methods and technologies, which facilitate decisions leading to new and reformed training modes and the application of information and learning technologies.
15. Research undertaken for this project has attempted to acquire and make use of the first two types of information indicated above. It is a precursor to the detailed investigations within training institutions which will no doubt form part of TESDA's national monitoring role in the future.

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<sup>4</sup> Dougherty (op. cit.); Gray & Warrender (op. cit)

## 2.2 Measuring whether training pays

16. Recent United Kingdom research has sought evidence as to whether investment in training by enterprises pays dividends. The analysis<sup>5</sup> distinguishes between the concepts of 'pay-back' (direct, financially measurable returns) and 'pay-forward' (less tangible benefits, recognisable though not usually measurable, in the form of increased trainee motivation, organisational culture change, more effective teamwork, etc.). 'Pay-back' can be used to calculate the period required for a given level of investment to be recovered through increased sales, greater productivity, etc.
17. 'Pay-forward' benefits require corporate commitment to investment in workforce skills, on the grounds that a highly skilled workforce is likely to make the enterprise more competitive, despite the higher wages that these enhanced skills can command. The alternative to this high skill/high wage/high technology perspective on organisational success is the anti-training view that low skills, low wages and (commonly) low technological applications provide the key to global competitiveness.
18. 'Training' and even that sub-set which constitutes technical & vocational training is by no means homogeneous. The distinctions between payback and payforward need to be considered in the light of well-established economic analyses<sup>6</sup> which distinguish between general or skills training and specific skills required only in a particular job. The benefits of the former are transferable, so that while individual trainees can expect to benefit from their acquisition - if necessary by moving from job to job - employers are likely to have to pay for that skills acquisition in the form of higher wages. The payback and payforward benefits rest primarily with the employee. In contrast, the benefits from highly job-specific skills rest with the employer, for once they are acquired the employee is in no position to use them to move to a new job.
19. This simplistic analysis becomes more complex when variations in the labour market for skills is taken into account. Employers are likely to support voluntarily the acquisition of general skills only when it would be difficult, because of high employment rates and low labour turnover, to replace skilled staff. In situations of high turnover and high unemployment, employers may prefer to 'poach' skilled staff from other employers rather than pay for general skills training. Training pays dividends for employers when it delivers relatively non-transferable skills; but it pays dividends for employees most directly when it provide general skills. When governments seek to transfer the costs of training provision to end-beneficiaries, this analysis helps to determine whether these are more likely to be employees or employers - the theme of the next section.
20. The case studies undertaken in training institutions and firms for this project, as well as the survey data, provide perspectives from both supply and demand sides on the perceived impact of training in the Philippines, and on ways in which pay-back and pay-forward benefits might be sought through reforms within the Philippine TVET system, in ways which benefits both employers and employees. These are considered in Section 7.

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<sup>5</sup> Richard Lee *What makes training pay?* Institute of Personnel and Development, London, 1996

<sup>6</sup> Gary Becker, *Human Capital*, Columbia University Press, 1964



## **SECTION 3: PAYING FOR TRAINING**

21. Who should pay for training? Should it be taxpayers, via the state, employers or trainees? The costs of TVET are rising at a time when governments find it increasingly difficult to satisfy burgeoning demands for tax-funded investment. In consequence, the question as to who should pay is being raised throughout the world. Over at least the past forty years, governments have attempted to shift the costs of providing training to employers, with only limited success. These efforts have recently taken on a new urgency, as costs have risen and as critiques of government-funded TVET, such as those from the World Bank, have gained acceptance.
22. This section reviews the current debate about paying for training, focusing on approaches and proposals to transfer at least part of the costs of such provision to end-users - employers and trainees. It attempts to assess the relative merits of taxation-led schemes to increase the volume of training undertaken and the proportion of costs contributed by employers. It also considers ways of targeting government finances more precisely, through levies, payroll taxes, loans and vouchers, whether in support of policies to focus on key national economic needs, to enhance social equity, or to redress imperfections in the training market.

### **3.1 Government revenue generation**

23. Governments have at their disposal a wide range of possible instruments whereby they can raise funds to pay for TVET - although the political feasibility of particular measures varies over time and from country to country. General taxation is the most obvious and most common method. Tax revenues can be used to:
- provide funds for training institutions (public and private);
  - subsidize trainees through loans, vouchers or grants; and
  - subsidize enterprises through grants, loans or tax relief.
24. Government funds are usually allocated to and directed by central government departments or national agencies, usually associated with either (or both) the Education or Labour Ministries. They might also be raised by and allocated by regional, provincial or local government departments or agencies through non-hypothecated income, payroll, sales or premises taxes. A rather different funding model devotes the proceeds of a special tax, such as a sales tax or an import levy, to promote TVET. It is over a hundred years since a special fund designed to reduce whisky drinking was used to establish Britain's first TVET system. Earmarked taxes have the advantage of commonly not being so subject to the vagaries of fluctuations in the volume of general taxes raised, especially where the tax base is narrow and the economy subject to rapid fluctuations, as is the case in many developing countries.

### **3.2 Payroll taxes and levies**

25. Alternatively, governments might pursue the principle that the user or beneficiary should pay. In this case, where enterprises are identified as prime beneficiaries of TVET, special taxes

are levied from those enterprises. There are a variety of models of levy-grant, tax-rebate and tax-incentive schemes. Most operate a stick-and-carrot approach, whereby taxation relief or payments from a levy fund go to firms which undertake specified levels and/or types of training. Some schemes accumulate funds levied through taxation in a special fund, disbursed by government department or national training agency to firms which undertake training. Other schemes are based on bipartite or tripartite agencies, involving government, enterprises and - sometimes - labour associations, which function as national or regional training authorities. Levies tend to be used not only for training provision but for other forms of employee welfare, including compensation for those made redundant, through retraining programs and other benefits<sup>7</sup>.

26. Middleton *et al*<sup>8</sup> outline the various payroll levy schemes which have been introduced in Asia, Africa and Latin America. Latin American schemes, using payroll levies to fund bipartite and tripartite training authorities are described in this project's Background Paper on Latin America. Middleton *et al* note that it is widely assumed that payroll taxes are passed on to workers in the form of lower wages, and (although the evidence that this actually happens is rather suspect) there is some economic logic in it if it can be shown that workers receive the benefits of training in the form of enhanced lifetime wages, and if workers pay for their training indirectly in ways which support the training of the next generations of workers. However, there are a number of problems with earmarked schemes, apart from the strong hostility of enterprises and their organisations to such schemes when they are mooted. It is very difficult to match the level of the levy with the requirements of the training system, so that underfunding and overfunding can readily occur. Tax collection and tax evasion problems are such that the levy can fall disproportionately on those firms which already make significant investments in training before tax.

### 3.3 Financial incentives: loans and vouchers

27. The evidence of payroll schemes over the past 30 years suggests that these represent temporary and partial strategies for funding training. Where they are retained, they are commonly augmented after a time by other funding systems. One approach is to require the national training authority, initially established through payroll levies, to pursue cost recovery strategies, whether by charging for selected services or by being privatised completely. Another approach is to seek to transfer the responsibility for paying for training to the trainee directly. The imposition of a part- or full-cost fee system presents substantial problems, given that TVET is commonly supported by socio-economic groups unable to find these fees. The introduction of a loans scheme can alleviate these difficulties - but in principle rather than in fact, because trainees are likely to seek assurances that the private rates of return on their investment in training will justify that investment. This is clearly difficult to justify in countries with high levels of TVET graduate unemployment. Furthermore, all such loans schemes, whether for TVET or higher education, present substantial problems of collecting repayments.

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<sup>7</sup> In Singapore the levy falls on employers paying wages below an 'average minimum wage' calculated in relation to the average monthly wage, and thereby encourages firms to move towards that average.

<sup>8</sup> John Middleton, Adrian Ziderman & Arvil Van Adams *Skills for Productivity: vocational education and training in developing countries*, Oxford University Press, 1993

28. Ziderman & Albrecht's comprehensive survey of loans and vouchers in higher education<sup>9</sup> demonstrate the practical problems facing student loan and employer tax schemes, which are both expensive to administer and tend to deter potential students from lower income families. In some countries the loan recovery costs are so great that students grants would be cheaper! Commercial banks or government taxation departments are identified as more efficient loan managers than government agencies established specifically to manage loans schemes. Selective student voucher schemes (such as the system for supporting universities in Vietnam) are advocated as more efficient vehicles for targeted student support.
29. TESDA has new powers under the TESDA Law of 1994 to determine and approve levy and grant schemes to support its Skills Development Fund. Before exercising these powers, some insights into the efficacy of recent and current fiscal incentive schemes is needed. This project has reviewed the existing schemes for grants, loans and vouchers in the Philippines (see Section 4) and the extent to which enterprises are aware of and make use of these incentives, including those recently established under the Apprenticeship Act and the Dual System Training Act, and those under the 1991 Productivity Incentives Act. These are outlined in Section 6 below as well as in Specialist Report No. 2.
30. The TESDA Law is typical of a worldwide shift, encouraged by the World Bank and documented in Latin America by Castro (n.d.)<sup>10</sup>, whereby the government moves from the role of training provider to the manager of a surrogate training market. This new role involves:
- the coordination of a financial framework, including the rules for purchasing training from public sector providers;
  - the use of devices such as vouchers to encourage the development of a training market, with customers (employers and trainees) purchasing training from a range of possible public and private sector providers;
  - the establishment of standards, accreditation and quality control mechanisms;
  - the encouragement of greater private sector involvement in the management, organisation and delivery of TVET; and
  - the devolution of responsibilities wherever feasible to public and private sector local organisations - local government, charitable trusts and industrial associations.
31. Some of the problems of an individual loan scheme are avoided if loans are provided for private training providers (training institutions and firms undertaking in-plant training) enterprises another than individuals. This system, used successfully in Korea, can stimulate the development of the private sector in directions which meet national economic requirements and quality standards, for the loans can be conditional upon the achievements of specified criteria.

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<sup>9</sup> Adrian Ziderman & Douglas Albrecht *Financing universities in developing countries*, Falmer Press, 1995

<sup>10</sup> Claudio de Moura Castro *The stubborn trainers vs the neo-liberal economists. Will training survive the battle?*, mimeo, n.d.

32. Governments are also seeking ways of using fiscal policies to make the market for training operate more effectively - as well as to cut costs. Vouchers have been strongly promoted over the past decade as a vehicle both for market stimulation and cost recovery. In theory, the provision of training vouchers enables trainees to select the training provision which most closely matches their needs. Some voucher schemes fix the value of the voucher so as to encourage trainees (voucher-holders) to top them up with additional fees if they wish to purchase higher quality provision. This element can run counter to government social equity policies, but the main drawbacks with vouchers arise out of inevitable market imperfections. Trainees rarely have sufficient information about the training market to enable them to make reasoned choices, and can, therefore, become subject to the recruitment strategies of training providers which have little in common with trainees' employment needs. The training institutions, unsure of the likely supply of trainees, are unable to undertake long-term planning, and devote a disproportionate proportion of their resources to advertising and other forms of marketing.

#### **3.4 Financial incentives: devolved responsibilities and income generation**

33. A rather different approach to market stimulation involves analysis of the factors which inhibit public sector training providers from operating like successful private sector providers. The financial autonomy enjoyed by private sector institutions can be extended to the public sector without transferring public sector facilities to private hands. Evidence suggests that one of the most effective ways of enhancing public sector effectiveness and efficiency is to ease the constraints of government financial control systems. Two parallel strategies seem to be particularly effective. One is to encourage public sector institutions to retain all or most of their income generated through fees, special training services, consultancy services, testing and production. This can operate through a "revolving fund", which carries forward earned income in order to fund investment in facilities which enable further income generation. There are some dangers that the institutional focus on income generation might detract attention from its central training mission. On the other hand, the involvement of staff and trainees in the real world of markets and production provides experiences which should significantly enrich classroom-based training.

34. In step with these reforms, public training institutions are increasingly required to operate more like private businesses. Devolution of financial responsibilities to institutions involves their operating to an approved business plan, and generating income through a one-line budget, based on their success in recruiting (or graduating) students/trainees. Their financial and academic viability depends upon the ability of management and staff both to operate efficiently, by reviewing costs and cutting them where necessary; and to invest in quality enhancement in order to improve their recruitment levels and graduation successes, while reducing dropout levels. In some systems, intermediary bodies, operating as Boards of Trustees or Corporations for individual training institutions, and drawn mainly from industry and business, act on behalf of the government in approving plans and budgets and monitoring performance. The role of central government and/or the national training authority then becomes much more one of steering a semi-autonomous and mixed system, monitoring for quality and ensuring that national social priorities are not overlooked as institutions seek financial solvency. This report reviews the prospects for enabling Philippine public training institutions to generate and retain more revenue and to operate more like private businesses, whether within the public or the private sector.

## SECTION 4: THE PHILIPPINE CONTEXT: NATIONAL INVESTMENT IN TRAINING

35. The Philippines government has developed a distinctive and innovative framework for the delivery of TVET, following from the recommendations of the influential Congressional Commission on Education (EDCOM), two of whose reports are of especial relevance to this study<sup>11</sup>. The integration within one agency of three previously separate components of TVET by the Technical Education and Skills Development Act 1994 (RA 7796), and the consequent establishment of TESDA, provide opportunities for new funding strategies and mechanisms which rationalise existing provision and stimulate development in directions in line with national priorities. There is already growing experience of a range of funding strategies, which have the potential for promoting more private (enterprise and individual) involvement in TVET funding decisions. This section reviews the overall flow of funds within the Philippine TVET system, before examining current patterns of public and private expenditure.

### 4.1 The flow of funds

36. The main features of the current financial framework demonstrate the ways in which funds which are used for training provision are derived from enterprises and individuals (in the form of taxes and voluntary contributions), together with official development assistance (ODA). A *flow of funds model* (Figure 1) offers an overview of the options open to TESDA and others to achieve the twin objectives of rationalising provision and stimulating targeted development. The model enables the flow of funds to be traced through government and non-government channels to training activities and thence to the outcomes from those activities. This overview can be refined further in order to provide an accurate depiction of current funding arrangements at regional and local levels, but that lies beyond the scope of this investigation.

37. Once a model of the current flow of funds is established, this can be tested to explore the consequences of alternatives to the current arrangements. These will include:

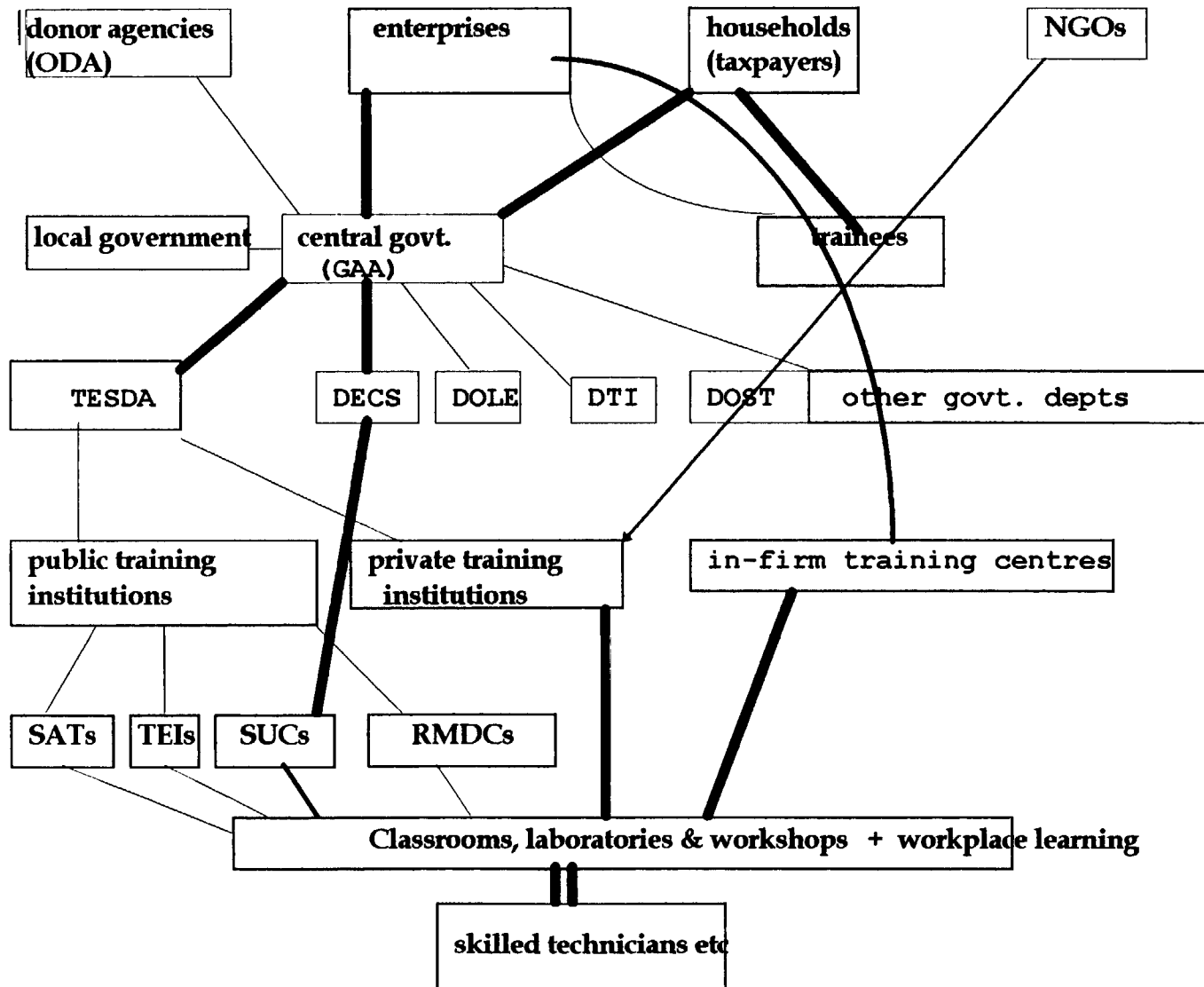
- \* routing government funds through private sector providers and other agencies;
- \* joint ventures which bring together public and private sector sources of funds;
- \* government incentives to increase private sector funding of TVET; and
- \* shifting responsibilities to trainees through voucher systems.

38. The flow of funds model is broadly schematic, but the analysis of alternative scenarios requires some indications of the relative scale of the different financial flows. In order to assess the relative contributions of the public and private sectors to TVET in the Philippines, it is important to identify the current level of investment by the private sector, including enterprises and private training institutions. An initial and tentative attempt is made to provide this overall perspective, involving a series of assumptions and extrapolations, drawn from a variety of evidence, including the survey results and TESDA documentation.

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<sup>11</sup> EDCOM, Making Education Work. Book One: Areas of Concern in Philippine Education, Volume Five The Financing of Philippine Education Book Two: The Educational Ladder; Volume Two: Post-Secondary Education & Training, Manila, 1992

**Figure One: The flow of funds to Philippine TVET**



39. The data on which Figure 1 is based are drawn in part from the Philippines Government budget for 1996<sup>12</sup> as allocated by the General Appropriations Act (GAA). It also makes use of the more detailed financial data made available by enterprises and training institutions as part of the national surveys undertaken for this project. These data have been analysed as indicated in Sections 5 and 6 below to derive provisional assessments of the overall levels of investment in training by both public and private sectors.
40. It has not been possible to specify accurately the not inconsiderable sums paid by households in the form of training fees and all the associated costs, including opportunity costs, required of trainees when undertaking training. Estimates of private expenditure on tertiary education and training (excluding opportunity costs) do not distinguish between TVET and university/college expenditure. Recent estimates by the World Bank and the Fund for Assistance to Private Education (FAPE)<sup>13</sup> suggest that an average private contribution of P7300 per student to the costs of private tertiary education, in the form of tuition fees, books, transport, etc. The 1994 total comes to P16 billion, with a further P2 billion spent by households on public tertiary education.

## 4.2 Government expenditure

41. The General Appropriations Act (GAA) 1996 releases government funds amounting to nearly P10 billions for technical, vocational and (some) higher education, including the higher education elements of the finances for schools and university colleges (SUCs) (Table 2). Of this, 84% is for revenue and 16% for capital expenditure. The GAA data distinguish capital from revenue expenditure, but do not enable TVET operating costs to be distinguished from higher, general secondary and advanced education services where these are incurred by a department, agency or SUC. Nor do the GAA budget data permit direct and indirect training costs to be separated. Table 2, is not, therefore, an accurate reflection of the government's TVET expenditure. It does not, for example, enable the non-hypothecated expenditure on TVET by other government departments to be identified. An recent NMYC study<sup>14</sup> indicated that the expenditure on direct training provision by NMYC and DECS in 1993 was matched by ten other government departments<sup>15</sup> although the basis on which the departmental totals were calculated was not indicated. However, if these expenditure patterns have been maintained across government departments other than TESDA/DECS, a conservative estimate of other government TVET expenditure amounts to at least a further P50 million (excluding indirect costs), over that specified in Table 2.
42. The total for post-school education indicated in Table 2 can be compared with the 1996 revenue expenditure on elementary and secondary education in the DECS budget of P47 billions and the Commission for Higher Education's (CHED) revenue budget of P606

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<sup>12</sup> Republic of the Philippines, *Budget of Expenditures and Sources of Financing, Fiscal Year 1996*

<sup>13</sup> Antoine Schwartz *The Philippines: cost and financing issues in education*, Education & Social Policy, The World Bank, 1995

<sup>14</sup> *1993 Manpower Training Programs: monitoring report of the council*, National Manpower & Youth Council, Manila, 1995

<sup>15</sup> NEDA, DILG, DSWD, DTI, CSS, DOST, DA-ATI, DOLE, DENR & NI

millions (Figure 2). It suggests that TVET together with higher education in SUCs absorbs 17% of government expenditure on education and training. A further adjustment, using data from DECS and the SUCs in the training institutions' survey which suggests that 17% of the SUCs' budget<sup>16</sup> is for TVET, points to a total government expenditure on TVET in SUCs of P1056 millions. If this is correct, the total government expenditure on TVET comes to P2038 millions - or just under 4% of government expenditure on education and training. Over half of this is spent in SUCs, as indicated in Figure 3.

Table 2: 1996 government allocations to departments and institutions providing TVET<sup>17</sup>

govt. agency or institutions	revenue (P'000s)	capital (P'000s)	total (P'000s)
DECS: State universities and colleges	7455.2	1341.7	8796.9
TESDA	493.8	104.0	597.8
DOLE: National Marine Polytechnic	41.3	22.0	63.4
DOST: Metal Industries Research & Development Center	68.2	24.6	92.9
DOST: Philippine Textile Research Institute	29.6	31.6	61.2
DOST: Technology Application & Promotion Institute	42.3	11.1	53.4
DTI: Construction Industry Development Foundation	16.6	2.5	19.1
DTI: Philippine Trade Training Center	27.0	0.7	27.7
DTI: Cottage Industry Technology Center	16.0	-	16.0
<b>TOTAL</b>	<b>8190.0</b>	<b>1538.2</b>	<b>9728.4</b>

#### 4.3 Private training provision

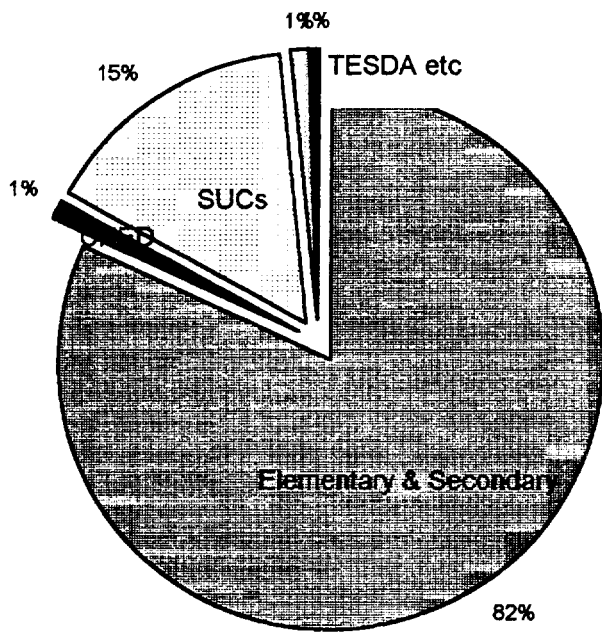
43. Private training institutions receive most of their income from student/trainees in the form of tuition and other fees. They are owned either by a private person or a corporation. The private training sector is much larger than the public sector, but its scale is more difficult to estimate accurately. EDCOM<sup>18</sup> identified 926 private post-secondary, non-degree, tech/voc. institutions out of a total of 1262 such institutions (using 1991 DECS figures). They enrolled 311,000 students, 86% of the total of 362,000 enrolments in post-secondary TVET

<sup>16</sup> Excluding the allocation to the University of the Philippines (29% of the total SUC allocation)

<sup>17</sup> Sources: Republic of the Philippines, *Budget of Expenditures and Sources of Financing, Fiscal Year 1996*

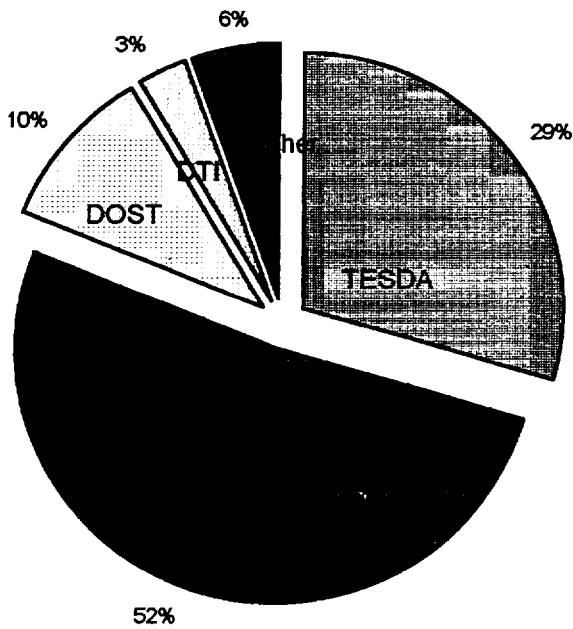
<sup>18</sup> EDCOM, *Making Education Work Book One: Areas of Concern in Philippine Education, Volume 4 Governance & Management*





**Figure2: Government education/training expenditure 1996**

**Figure 3: Government TVET expenditure 1996**



44. 1994 figures for private training institutions registered with TESDA indicate 781 private institutions offering post-secondary non-degree courses, but the proportion of these offering TVET courses is not known. Enrolment figures from the same source<sup>19</sup> indicate that 86% of the 450,000 students/trainees in the 1118 institutions recorded are in the private sector. EDCOM found that there was no accurate figure for the total number of trainees in private training institutions, and the current information base seems no better, five years on. Indeed, there is no reliable figure for the total numbers of such institutions, in the absence of any requirement that they be registered, other than private institutions which are corporations which must be registered with the Securities and Exchange Commission (SEC).
45. Private institutions which are corporations are governed by the provision of the 1984 Corporation Code (Sec 106), which requires that educational corporations are organised as non-stock corporations, with governing boards comprising 5, 10 or 15 trustees. The President is responsible to the Board of Trustees for the financial and administrative health of the corporation. Little is known of the many schools under private ownership, other than the description in a 1992 government report<sup>20</sup> that many were "underfinanced... owners are underinvesting... virtually accidents waiting to happen".

#### 4.4 Enterprise training expenditure

46. Recent data from TESDA<sup>21</sup> provides valuable information on the scale of manufacturing industry's involvement with training. The survey (which included 486 manufacturing establishments out of a total of 1541 establishments) found that 39% of manufacturing firms provided or paid for training for their employees (another 14% did not respond to this question) and 38% claimed to have a training unit or division. The survey estimated that manufacturing industry expenditure on training averaged P645 per trainee. The per capita cost for on-the-job training (OJT) and apprenticeship was reported as ranging from less than P300 (printing) to over P2500 (blacksmiths). The average direct cost in the manufacturing sector for OJT and apprenticeship was estimated as P1466 (excluding salaries and opportunity costs). These figures are compared with survey data from this project in the next section.
47. Apart from expenditure by individual manufacturing enterprises, intermediate bodies such as the various industry associations also invest in training, but no details are available of the totals involved. Nor are details available of the scale of expenditure by employees on their own training. The estimates made in Figure 1 for the total volume of expenditure on training are only "guesstimates", which take account of the information acquired in this project's establishment survey and estimates made during the case studies and other project interviews.

#### 4.5 NGO and ODA support for TVET

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<sup>19</sup> *1994 Manpower Factbook*, TESDA, 1995

<sup>20</sup> *Higher Education in the Philippines in Capsule*, Bureau of Higher Education, DECS, 1992

<sup>21</sup> *Regional Industry Monitoring System: highlights of the 1994 survey*, Research & Evaluation Division, TESDA July 1995

48. In addition to the government and company expenditure outlined above, a substantial part of Philippines TVET expenditure originates from foreign donor and loan agencies - Official Development Assistance (ODA). Table 3 estimates the volume of TVET foreign-assisted projects in 1995. A year-on-year estimate of the TVET ODA for TVET suggests that it amounts to P1174 million in 1995, amounting to nearly two-thirds (62%) of total ODA for education and training.

Table 3: Official Development Assistance (ODA) education and manpower development projects for TVET, 1995

PROJECT	AGENCY	ODA Pm <sup>22</sup>	LOCATION	TARGET GROUP
Agricultural Education Development Project	EU/EDPITAF	36.8	provincial institutes of agriculture	Agricultural & agricultural technology students
Agricultural Technology Education Project	AUSAID/EDPITA	100.7	provincial institutes of agriculture	Agricultural & agricultural technology students
Engineering & Science Education Project	DOST/WB	266.4	nationwide	Science & engineering trainees/ scholars
Phil-Australia Technical & Vocational Education Project	AUSAID/EDPITAF	90.5	Regions 3,4,5,7,9,10,11	Voc. education students & technicians
Second Vocational Training Project	TESDA/ WB	188.6	nationwide	Technicians, craftsmen, operators
Project on Enhancing the Institute of Vocational Training & Development of TESDA	JICA	36.8	NCR	Technicians, craftsmen, operators
Upgrading & Development of 3 Prototype Technical Institutes	TUP/MSU	14.1	MM, Negros Orientale, Lanaso del Norte	Voc. ed. students
Nonformal Education Project	ADB	165.1	nationwide	Illiterate population

49. In addition to the ODA estimated above, further expenditure on training is undertaken by a large number of non-government agencies, community groups and local government agencies. Mendoza<sup>23</sup>, in his background paper for the Sector Survey, reviews in some detail ODA for TVET and funding schemes for NGOs. No attempt is made in this paper to quantify the scale of this provision, but any overview of Philippine TVET expenditure needs to recognise its significance.

#### 4.6 Funding issues

50. The Congressional Commission on Education's review of educational finance<sup>24</sup> pointed to the central problems facing Philippine TVET - poor students whose job prospects are not necessarily improved by TVET study, and inefficient institutions whose high unit costs result from low enrolments. The Commission pointed to the very wide operating cost range across

<sup>22</sup> Estimate: one year proportion of total time frame budget

<sup>23</sup> S.A. Mendoza, Jr *Financing of technical and vocational education and training in the Philippines*, in TVET Sector Study Series, TESDA, Manila, 1995

<sup>24</sup> *Making Education Work, Book One Areas of Concern in Philippine Education, Volume 5 The Financing of Philippine Education*, EDCOM 1993

the TVET sector, from under P700 to over P6000 (1990-91 figures). In examining the cost-effectiveness of TVET programmes, the Commission pointed to major variations not only between formal and nonformal provision, but also between regions, with the most expensive region's costs per trainee (for NMYC-RMTC programs) four times greater than those in the least expensive region.

51. The background paper prepared as part of the VTP II Sector Studies<sup>25</sup> outlined the financial system shaping the sources and allocations of public and private sector funds for TVET and used the Commission's findings to draw attention to some key funding issues. Since that paper was written TESDA has been established, and the distinctions made in the paper between 'formal' and nonformal' TVET are in consequence less relevant now. However, Mendoza also reviewed the external efficiency of the TVET system, in terms of the absorption and perceived quality of its graduates. He identified wide variations in graduate employment rates between regions (from 8% to 71%) and between types of training establishments, ranging from 45% for NMYC graduates down to a mere 11% for graduates from secondary TVE schools.
52. Three funding issues in particular arise from these earlier studies, and are considered in the following sections, in relation to the data analysed within this project. They are:
  - \* how should responsibility for paying for TVET be shared equitably between the partners involved (government, intermediate bodies, firms and trainees)?
  - \* how can existing inefficiencies be reduced and eradicated?
  - \* how can expenditure be targeted in ways which match national, regional and local priorities?
53. Even before the radical TVET reforms initiated by EDCOM, the Philippines had already some experience of education and training experiments in funding, including training loan and vouchers schemes. The *Government Assistance to Students and Teachers in Private Education (GASTPE)* scheme was initiated in 1989, in order to provide financial support for students from lower income families attending private high schools, training institutions and universities. There is some suspicion that, although TVET students are eligible for support through GASTPE programs, the bulk of these funds go to private high school and university students, possibly because these students and their parents are more familiar with the program's benefits and criteria. In 1995 its budget was nearly P800 million, a decline of over 20% from its peak in 1993.
54. Within GASTPE there are three types of funding support - grants, loans and vouchers - which can support TVET students.
  - \* TFS (*Tuition Fee Supplements*) grants are available as P10,000 fee supplements for students from lower income households attending private colleges and universities. There were under 18,000 beneficiaries in 1994-5, only 1.5% of private institutions' enrolment.

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<sup>25</sup> S.A. Mendoza, *Jur op.cit.*

- \* The *Study Now Pay Later* student loan scheme has provided loans of P10,000 per student, for less than 3,000 students per year (0.2% of private enrolments). It is now being displaced by tuition fee supplements within GASTPE<sup>26</sup>.
  - \* The *Private Education Student Financial Program* (PESFA) is a voucher system for students enrolling on specified tertiary programs identified as important for national development.
55. There is also a College Faculty Development Fund, which supports the in-service training of teaching staff in private institutions. In 1995 it supported 550 staff at an average cost of just over P50,000 per teacher. Outside the tertiary sector, GASTPE includes an innovative funding scheme with some potentially valuable prospects for extension to the TVET sector. *Educational Service Contracting* (ESC) enables subsidises the tuition fees of high school students for whom no public high school place is available. Private schools must meet specified quality criteria, and the funds (based on the assumed average unit cost in public high schools) are paid directly to the participating schools. If tuition fees exceed the standard P1500, they have to be topped up by the students.
  56. Within the World Bank VTP II Project, the Industry Capability Buildup Program (ICBP) provides a number of mechanisms for assisting training provision over the five year period 1992-97. The *Training Contract Scheme* (TCS) provides grants for trainer development to approved Industry Boards, Industry Associations and Chambers of Commerce. The grants provide half the cost (P2500 per trainee) of private consultants employed to train trainers on 40 hour courses. P28 million was allocated for financial year 1995. These grants are complemented by grants to private training institutions through *Training Assistance Contracts* (TAC), to upgrade both trainer capabilities and institutional facilities. Just over P20 million was available in 1995. The third component of ICBP is TDIS - *Training Delivery for the Informal Sector*. Local communities are the beneficiaries of this poverty alleviation program, half funded by local government, for improving community-based training. P23 million was allocated for 1995.
  57. The experience of operating these varied and innovative funding approaches offers a sound basis for more targeted support more specifically for TVET. Section 8 returns to these opportunities, after the examination, in the next three sections, of the findings of the project research within public and private training institutions and firms.

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<sup>26</sup> Antoine Schwartz *The Philippines: cost and financing issues in education*, Education & Social Policy, The World Bank, 1995

## SECTION 5: RESEARCH EVIDENCE: TRAINING INSTITUTIONS

58. The 74 training institutions surveyed as part of this project were all asked for financial and related information which could be used to examine the cost-effectiveness of the public and private training sectors. Not all the training institutions surveyed were able to supply financial information in the format requested. Of the 74 institutions surveyed, 42 (57%) provided financial data in a format enabling comparative analysis, while another 5 (7%) provided data either in other formats or insufficient to permit further analysis. The following paragraphs draw on the 42 data sets, taken from institutions which form a broadly representative sample of the full survey by institutional size, but not by type. 24 institutions are in the public sector: 18 in the private sector. Only 43% of the private institutions submitted financial data compared with 75% of the public training institutions.

### 5.1 Institutional costs

59. Instructors' salaries not surprisingly form the largest proportion of most institutions' costs. Two-thirds of the institutions reported these as over 40% of their total recurrent costs. Over 40% of both public and private sector institutions reported that instructor salaries absorbed from 41% to 70% of the recurrent costs. Between a quarter and a third of the institutions reported that salaries absorbed less than 40% of these costs, but they tended to be the institutions which reported separately administrative and managerial costs. It seems likely, therefore, that in these institutions a significant part of the teaching was undertaken by managerial and senior administrative staff - a common feature of TVET. About a quarter of both public and private institutions reported instructor salaries as absorbing over 70% of their total recurrent costs.

Table 4: Course-related expenditure; distribution and mean %ages.

	no. of responses (n = 42)	0.1- 5%	6- 10%	11- 20%	21- 40%	41- 70%	71% +	average %
instructor salaries	42	2	2	3	7	18	10	47
student stipends	15	8	4	3				6
course supplies	33	17	5	9				9
staff development	24	18	4	2				5
other course-related costs	17	13	3	1				4
Course-related costs as % of recurrent costs	36		1	1	4	11	19	68 <sup>27</sup>

<sup>27</sup> Average of those institutions reporting a figure for total course-related costs (not a total of figures in this column).

60. Other course-related costs included student stipends (reported by 15 institutions), mostly amounting to less than 10% of recurrent costs, and staff development (24 institutions, most less than 5%). Most institutions reported their expenditure on course supplies (usually under 5%). The course-related (direct) recurrent costs are summarised in Table 4. Not surprisingly, over half the institutions reported course-related costs as at least 70% of total recurrent costs.
61. Only 18 institutions reported separately their senior administrative costs, where they amounted on average to about 20% of the total recurrent costs. The average disguises a wide range of reported costs, probably reflecting differences in accounting practices where senior administrators also undertake some teaching duties. Table 5 indicates the distribution of other non-course related (indirect) recurrent costs (as a percentage of total recurrent costs).

Table 5: Non-course-related expenditure: distribution and mean.

	no. of responses (n = 42)	0.1- 5%	6- 10%	11- 20%	21- 50%	51 % +	average % **
senior administrative	18	5	1	5	4	3	19
clerical administrative	18	9	2	5	2		7
telephone etc	26	23	2	1			2
travel	32	27	5				2
supplies etc	25	17	5	3			5
repairs	15	13	1	1			4
rents	9	4	-	3	1	1	17
water, light, power	30	24	3	3			4
hotel, canteen	6	6					1
advertisements	16	16					2
other non-course- related*	15	9	3	1	1		2
debt charges	6	3		1	2		8

\* includes security guards, fidelity bonds, etc.

\*\* average only of those institutions reporting costs under these heads (so column total is NOT a total for non-course related costs).

62. Capital expenditure was reported by 32 institutions (43% of those surveyed). The most frequent expenditure heads were for premises repair and equipment purchase (19 institutions). Annual repair expenditure was with two exceptions within the range P10,000 to P100,000; while capital expenditure on equipment averaged just over P100,000 per reporting institution.

Premises construction expenditure, reported by 9 institutions, ranged from P20,000 to P5 million in 1994 (the reporting year). The nine institutions reporting capital expenditure on vehicles averaged just over P40,000 per institution, excluding the single institution which spent P300,000 on vehicles in 1994.

## 5.2 Unit costs

63. One standard method for comparing the expenditure patterns of training institutions is to relate them to the numbers of students trained. There are substantial difficulties in making reasoned comparisons between these institutions in terms of student unit costs, because of the variety of types of courses and sizes of institutions - small institutions tend to incur a larger proportion of fixed and inescapable costs than large ones, which increases their unit costs. However, the major problem lies in the varying length of student courses, and the absence of any standard methodology for converting part-time and short-term students into full-time, one-year equivalents. Crude calculations of unit costs, which do not take account of the different requirements and training times of student groups, must, therefore, be treated very cautiously.
64. These computations are further complicated in institutions where TVET courses form only a part of the total institutional programme. Although the survey distinguished between total institution students and TVET students, it was not always clear (particularly in institutions where TVET students form a large majority of but not the total student body) whether the financial data provided referred to the whole institution or that part of it delivering TVET courses. With these provisos, unweighted calculations of unit costs reveal a very wide range, from P100 per student up to over P4,000 per student (Table 6). These can be compared with the unweighted unit costs, aggregated by region for DECS and NMYC institutions, quoted by Mendoza<sup>28</sup> (using 1990 data) as ranging from P281 to P6,755 per student.

Table 6: Unweighted unit costs per student, public and private training institutions

TRAINING INSTITUTIONS (n = 39)	P1-500 per student	P501-1000	P1001-3000	P3001+
Public	10	6	4	3
Private	4	3	6	3
Total	14	9	10	6

65. A more realistic assessment of the unit costs per student by weighting the student data according to the length of courses is summarised in Table 7, based on the 34 institutions whose financial data could be manipulated in this way. Even this refinement does not produce highly reliable indices of the relative efficiency of the training institutions - account would need to be taken of more variables than this survey could include before sound inter-institutional comparisons can be made. The differences between public and private sector unit

<sup>28</sup> Simon Mendoza, *op cit*

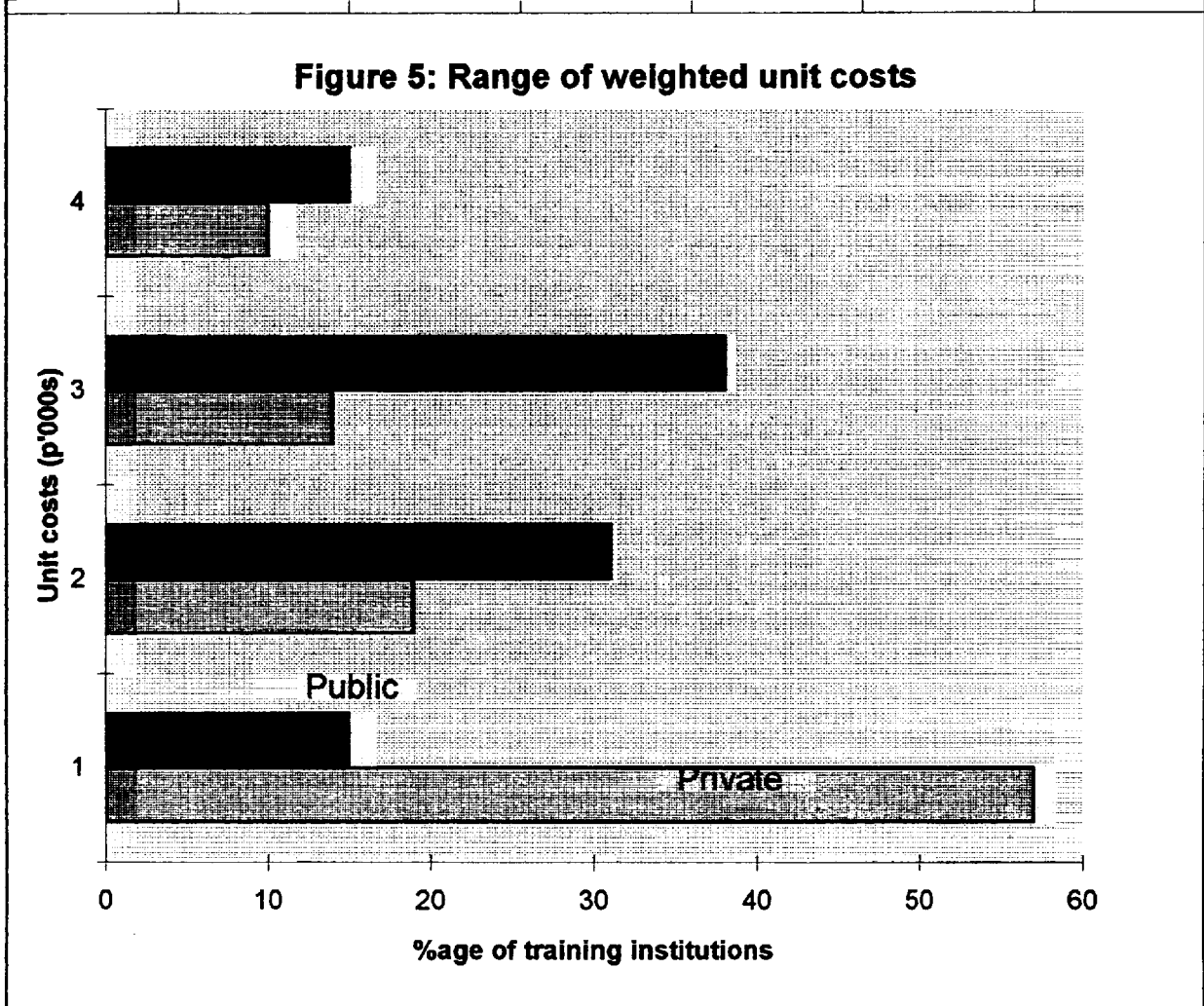
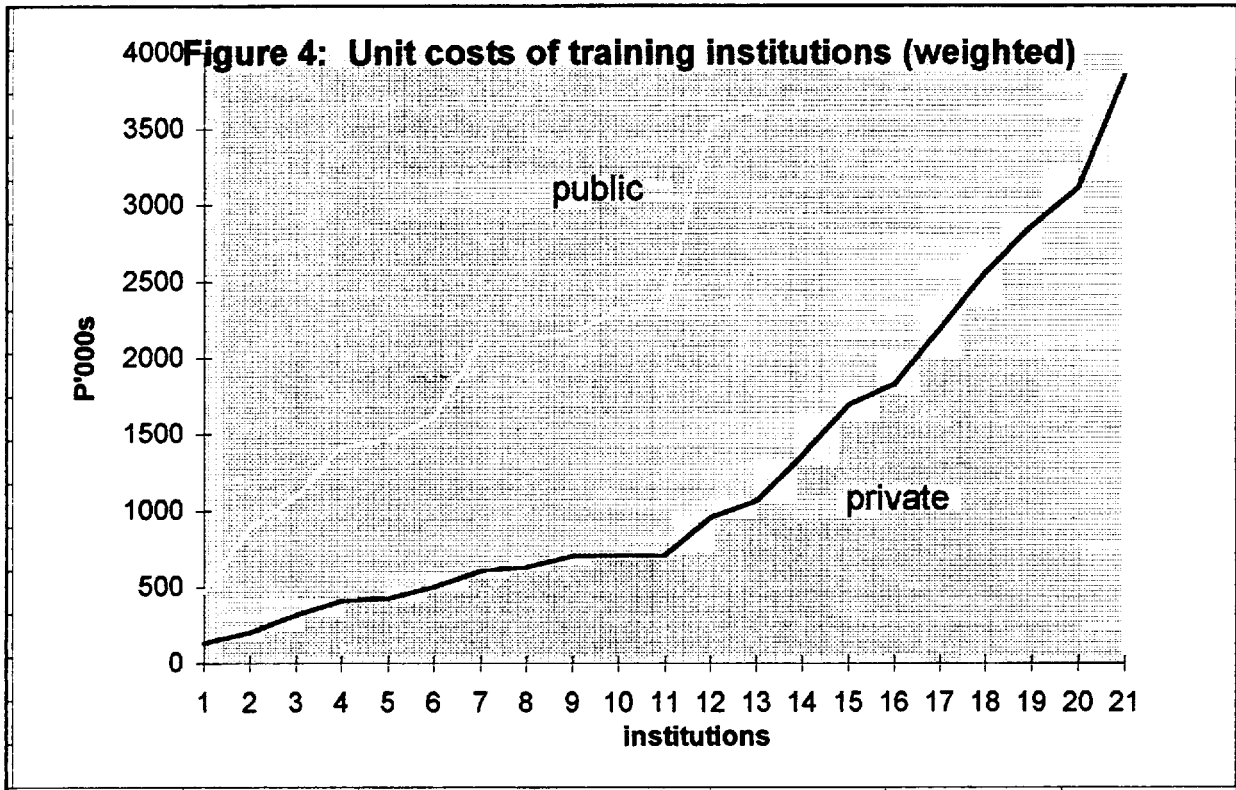


costs are demonstrated in Figure 5. They indicate that public sector institutions have significantly higher unit costs than private institutions. Over three-quarters of private institutions (76%) have unit costs below P2000. Over half the public institutions have unit costs above P2000. The higher costs would seem to arise from the lower productivity of public sector staff in terms of both fewer training hours per week/year and a larger proportion of resources expended in management and administration.

Table 7: Weighted unit costs per student, public and private training institutions

TRAINING INSTITUTIONS (n = 34)	P1-500 per student	P501- 1000	P1001- 3000	P3001+
Public	1	1	9	2
Private	5	7	7	2
Total	6	8	16	4

66. However, there are significant differences between the types of training provided, spelled out in Specialist Report No..., which warns against simplistic comparisons. Private sector institutions are significantly smaller than public sector ones. Nearly half the private sector institutions surveyed, but only 15% of public ones, have fewer than 500 students, although there are large institutions in both sectors - 11 public and 12 private have over 2000 students. These differences are rather less significant when only the TVET students are considered. 40% of the public and 65% of the private institutions have fewer than 500 TVET students. Only a small number of institutions (3 public and 2 private) have over 2000 TVET students. When a comparison of unit costs takes into account the smaller size of the private institutions, the overall implied efficiency of the private sector becomes more marked, because in general smaller institutions, with a higher proportion of fixed costs, tend to have higher unit costs than larger institutions.
67. Earlier studies, including those by EDCOM and the World Bank, have drawn attention to the very high unit costs of the SUCs, compared with other institutions. This is borne out within this study, despite problems arising from the small numbers of some categories of institution within the survey sample, and the problems of categorising some institutions. The SUCs in the survey have the highest average unit cost of all institutional types (P4776), in line with earlier estimates. The reasons for this are not clear from the available data, although administrative costs are unusually high (they amount to nearly 50% of all salaries). as indicated earlier, a very large proportion of public sector TVET is delivered through SUCs, so in seeking to improve sector efficiency a more detailed examination of the reasons for high SUC unit costs is a very high priority.



### 5.3 Staff-student ratios

68. A rather different measure of institutional efficiency is the ratio of teachers/instructors to students/trainees. The provisos indicated above are also applicable here with regard to the calculation of 'full-time equivalent' student numbers. There are also difficulties in calculating precisely the numbers of teaching staff, where staff classified as administrators also undertake teaching responsibilities; while, as with the students, part-time staff need to be assigned as full-time equivalents. The unweighted data is, therefore, only of limited indicative use. For the 74 institutions surveyed, staff-student ratios (SSRs) ranged from 1:3.8 to 1:170, as indicated in Table 8. There are significant differences between the public and private sector institutions: 65% of the private institutions had SSRs below 1:20, compared with only 40% of the public institutions. This reflects the point made strongly by private institutions in the case studies that small class sizes (not quite the same as the SSR but commonly related) are maintained in order to assure quality education.

Table 8: Staff-student ratios, unweighted, public and private training institutions (total numbers of TVET students by total numbers of TVET instructors)

TRAINING INSTITUTIONS (n = 74)	< 1:20	1:21 to 1:40	1:41 to 1:80	over 1:80
Public	4	10	7	11
Private	15	11	11	5
Total	19	21	18	16

69. The data have been re-calculated by 'weighting' both staff and student numbers. The weightings have been obtained by using data concerning course length (in months) to weight student numbers where the stated course lengths are less than 10 months<sup>29</sup>. Staff numbers were obtained by aggregating all TVET managers and instructors, but weighting instructors where the numbers of teaching hours were stated as less than 28 per week<sup>30</sup>. There remain a small number of anomalies, in terms of both remarkably high SSRs (over 1:100) and very low SSRs (under 1:5) but the overall distribution is more realistic than the unweighted figures.

70. Student dropouts constitute a common measure of the efficiency of training institutions. High dropout levels (in contrast to course completion levels) normally indicate wasted resources, whether by recruiting students unable to cope with the programme demands or by delivering courses which do not meet students' needs. In this survey, dropout rates are on average very low. Only 11 of the 74 institutions had dropout levels greater than 10%. Three of these (two private, one public) have abnormally high dropout rates, exceeding 30%, but there were no indications as to the reasons for this. More typically, dropout rates in both public and private

<sup>29</sup> Course length 5/6 months = 0.5 fte (full-time student equivalent); 4 months = 0.4; 1 month = 0.1

<sup>30</sup> 22-28 hours/week = 0.7 fte; 17-21 hours = 0.55; 9-16 hours = 0.33; 1-8 hours = 0.15

institutions tend to be less than 5%.

Table 9: Staff-student ratios, public and private training institutions  
(weighted numbers of TVET students by weighted numbers of TVET instructors)

TRAINING INSTITUTIONS (n = 73)	< 1:20	1:21 to 1:40	1:41 to 1:80	over 1:80
Public	9	10	8	5
Private	18	12	8	3
Total	27	22	16	8

71. A related common indicator of the efficiency of TVET provision is the input/output ratio - the proportion of students entering a TVET programme who graduate successfully. The survey data provide only limited evidence here, because it did not include details of specific cohorts - the less satisfactory device of comparing inputs and outputs in the same year (i.e. different trainees) has to be used. The overall picture is of no significant differences between public and private sector institutions, but of substantial differences between programs - only 82% successful completion by textiles/garments trainees compared with 95% by metals graduates. The overall input/output ratio of 87% (of incoming trainees) is broadly in line with rates in other TVET systems.

#### 5.4 Sources of income

72. All 74 institutions surveyed identified their main sources of income. Student fees were by far the most commonly cited source (50 institutions, although it cannot be assumed that the other 24 institutions do not charge any fees at all). Donations were mentioned by 30 institutions and local government by 18. 20% of the institutions raise funds through production activities. One institution in seven generates income through training services to industry, and one in ten from consultancy services. Central government and foundations or trusts were each referred to by 14 institutions (19%). Public sector institutions possibly did not specify central government as their main source of income, as they regard this as an 'allocation' rather than a revenue line over which they have some control. It might also reflect current uncertainties about the role of TESDA and the pace of devolution to local government. The overall pattern of sources of income has not been quantified in financial terms, but is indicated in Figure 7.

73. A distinctive feature of this data is the large number of institutions in both the public and private sector which draw upon multiple sources of income. Nearly one third of public institutions indicated that they have at least four sources of income, a diversity greater than in the private sector, where fees and donations form the main sources. One implication of this is that it would not require a major realignment of policies and activities, for public sector institutions to be encouraged to diversify their income sources through more systematic income generation strategies.

Figure 7: Sources of income for training institutions

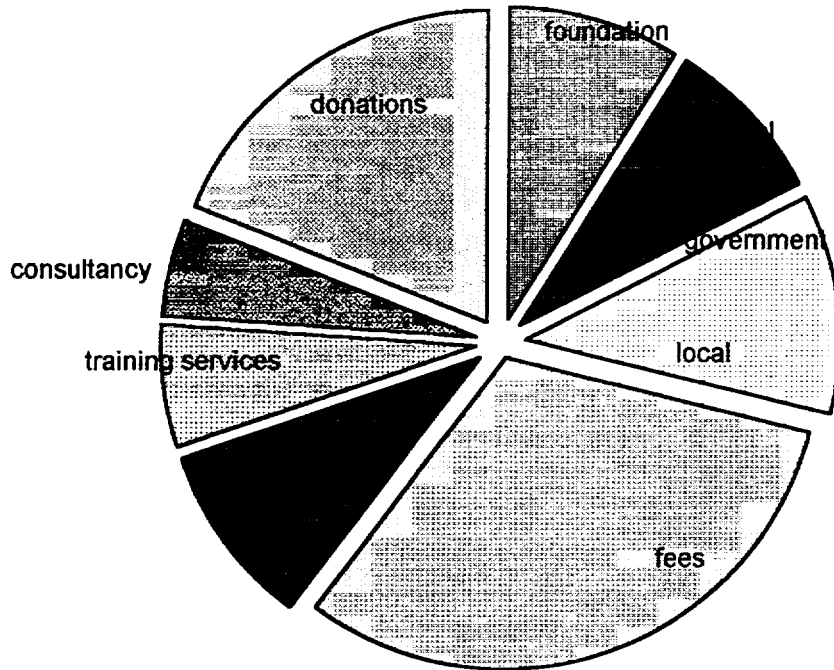
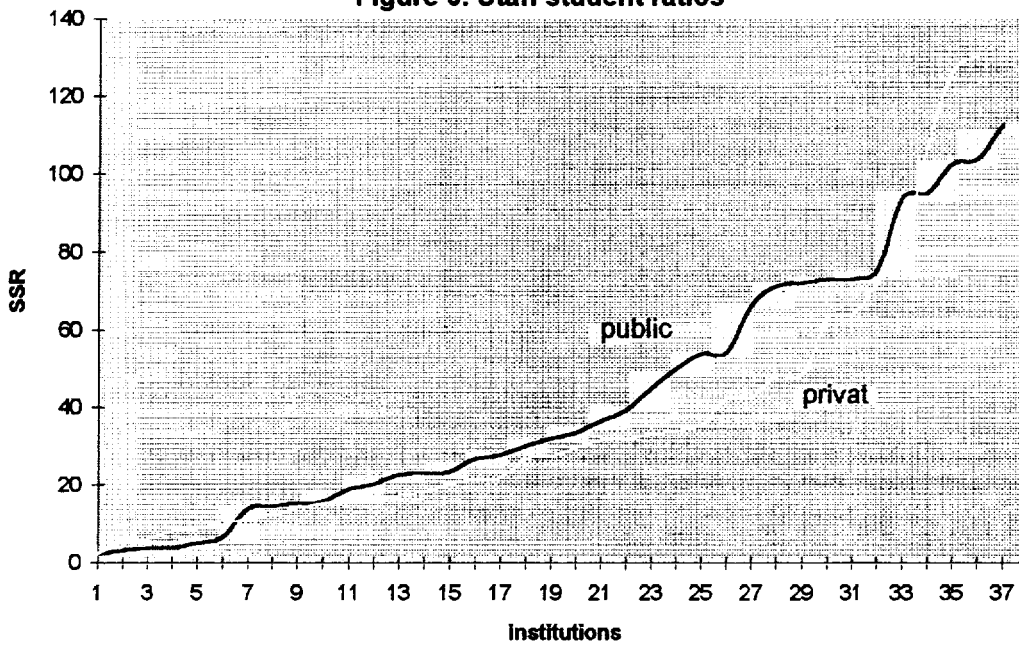


Figure 6: Staff student ratios



**SECTION 6: THE RESEARCH EVIDENCE: ENTERPRISES**

74. Few of the 142 enterprises surveyed were able to provide financial information in a form and at a level of detail which permits comparison with the institutional training costs reviewed in the previous section. In many enterprises, training costs are notoriously difficult to identify - not least because a clearly identifiable training budget provides a clear target for cost-cutting! Small to medium enterprises absorb training costs within their general budget, particularly where the main costs incurred are by production staff involved in on-the-job training.
75. Table 10 summarises investment by enterprise in HRD and training facilities. Only 38 enterprises (27%) indicated that they have a formal HRD or training unit, and most of those (38) have an HRD plan. Training units and HRD plans are found in 55% of large firms and 32% of the medium-sized (51-500 employees) firms, but only in two of the 51 small (fewer than 50 employees) firms. 27 firms indicated that they have an HRD budget, but less than half of these were able to specify that budget as a proportion of payroll. Most of these (7 out of 13) were large or medium firms. Budget sizes ranged from 1% to 30% of payroll.

Table 10: Firms with HRD and training facilities

NOS. OF ENTERPRISES	small (less than 50 workers)	medium (51-500)	large (500+)	total
HRD or training unit	1	20	18	39
HRD plan	2	19	17	38
HRD budget	5	10	12	27
full-time staff responsible for training	9	12	11	32
training centre	0	8	7	16

76. 65 firms (46%) have a designated member of staff responsible for training, 32 on a full-time basis. Their usual designation is 'supervisor', with a minority using the title 'training officer'. 20 firms employ additional full-time trainers. One firm's workforce includes 35 trainers, but most firms (14 out of the 20) have less than five full-time trainers. Only 10 firms were prepared to reveal the monthly salaries of these trainers, but these point to a wide variation in remuneration. They range from P2,000 to P16,000, with half the firms quoting P3,000 or less and four out of the 10 in the range P12,000-P16,000.
77. 16 firms (11%) run their own training centre. Over half of these have 5 or fewer trainers. Apart from the enterprise whose training unit employs 35 staff, all have 20 or fewer staff at an average of just over 6 staff per centre. 12 firms estimated the annual cost of providing the training centre. They ranged from P10,000 to P300,000 at an average cost per trainer of P39,000 per year. These figures disguise, however, a wide range of costs, from P5,000 to

to P100,000 per trainer - possibly an indication of high capital investment in some training centres. There are no significant differences between medium and large firms in the size of training centre measured by numbers of trainers, but the highest costs (all those over P100,000 per year) are concentrated in the large firms. The main areas of centre expenditure were identified as equipment (all the centres), staff and materials.

78. Only 24 firms (17%) support on-the-job training (OJT). These firms estimated that they involve on average 7.2 full-time equivalent staff in supporting OJT. When the three firms with more than 20 staff supporting OJT are excluded, the average number falls to 5.5 per centre. Salary grades of these staff vary according to size of firm. The average monthly salary of these staff in small firms is P4,200; in medium firms it is P6,300, and in large firms P6,700. The estimated monthly cost of supporting OJT<sup>31</sup> is, therefore, in small firms P10,500 per firm; in medium firms P50,400 and in large firms P49,650. This does not include any stipends paid to trainees.
79. 16% of firms (22) commission external training institutions for their training. Only 1 of these is a small firm, but 1/?% medium and 10/?% of large firms buy this form of training support. Annual expenditure on external training ranges from P5,000 to P700,000.
80. Only 10 firms provide financial assistance to private training institutions (5 small, 2 medium, 3 large), and only 2 firms indicated the value of that assistance (and both stated the same amount as they spent on external training). Three of these firms provide equipment to private training institutions (no estimates of its value), and 9 firms offer assistance with teaching (2 small, 3 medium and 4 large).

### 6.1 Training focused firms (TFFs)

81. In summarising the overall pattern of enterprise expenditure on training, it is significant that altogether 60 firms (42% of the sample surveyed) indicated that they undertook significant expenditure on training their employees or approached that training systematically. The survey included 12 indicators of training involvement - they are listed in Table 11, as is their distribution between small, medium and large firms. These 60 firms responded positively to at least two indicators and are identified in this report as '*training-focused firms*'-TFFs<sup>32</sup>. Their distribution in terms of numbers of those indicators per firm is shown in Figure 8, while Table 12 indicates their distribution by industry sector.
82. Within this group 13 firms, identified as responding positively to at least six indicators, would seem to have a commitment to training which characterises them as '*super-TFFs*' and which distinguishes them from other organisations. These are distinguishable by high sales per worker, a high percentage of foreign equity and a concentration in the electronics and automotive sectors (all but one of these super-TFFs are in these two sectors.)

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<sup>31</sup> Calculated from the salaries of staff involved, assuming that there are few if any other significant costs to employers from OJT, and that these will be covered by the productive work undertaken by OJT trainees.

<sup>32</sup> It is rather surprising that 19 firms claim to provide systematic training without demonstrating any of the other indicators.

Table 12: Indicators of enterprises' training policies

INDICATORS (n = 60)	Small n = 13	Medium n = 28	Large n = 19	Total	Total as %age of all firms with this indicator
Provide systematic training	10	17	14	41	85
In-house HRD or training unit	1	19	18	39	97
HRD plan	2	19	17	38	100
HRD budget	4	10	12	26	96
Full-time trainer(s) employed	4	11	9	24	75
Own training centre	0	8	7	15	94
On-the-job training	2	8	11	21	88
Use external training institutions	1	11	10	22	100
Assist external institutions	0	4	4	8	73
Apprentices sent for off-the- job training	2	4	1	7	100
Students given OJT	10	16	16	42	75
Work with local colleges	5	3	1	9	100
<b>TOTAL</b>	<b>13</b>	<b>28</b>	<b>19</b>	<b>60</b>	<b>43*</b>

\* = %age of all establishments

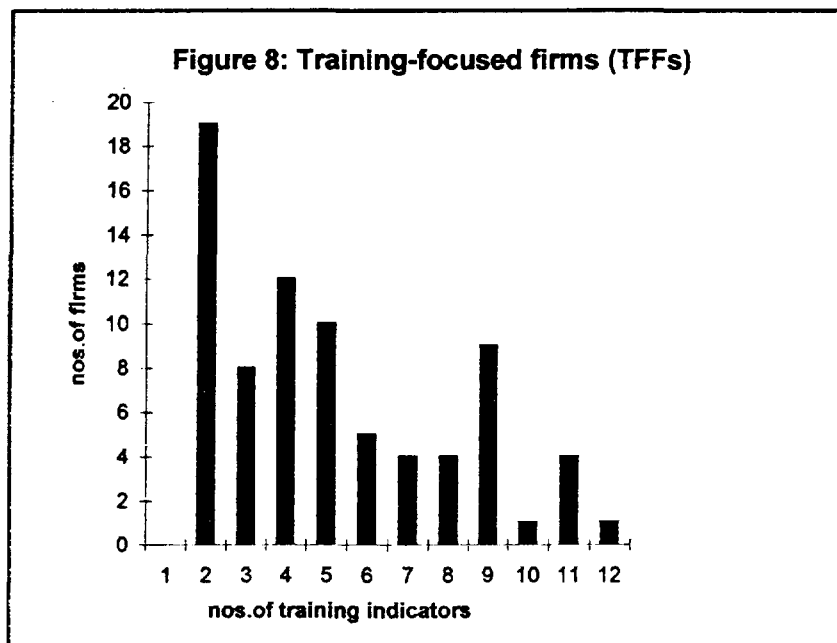
83. The 12 training indicators point particularly to the establishment of training policies in the TFFs which distinguish them from the other firms. Training practice, arising from these policies, is also distinctive. 92% of the 26 firms providing training for engineers are TFFs; 78% of the 37 firms which trained their technicians in 1994 are TFFs, as are 61% of those 46 firms who trained their skilled production workers.

Table 11: Training-focused firms and 'super-training focused firms', by sector

industrial sector	TFFs	% of all firms in sector	Super- TFFs	as % of TFFs
GARMENTS	14	40	0	0
NON-ELECTRICAL MACHINERY	13	46	1	8
ELECTRONICS	21	57	7	33
AUTOMOTIVE	13	42	9	69



84. The patterns of training are also significant. TFFs train their engineers and technicians in-house, but, although many have their own training centres, the 'super-TFFs' are virtually the only firms to use government and private training institutions. And, at least in the electronics and metals (automotive and machinery) sectors, they take advantage of a wider variety of training opportunities than do other firms. Thus, 85% of firms making use of or at least familiar with government financial initiatives to support training - the Training Contract Scheme, the provisions of the Dual Training Act and the Productivity Incentive Act - are TFFs; and over half of these are electronics firms.
85. Further analysis of the enterprises which systematically invest in training reveals that they have some significantly different opinions about training, their own investment policies and the role of government than the 82 firms which do not meet at least two of these indicators. For example, the TFFs are significantly more willing to contribute towards the cost of sector-specific training centre than other firms, and hold to the view that general taxation should support training, but they are much less willing than other firms to support levy grants, tax incentive and rebate schemes. They are more willing than other firms to pay for labour market information, but less willing to pay for guidance to educational and training institutions and much less willing than others to provide financial support for government training institutions.
86. The views of this group of firms on those government interventions which they would find most useful include the provision of guidance to education and training institutions (though they are significantly more pessimistic that the government will do this than other firms!). Further analysis of the characteristics of this group of training-focused firms can be found in Specialist Report No. 5.
87. Firms also invest in training through their industry associations, but the scale of this investment was not quantified as part of this survey, although very substantial differences (as might be expected) were noted in the training focus and level of training involvement of different intermediate bodies. Evidence from relevant case studies and related project activities is considered in the next section.



## **SECTION 7: RESEARCH EVIDENCE: CASE STUDIES AND COST EFFECTIVENESS**

88. The case studies in firms and training institutions undertaken as a part of this project provide a complementary perspective on cost effectiveness issues. The issues arising from the case studies echo many of those in the Gray/Warrender model of efficiency and effectiveness strategies in Section 2 (see Table 1). Both the case studies and the Gray/Warrender study emphasise the importance of appropriate inputs into the TVET system. Inadequate entry capabilities lead to student dropout and failure, and the case studies emphasise the importance of strong selection procedures. Technical and vocational education is expensive in relation to general education. It is, therefore, an inefficient use of resources if expensive TVET facilities and staff are deployed to undertake work which could be undertaken at lower cost in the general education system. Investment in improving basic education is a relatively low cost way of improving TVET, for the beneficiaries of that improved basic education will then be able to cope with the demands of rigorous technical and vocational training.
89. A second and related message from the case studies is the need to improve the quality of TVET provision, in three ways:
- \* enhancing teacher effectiveness by ensuring that teachers have passed the relevant trade tests and compulsory staff development;
  - \* making the curriculum in training institutions more relevant to employers' needs, including modular structures which encourage employers to release trainees; and
  - \* improving on-the-job training, so that it is not only work experience but a learning experience, related to and integrated with off-the-job learning.
90. The case studies pointed to two complementary groups of strategies for achieving this. Training institutions should be vital links in an integrated education/training/employment system, integrated with their 'suppliers' - the schools - and their 'customers' - the employers. The case studies point to the need for training needs analyses undertaken as a central part of the work of training institutions, in order to ensure the relevance of their curricular offerings, as well as formal Memoranda of Agreement with both schools and employers to ensure that these linkages are operating effectively and efficiently - including the more effective use of OJT. Linkages with employers can be facilitated by more emphasis on income generation by the training institutions. Production and the sale of consultancy and training services were recognised as not only leading to closer links with employers but as valuable means in themselves for enhancing staff development and student learning.
91. Alongside these 'external' strategies, the case studies pointed to some 'internal' strategies whereby training institutions should enhance their efficiency. The EDCOM Reports drew attention to the unhappy combination of limited resources and wasteful management of those precious assets<sup>33</sup>. Despite the potential opportunities for improved efficiency arising from the post-EDCOM reforms, we found little evidence that action had yet been taken to use

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<sup>33</sup> *Making Education Work Book One Areas of Concern in Philippine Education; Volume 4 Governance & Management, EDCOM, 1993*

resources more efficiently. An underlying problem seems to be the inappropriate imposition of central controls on training institutions. Where centralisation policies are most firmly applied they create inefficiencies, as in the standard applications of the Civil Service Code to all public sector training institutions. They do not apply, however, in those (limited) areas of asset management where central regulation can produce efficiency gains, as in some forms of purchasing.

92. Greater financial autonomy for the training institutions is an important step forward to achieving efficiency gains. With this autonomy comes the incentives to pursue income generation strategies, as indicated above, but this is just a part of a greater concentration on fiscal planning at institutional level. Cost effective TVET is most likely to be achieved where institutional managers have both the authority and the incentives to implement effectiveness and efficiency measures. The case studies were divided as to the relative benefits of greater efficiency through larger class sizes or greater effectiveness (through higher quality teaching) in smaller classes. The division of opinion is less important than the argument that these decisions should be taken at institutional level. A diverse training market, catering for a very wide range of student demands and employer needs, is likely to require both highly selective, high unit cost institutions, providing high quality TVET for one sector of the labour market as well as mass, low unit cost training for other sectors of the market. The lessons from the case studies are that, within a national planning framework, mediated at regional level and organised through TESDA, institutions should be encouraged to find their own niches in this market. Closer links between training institutions and employers would enable them to pitch their training and related services in tune with the requirements of their local and regional markets.
93. Intermediate bodies such as industry associations indicated their approaches and attitudes towards training. Some have made substantial investments already, as with the Metals Industries Association of the Philippines (MIAP), which has been providing skills upgrading programmes for at least a decade. Others, such as SEIFI (the Semiconductor Electronics Industry Foundation Inc) work closely with the Dualtech schools in promoting dual training for the industry, but does not have its own training centre. SEIFI is ambivalent about investment in its own training centre, but MIAP has developed ambitious proposals for a new fully equipped metalworking training centre, seeking assistance from DOLE as part of its programme to support industries affected by GATT-UR.
94. Industry associations are important vehicles for the improvement of TVET in the Philippines. They enable industries to operate collectively, and to express their training needs in response to new political, organisational and technological developments. The next section makes recommendations on ways in which the resources of industry including the industry associations might most effectively be harnessed in order to focus limited resources on the priority training needs of Philippine manufacturing industry.

## **SECTION 8: RECOMMENDATIONS FOR ENHANCING COST EFFECTIVENESS**

95. It is commonly stated that Philippine TVET is "underfunded". It is difficult to support that assertion, however, in the absence of any consensus as to an acceptable level of TVET funding, nationally or internationally. Nor is it clear whether TVET is perceived as underfunded in relation to other countries' TVET or to other forms of educational provision in the Philippines. However, the evidence of this project has indicated that it is possible to improve the flow of funds to the public and private TVET systems and to utilise those funds more efficiently. Financial strategies for achieving those ends are recommended in this section. It is also feasible to enhance the effectiveness of the TVET systems by implementing financial and non-financial strategies designed to improve the responsiveness of TVET providers to labour market needs. Recommendations to achieve these ends are indicated below.
96. The recommendations from this report are directed at three aspects of institutional and enterprise based TVET:
- \* funding strategies, to improve the flow of funds to TVET and the more purposeful targeting of those funds;
  - \* internal efficiency strategies, to improve the use of those funds within training institutions;
  - \* externally-focused effectiveness strategies, to enhance the quality of training provision and to achieve more effective integration of TVET provision, both between public and private training institutions and between training providers and their customers, enterprises and trainees.
97. The section concludes with some consideration of the routes whereby these recommendations might be taken forward, with particular reference to the role of TESDA. They need to be considered alongside the recommendations from the other Specialist Reports, and in particular in the context of the action plan proposed in the Strategic Report.

### **8.1 Funding strategies: cost recovery and income generation**

98. The flow of funds diagram in Section 4 (Figure 1) not only indicates the current routes whereby finances are directed to TVET provision but also it can be used to model possible alternative scenarios. Recommendations for radical shifts in the funding flows lie outside the scope of this report, and reference has already been made (paragraph 13) to the evidence in favour of incremental rather than radical changes. However, the evidence from this project points to a number of ways in which:
- \* current providers might attract more funding; and
  - \* existing funds might be targeted more precisely.
99. An initial step is to ensure that the inputs into the public TVET system are optimised, through appropriate levels of fees and other charges. The wide range of fees charged for

TVET indicate that there is no obvious relationship between costs, prices charged and the customers' ability and willingness to pay in the training market. **Our first recommendation is that public and private institutions should be encouraged to review their fees and charges through an analysis of their local labour and training markets.** Fee levels should then be set at levels that this analysis suggests are appropriate in that market. **We further recommend that public institutions be permitted to retain all the income generated through fees and charges,** as an incentive for institutions to review their fee levels. This should, however, operate with the provisos specified later in this Section. This income should be used only for approved investments in institutional quality and productivity.

100. Training providers, whether in the public or the private sector, should be encouraged and supported to generate income from training-related activities which complement training provision and provide both additional income for the training providers and additional support for trainees and faculty. These include the provision of customised training and consultancy to enterprises and intermediate organisations. These not only generate income but provide valuable hands-on staff development for faculty involved in such training and consultancy. There are also substantial prospects in both public and private training institutions for the development of production facilities, whereby trainees gain hands-on work experience and income is generated from the sales of the products. There are dangers that the demands of the production processes can conflict with the prime needs of trainees, and these dangers must be avoided. **We recommend that TESDA, in association with appropriate private intermediate organisations such as the Philippine Chamber of Commerce & Industry (PCCI), organises training seminars and study visits for senior training managers** in order to demonstrate ways of generating income and of managing the pressures arising from greater diversity of activities. These should include training in the relevant management competences.
101. A third area where training institutions might generate income is through more efficient uses of their existing land and premises. Endowments to training institutions have not infrequently included donations of land and related assets which for various reasons are not managed to the benefit of the trainees. Few training institutions have the managerial skills needed to manage these assets effectively. **We recommend that training institutions are encouraged and supported (through appropriate training) to lease those assets to private companies, in order to generate retainable income.** Again there are dangers and the institutions must operate within a regulatory framework designed to ensure that valuable assets are not disposed of cheaply.
102. The capacity to generate income in public sector institutions requires changes to the regulatory and legislative framework within which they operate. Some changes are already under way. Recommendations for amending this framework further are made later in this section. These recommendations are intended to enhance the capacity of the government as a major training funder to target its resources more effectively and for training institutions to act upon findings about ways they might operate more effectively.

## 8.2 Funding strategies: scholarships, loans and vouchers

103. Despite considerable national concerns for both the funding and the quality of TVET and a number of innovative funding schemes, few attempts have as yet been made to relate funding to quality. Government funding regimes are characterised by damaging year by year fluctuations and by the operation of inefficient 'first come first served' principles, as with GASTPE and ICBP. An important first step towards greater effectiveness requires, therefore, both greater stability of funding and the application of stricter criteria for eligibility for funding support, complemented by better application and targeting of existing schemes for supporting training. The experience of existing schemes has provided some insights into their relative effectiveness. It suggests that targeted grant-aid, particularly in the form of vouchers, is more effective than student loans or employer tax incentives. However, existing schemes present two substantial problems. Most are generic, in that they are available for all forms of tertiary education. This does not take account of the particular contributions that TVET can make to national economic achievement.
104. The TVET sector and its students deserve their own specific support schemes, tailored to governmental and employer priorities. **We recommend, therefore, that the support systems available to TVET trainees and employers should be consolidated and managed through TESDA or with careful consideration of advice from TESDA as a component of the Skills Development Fund permitted in the TESDA Act 1994.** This can be achieved by specifying that a fixed proportion of the GASTPE funds should be used specifically for TVET students, in the form of a voucher scheme which incorporates elements of the high schools' Educational Contracting Scheme. TVET students, whether full-time or part-time, should be eligible for vouchers which can be used to pay all the tuition fees at any private training institution for a study program which meets criteria of national significance (as specified by TESDA) and for which places are not locally available at a public training institution.
105. **We further recommend that the TVET support scheme should comprise:**
- \* **means tested scholarships for pre-employment trainees;**
  - \* **loans/vouchers for in-employment trainees; and**
  - \* **tax credits and low interest loans for employers.**
106. The principles governing such a consolidated TVET support system should be that:
- \* pre-employment trainees/students attending public and private training institutions for approved TVET programs should be eligible to means-tested scholarships paid directly by TESDA to the training institutions. The value of the scholarships should be set at the average unit cost for that program as identified through TESDA's annual monitoring system, and assessment of student need undertaken by the training institutions themselves, using criteria developed by TESDA, drawing on the University of the Philippines' experience of its Socialized Tuition and Financial Assistance Program (STFAP);
  - \* in-employment trainees should be eligible for repayable training vouchers/loans to cover the costs of their tuition fees where these are not paid by their employers. The

vouchers/loans should be repayable in two ways - as low interest cash repayments or as repayments in kind, by undertaking a specified volume of training without payment, either within their own firm or in a training institution. In this way a supply of trained, experienced trainers would be available to the TVET system at low cost to the system;

- \* tax credits should be available to employers who meet criteria specified by TESDA. The criteria should include the provision of facilities for on-the-job training to public and private training providers; the donation of equipment to training providers; the release of trainers to work with training providers; and the availability of in-plant training facilities for trainees other than their own employees;
- \* low interest loans should be made available to enterprises for the purpose of establishing in-plant training facilities, on condition that these facilities would be available to other training providers for pre- and in-employment training.

107. These recommendations draw upon the experiences of the Latin American study tour and the 1995 TESDA study mission to Japan, Korea, Singapore and Malaysia to propose practical initiatives which would be acceptable to Philippine industry. **We further recommend that these initiatives should be promoted by TESDA to employers as an integrated programme of support**, which build upon the existing substantial levels of private sector investment in training. The programme encourages firms which have already invested in training facilities by offering them tax credits if they make those facilities more widely available. The tax credits should be related directly to the levels of external utilisation and subject to a ceiling relating to the size of a company's payroll (as observed in Chile, where the ceiling is 1%).

Firms which have not invested in their own training facilities are encouraged to increase the national stock of such facilities through access to low interest loans. This tackles one of the main constraints on the development of in-plant training facilities - availability of capital. We recommend that the expertise of the banking sector is used to manage these loans, as was seen in Malaysia. The loans should be available only for capita schemes, should be time-limited, should require some contribution by the firm to the overall cost of the scheme (possibly at least 20%) and should be available only to firms which agree to accept a minimum number of trainees from outside their own employees over a number of years. Once these facilities are established, these firms should also be eligible for the tax credits recommended above.

108. The third component of this development programme is targeted at firms which cannot or do not wish to develop their own training facilities and which are unable to afford the full costs of upgrading their employees' skills. The recommendations for a loan/voucher scheme allow firms to pay for the costs of external training either through the repayment of training loans, or by releasing employees, once trained, to cascade an agreed volume to training in-house or externally. The vouchers/loans would be available to all firms, related to the size of the payroll, and could be taken up on training programmes within centres approved by TESDA. These could be another firm's training centre or a training institution. The costs of the vouchers would be substantially covered over time by the availability of skilled trainers, although initial start-up funding would be required from the government (through TESDA, as part of the reformed Skills Development Fund recommended above). There would, however, be ongoing costs and administrative expenses. These could, as with the

tax credits indicated above, form part of government's continuing investment in upgrading the skills of the Philippine workforce. Or it could, as in Latin America, be funded through a levy on employees.

109. TESDA and the relevant government departments have not yet finalised the operation of the Skills Development Fund. We have some reservations about the efficacy of any overall levy on employers: the efforts involved in enforcing and collecting the levy may well outweigh the financial benefits, while its application might jeopardise existing goodwill. However, the recommendations above provide a framework for the application of a selective levy, which would fall on employers over a specified size who do not satisfy any of the criteria indicated above for the receipt of tax credits. **We recommend that TESDA institutes a detailed feasibility study of the impact of a levy/tax credit scheme on industrial employers.**
110. One further area where the training capacity of the enterprise sector needs support is the training response to new technologies. At present finance to support new technologies is available through the GATT initiative in the 1996 GAA, administered through the Departments of Trade & Industry (DTI) and Science and Technology (DOST). If it can be achieved within current GATT-UR regulations, **we recommend that these funds are extended to firms which invest in training facilities to enhance new technology take-up, applying the broad criteria for eligibility for tax credits indicated above**

### 8.3 Enhancing internal efficiency

111. Internal efficiency gains are achieved by improving the ratio between inputs and outputs. In training institutions this involves examination of training inputs - facilities, equipment, consumable materials and - most of all - human resources in the form of trainers, technicians and support staff. Improvements in the 'mix' of resources which lead either to larger outputs, in the form of successful graduations or reduced inputs - or both - usually require some understanding of the processes whereby resources are consumed - teaching and learning. These recommendations focus on the internal organisation of private and public training institutions: the internal efficiencies of enterprise-based training are too closely related to other aspects of a firm's internal organisation.
112. The unit costs per trainee are usually most readily reduced by altering the ratio of trainers to trainees, given that trainers form the largest cost element in most training institutions. The evidence of this research suggests that there is scope for improvement in both public and private sector institutions. There is a very wide range of unit costs and staff:student ratios (SSRs). A large proportion of the institutions surveyed have unit costs of over P2000 and SSRs of under 1:20. The reasons why these are so different from other institutions need to be better understood. **We recommend, therefore, that TESDA should undertake or commission a small scale investigation of selected "matched pairs" of institutions.** Institutions of broadly similar sizes which carry out similar training activities but at very different unit costs/ SSRs should be investigated to:

- identify the main reasons for the differences; and



- point to good practice strategies which enable the lower cost institutions operate more efficiently than its 'matched pair' institution.

113. Such studies are likely to provide insights into the institutional recruitment and enrolment levels and the ratio of enrolled students to successful graduates. The training institution surveys point to very low recruitment levels in some courses. Although the surveys have not provided many insights into the phenomenon of trainee dropout, other evidence outside this study suggests that in some institutions and courses the wastage levels are unacceptably high. An obvious efficiency measure is to ensure that trainee intakes do not fall below a specified minimum size. Classes should not be allowed to operate below the minimum group size, and should be closed if trainee wastage leads to classes falling below the minimum size. The responsibility for recruiting trainees and keeping them should rest with the training institutions and their staff. Incentive systems are needed to involve staff in appropriate recruitment. These should be balanced by penalties for staff, through retrenchment strategies, where intakes are insufficient to keep staff fully deployed. We recognise that this may require radical changes in government institutions where staff job security is guaranteed by the civil service code. We also recognise, however, that even the most wealthy countries cannot afford to retain staff for whom there is insufficient work, and that some retrenchment is an essential element of TVET reform in the Philippines public sector. Later in this section we make recommendations for managing possible retrenchment in more autonomous training institutions.

114. The internal efficiency of training institutions depends upon the efficiency with which resources are consumed in teaching and learning processes. In TVET this involves appropriate integration of human resources with materials, equipment and facilities. While it may be desirable for all training institutions to have state-of-the-art facilities and equipment for their students, this is impracticable. Ways must be sought to provide access to existing facilities and equipment on industrial premises. On-the-job training is in principle intended to provide just this experience, but our evidence suggests that it can be more effectively structured, so that it is better integrated with the learning acquired at the training institution. This integration is the central feature of the dual training system. The various pilot schemes in the Philippines, encouraged by the Dual Training Law, provide valuable approaches to TVET. However, their high costs suggest that more widespread application of fully integrated training is unlikely in the near future. A useful intermediate stage is, therefore, the improvement of institutional links with industry through integrated forms of OJT. **We recommend that firms providing OJT in a format approved by TESDA are eligible for the tax credits indicated above, and that TESDA establishes criteria for a national Integrated On-the-Job Training Scheme (IOJTS).** Central principles of the scheme should be that:

- a) OJT is supervised by instructors who recognise and reinforce its relationship to classroom/workshop based learning within the training institution; and
- b) OJT is assessed and forms part of the accreditation process.

#### 8.4 Effectiveness strategies

115. The effectiveness of training provision is related to quality improvement and to vertical

integration between schools, training institutions and employers. Recommendations have been made already for improving the effectiveness of enterprise-based training. Tax credits are proposed as vehicles for opening up in-plant training facilities to a clientele beyond the firm's own employees and for integrating OJT as a more central learning focus. Vouchers are proposed in order to improve the quality and availability of instructors and trainers. Beyond this, intermediate organisations and in particular Chambers of Commerce and Industry Associations have a particular responsibility for helping their members to enhance their efficiency and effectiveness through training. Elsewhere in this Report we recommend ways of supporting these intermediate organisations in undertaking these tasks. In the following paragraphs we recommend ways of involving industry more directly in the governance and delivery of training through Boards of Trustees.

116. Government training institutions are subject to a restrictive regulatory framework which inhibits their ability to improve effectiveness. During this project, the constraints imposed by central regulation from several government departments have been clearly demonstrated, to the extent that the transfer of responsibilities to the private sector is advocated as the only solution. We believe that this is a counsel of despair which the current Filipino situation does not merit. TESDA already is pursuing a policy of devolution to regional and local government. What are the barriers to taking that devolution one stage further - to the institutions themselves? The government has already permitted SUCs to retain a proportion of their income to augment their operational expenses (in the 1995 GAA). **We recommend that this principle be extended further, by means of a phased strategy for government institutions take on more financial autonomy, which should go hand in hand with new responsibilities for institutional managers.** These responsibilities should include the need to improve efficiency, although the processes whereby that is achieved should be left to the managers to propose.
117. The 1996 General Appropriations Act (Sec. 4) permits the use of "revolving funds" but the general tenor of the legislation maintains firm central control over the details of institutional expenditure in ways which hardly encourage financial responsibilities at a local level other than in the restricted sense of probity. Four steps seem necessary if government training institutions are to manage their funds more effectively. They need to be:
  - a) permitted to retain all the income from income generating activities, including production, special training services, consultancy and testing services, as recommended earlier in this Section;
  - b) required to carry out and report on regular surveys of the local labour market, and establish labour market information systems and units, whereby that information can be used to ensure that training services meet identified customer needs;
  - c) encouraged to adopt human resource development (HRD) policies, which include staff appraisal and performance review; productivity rewards, including performance-related pay; and as appropriate, retrenchment-with-compensation policies. When institutions demonstrate that they have established acceptable HRD policies, they should be exempted from the constraints of government regulations on pay, other personal benefits and conditions of service; and

- d) funded through a one-line budget allocation from TESDA, based on the approval by TESDA of a business plan specifying the numbers of trainees, range of courses, anticipated success rates, and income generating policies, along with strategies for cost reduction and improved efficiency.
118. The approval and monitoring of institutional performance, including approval of business plans and monitoring of HRD policies and income generating strategies, should be a prime task of TESDA's regional and provincial offices. **Over time, we recommend that these tasks are devolved to Boards of Trustees, comprising representatives of industry and business served by the institution along with TESDA officers.** The Boards of Trustees would normally be appointed for a geographical area, such as a province, with responsibility for the governance of all public TVET provision and the monitoring of private sector provision in receipt of government funding throughout that area. In exceptional cases, as with very large TVET providers, Boards of Trustees should be established for single institutions.
119. The tasks of the Boards of Trustees should be to:
- \* review the annual income and expenditure proposals of institutional managers in their area, in the form of a business plan, and when satisfied as to their feasibility submit them to TESDA for formal approval;
  - \* receive regular reports from the institutions' chief executives on the extent to which the organisational and financial objectives of their business plans are being achieved;
  - \* review the extent to which the institutions collect and use information about their local labour market in order to update and modify the range of services it offers to their customers;
  - \* monitor the institutions' personnel and HRD policies and report to the chief executive and TESDA where these are thought to be not in keeping with best private sector practice; and
  - \* monitor and review the overall TVET provision throughout the area for which they have responsibilities, and make recommendations to the chief executives of public and private sector providers, including enterprises, about ways in which provision might be rationalised and made more effective.
120. Closer linkages between manufacturing firms and training providers is likely to enable firms, and in particular industrial associations working on behalf of their members, to identify specific forms of training which the existing range of training provision is unlikely to meet. In these ways the associations can then focus on ways of meeting those industry-specific needs through specialised training centres - the subject of a separate report. We recommend that TESDA reviews, in preparing its action plans, the extent to which specialist industry-specific provision is met through existing training providers and targets resources towards such provision where its absence impedes nationally significant industrial development.

121. The above analysis and recommendations point consistently at two requirements for the further development and closer integration of the Philippine TVET system. The first is the consolidation of TESDA's position as the national training authority, through which sectoral planning and evaluation is focused and integrated across firms, private and public training providers. The second is the reinforcement of TESDA itself, so that it holds the expertise capable of undertaking successfully that planning, evaluation and integration. We believe that TESDA cannot take on the full range of responsibilities placed on TESDA by the TESDA Act, let alone the further recommendations from this project, without substantial investment in the organisation's HRD capabilities. Recommendations for just such a capacity building action programme are made in this project's Strategic Report.