



# Report and Recommendation of the President to the Board of Directors

Project Number: 33409  
March 2008

## Proposed Loan and Technical Assistance Grant Republic of Indonesia: Vocational Education Strengthening Project

Asian Development Bank



## CURRENCY EQUIVALENTS

(as of 29 February 2008)

Currency Unit	–	rupiah (Rp)
Rp1.00	=	\$0.00011056
\$1.00	=	Rp9,045

## ABBREVIATIONS

ADB	–	Asian Development Bank
BAPPENAS	–	National Development Planning Agency
DGMPSE	–	Directorate General for the Management of Primary and Secondary Education
DTVE	–	Directorate of Technical and Vocational Education
GDP	–	gross domestic product
GE	–	general senior secondary education
GS	–	general senior secondary school
GTZ	–	Deutsche Gesellschaft für Technische Zusammenarbeit (German Agency for Technical Cooperation)
ICT	–	information and communication technology
ILO	–	International Labour Organization
KfW	–	Kreditanstalt für Wiederaufbau (Reconstruction Credit Institute)
M&E	–	monitoring and evaluation
MOF	–	Ministry of Finance
MONE	–	Ministry of National Education
PMIS	–	project management information system
PMU	–	project management unit
PSC	–	project steering committee
SBP	–	school business plan
SSE	–	senior secondary education
TA	–	technical assistance
TVE	–	technical and vocational education
VE	–	vocational senior secondary education
VS	–	vocational senior secondary school

## NOTE

In this report, "\$" refers to US dollars.

<b>Vice President</b>	C. Lawrence Greenwood Jr., Operations 2
<b>Director General</b>	A. Thapan, Southeast Asia Department (SERD)
<b>Director</b>	S. Lateef, Social Sectors Division, SERD
<b>Team leader</b>	W. Duncan, Head, Project Administration Unit, SERD
<b>Team members</b>	K. Emzita, Senior Counsel, Office of the General Counsel
	A. Jain, Social Sector Specialist, SERD
	S. Kerr, Principal Human Resource Development Specialist, SERD
	L. Kulp, Social Development Specialist, SERD
	C. McDeigan, Procurement Specialist, Central Operations Services Office



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## **LOAN AND PROJECT SUMMARY**

<b>Borrower</b>	Republic of Indonesia
<b>Classification</b>	Targeting Classification: General intervention Sector: Education Subsector: Technical education, vocational training, and skills development Theme: Inclusive social development Subtheme: Human development
<b>Environment Assessment</b>	Category C
<b>Project Description</b>	<p>The Project supports the Government's efforts to strengthen technical and vocational education in senior secondary education to improve labor market opportunities for high school graduates and ensure sufficient skilled labor for Indonesia's economic and industrial development. This will occur through the development of a national network of high-performing vocational senior secondary schools (VSs) that will act as exemplars or models for other schools—initially through associated networks of alliance schools. To increase the efficiency and dynamism of VSs, some model schools will be expanded to create large schools with enrollments of around 1,500 students. These schools will offer considerable advantages over smaller schools including more diverse course offerings, increased cost efficiency resulting from economies of scale, and the opportunity to develop stronger teaching and mentoring teams. At the same time, the quality of the model schools will be enhanced by identifying international benchmarks and providing the resources needed to help schools achieve them.</p> <p>Significant changes in school management will be necessary so that large institutions can be run effectively and efficiently along business lines. Equally important are strong industry linkages and a well-trained teaching force able to effectively deliver technical and academic courses.</p> <p>The Project responds directly to the Government's policy that selected senior secondary schools should meet international benchmarks. International benchmarking will be supported under the Project through school linkages with multinational companies and ISO (International Organization for Standardization) certification.</p>
<b>Rationale</b>	National and local governments are concerned that too many graduates are leaving high school without the skills necessary to ensure their economic welfare, and to contribute to national economic and industrial development. The Government's policy to strengthen the quality and relevance of vocational education and training is part of its broader social and economic policy.

The vocational education system—Indonesia’s largest investment in subprofessional skills development—has more than 6,800 public and private VSs with a total enrollment of over 2.86 million. Ensuring that the system responds to Indonesia’s economic and employment needs is therefore a high priority.

Government consultations with industry indicate (i) some industrial developments are constrained due to Indonesia’s comparative lack of skilled workers, and (ii) widespread concern about the lack of relevance of some VS courses to industry requirements. The need to strengthen ties with local industry is strong; the Project will provide continuous upgrading courses for VS graduates and other workers.

Growth in formal sector employment opportunities has stagnated in recent years with unemployment and underemployment becoming significant social concerns and slowing poverty reduction. VS graduates are considered to have strong potential for generating self-employment and for small-scale employment creation. To strengthen entrepreneurship skills, the Project will ensure the introduction of entrepreneurship training in all model schools, supported by productive activities in school production units and business incubators.

### **Impact and Outcome**

The project impact is expected to be increased competitiveness and employment opportunities for vocational school graduates.

The outcome is expected to be improved quality and relevance, expanded access, and greater efficiency in senior secondary vocational education. This outcome will be achieved through a turnaround in school management practices using a business approach; a better teaching and learning environment resulting from improved facilities, equipment, and teaching skills; more relevant and up-to-date teaching and learning methodologies; a strong focus on entrepreneurship; and more efficient use of resources. A broader role for VSs that includes upgrading and recertifying graduates and other workers will be supported.

### **Project Investment Plan**

The project investment cost is estimated at \$115 million, including taxes and duties, contingencies, and interest charges. Over 75% of the project funds will be used to empower schools in planning and managing their own educational resources and programs. The bulk of the project funds are allocated to approved school-developed business plans (SBPs) for model schools. The SBPs can cover civil works and equipment, teaching and learning materials, partnerships with industry, human resource development (including alliance schools), entrepreneurship development, and project management.

**Financing Plan**

It is proposed that the Asian Development Bank (ADB) provide a loan of \$80 million from the Special Funds resources to help finance the Project. The loan will have a 32-year term, including a grace period of 8 years, and an interest charge of 1% during the grace period and 1.5% per annum thereafter. The Government will provide \$35 million as counterpart funds to cover school grants (SBP funds), project management, and taxes and duties.

<b>Source</b>	<b>Total</b> (\$ million)	<b>%</b>
Asian Development Bank	80.0	70
Government	35.0	30
<b>Total</b>	<b>115.0</b>	<b>100</b>

Source: Asian Development Bank estimates.

**Period of Utilization**

1 June 2008 to 30 November 2013

**Estimated Project Completion Date**

31 May 2013

**Executing Agency**

Directorate General for the Management of Primary and Secondary Education (DGMPSE), Ministry of National Education (MONE). DGMPSE will be responsible for the overall implementation of the Project.

**Implementation Arrangements**

The Directorate of Technical and Vocational Education (DTVE) will be the Implementing Agency, and will provide implementation support to DGMPSE. The DTVE director will be the project director. The Executing Agency has established the project management unit (PMU), which is headed by a project manager. An advisory expert panel comprising technical experts from education and industry will assess the completed SBPs and subsequent annual performance. The school committee in each of the model schools will be responsible for project implementation.

A project steering committee (PSC) will be established to guide the PMU on general policy directions, intersectoral coordination, and strategic directions. The PSC will comprise representatives from MONE, National Development Planning Agency (BAPPENAS), Ministry of Finance, Ministry of Manpower, Ministry of Industry and the Chamber of Commerce. The deputy minister for Human Resources and Cultural Affairs, BAPPENAS, will chair the PSC. The PSC will be supported by a project technical committee that will be chaired by the director, Religious Affairs and Education, BAPPENAS. The PSC and PTC will comprise representatives from the Ministry of Finance, MONE, BAPPENAS, the Ministry of Manpower, the Ministry of Industry and the Chamber of Commerce.

**Procurement**

All ADB-financed procurement for goods, services, and works for the Project will be carried out in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time). Contracts for works and supply contracts for goods estimated at more than \$500,000 will be awarded on the basis of international competitive bidding. Supply contracts for goods and services estimated at more than \$100,000 up to \$500,000 will be awarded on the basis of national competitive bidding, while contract packages of \$100,000 and below will follow shopping procedures.

**Consulting Services**

All consultants to be financed from the loan proceeds will be selected in accordance with ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time). Individual national consultants will be engaged to guide the initial development of SBPs. Institutions and firms will be engaged to assist model VSs in preparing SBPs and to help the PMU with consultant qualification selection. Consultants for (i) the review and refinement of SBPs and SBP implementation; (ii) management development; and (iii) monitoring, evaluation and reporting will be engaged through firms on the basis of quality- and cost-based selection. MONE, through the PMU, will be responsible for selecting and hiring consultants. Individual consultants will also be hired to assist the PMU.

**Project Benefits and Beneficiaries**

Upgrading and efficiency gains are expected to increase annual student intake from 28,000 to 34,000 students, thus expanding student capacity to 100,000 in model schools and 110,000 in alliance schools. Forty percent of the students will be girls. Nearly half of the students will be from poor and low-income families drawn predominantly from the urban poor.

Leadership, business planning, finance, and management training will be provided to 2,400 principals and administrative staff in the model and alliance schools. Subject matter and technical skills training will be provided to 10,400 teachers. School, equipment and teaching materials will be upgraded according to school-developed business plans. Enhanced industry partnerships are central to the Project. The intended result is increased efficiency and education quality.

Over 15 years, the Project will equip 614,000 graduates with relevant industry skills, greater capacity to adapt to changing technology, and higher productivity resulting in greater earning potential. The additional worker productivity generated by the Project is estimated to be 3 million person-years, boosting Indonesia's industrial competitiveness and reducing poverty. Entrepreneur development and business incubators will help new graduates establish viable enterprises. Enhanced industry partnerships will yield more work-study placements, shorter job search time and reduced employment mismatch. By 2012, short courses will have been developed for up to 20,000 VS graduates

and other workers to upgrade their skills, thus contributing to upgrading the existing labor force.

## **Risks and Assumptions**

The Project is directly linked to the cornerstone of the National Medium-Term Development Plan 2004–2009, to improve quality and relevance through better linkages with industry. The main risk in any project that invests in vocational education is that an economic downturn will occur just as the benefits of the Project are emerging. The other macro risk is that economic growth will be jobless growth. The Project's emphasis on entrepreneurship will assist in mitigating these risks because skilled workers will have both big industry and micro-industry options.

The policy to expand and upgrade vocational education is expected to be sustainable over the coming decade given the Government's keen interest in reducing unemployment and the strong social demand for increased training and employment opportunities. Government resources for vocational education are expected to continue to grow because of MONE's determined thrust to expand the sector. Model schools will be sustainable given Government budget resources and the increasing emphasis on public–private partnerships, better revenue generation, and greater relevance to industry and business, leading to higher enrollment and efficiency.

The risk of insufficient transparency and accountability in Government financial management and accounting processes will be mitigated by specific measures including a financial management information system. The risk that school principals and senior management may aim for enrollment growth rather than structural and management change, and lack the capacity to manage large VSs successfully will be mitigated by carefully selecting model schools, intensive leadership training, and a business approach to management and strategic planning.

## **Technical Assistance**

ADB will provide a TA grant of \$500,000 from the ADB-funded TA program to help MONE investigate and trial skills upgrading programs in VSs. At present most VS graduates enter the workforce after 3 years of training with little opportunity for further formal training, upgrading or recredentialing. This does not meet the demands of a global environment of technological change. Under the TA, 10 VSs will develop and trial subprofessional upgrading courses in high priority areas. VS graduates and other workers who need skills upgrading and recertification will be the target market, as well as predeparture training and recredentialing for workers hoping to work internationally.



# INDONESIA VOCATIONAL EDUCATION STRENGTHENING PROJECT





## I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to the Republic of Indonesia for the Vocational Education Strengthening Project. The report also describes proposed technical assistance (TA) to Enhance Continuing Skills Development, and if the Board approves the proposed loan, I, acting under the authority delegated to me by the Board, will approve the TA. The design and monitoring framework for the Project is in Appendix 1.

## II. RATIONALE: SECTOR PERFORMANCE, PROBLEMS, AND OPPORTUNITIES

### A. Performance Indicators and Analysis

2. Long-term and sustainable poverty reduction requires technological change to increase productivity and raise incomes. Three quarters of all employment in Indonesia is in sectors where future viability demands an increase in productivity—agriculture, manufacturing, and hospitality. A major economic policy of the Government is to increase domestic production of goods and services, and to move away from lower level production of goods. This will require a greater supply of skilled workers. To be globally competitive, Indonesia must increase the education and skill base of its labor force. In countries where large firms make up the bulk of the productive sector, and labor mobility is limited, skills can be developed through enterprise-based training. In such countries, government intervention can be restricted to serving disadvantaged groups such as the unemployed. However, in countries where the majority of workers are in small enterprises that cannot support training costs, government must intervene. In Indonesia, 90% of enterprises are microenterprises employing fewer than six workers. To achieve its targets for economic development and poverty reduction, the Government must act to improve and expand senior secondary and higher education. The sector assessment is in Appendix 2.

3. **Senior Secondary Education.** For the last 15 years, almost all efforts and resources of the Government and external funding agencies have been devoted to achieving the Government's flagship education policy of 9 years of universal basic education. This has been remarkably successful. Primary education is now close to universal and junior secondary education coverage has reached 83%. The increase in output from basic education has led to a surge in demand for senior secondary education (SSE). Already, 75% of junior secondary graduates continue on to SSE. The result is an impressive 27% growth in SSE enrollment over the last 6 years, with the number of schools increasing even more rapidly.

4. SSE is a key component of the Government's policy to provide young people with the skills needed to stay out of poverty, reduce the unemployment rate, and create a globally competitive labor force. SSE is the final stage of the 12-year formal school system, and the entry point into the labor market for half of the final year graduates. The SSE system comprises vocational education (VE) and general education (GE). VE is offered in vocational senior secondary schools (VSSs) through a combined 3-year vocational and academic curriculum. GE is offered in general senior secondary schools (GSSs) and madrasah aliyah which offer a purely academic curriculum over 3 years. Senior secondary schools are managed by districts in accordance with the National Education Law (20/2003), with considerable support from the provinces in planning, supervision, and monitoring of schools and programs. The Government is already looking to a future 12 years of universal education and has taken the first steps by encouraging districts with near universal basic education to pursue this strategy.

5. About 50% of 16–18 year-olds are enrolled in SSE, with 40% of these enrolled in VE. In general, VE students come from families with lower incomes than those in general education

(GE). There are over 6,800 public and private VSs with a total enrollment of over 2.86 million. In 2006, most students were in either technology and industry schools (46%) or business and management schools (43%); with a much smaller number in tourism (5%), agriculture (2.4%) and arts and handicraft. About 40% of students are girls, with a high degree of segregation across different types of schools and programs. Girls predominate in business and management schools, while technology and industry schools are almost exclusively male. Given the size and importance of the VE system, ensuring that it responds effectively to Indonesia's economic and employment needs is a matter of priority. Graduates entering the labor force today will work until about 2050, so the quality of their education will impact heavily on Indonesia's long-term competitiveness.

6. **Performance.** Labor market outcomes are the best measure for assessing the performance of the VE system. Generally these are compared with GE outcomes to determine whether the extra costs involved in vocational education are justified. In the case of Indonesia, VS graduates make an important contribution to the workforce. They comprise 25% of the skilled labor force, and have a higher labor force participation rate than GS graduates—about 10% higher overall and 25% higher for women. Male and female VS graduates are also 20% more likely to be in the formal sector. Salaries are higher, particularly for women. The unemployment rate of VS graduates is lower than for diploma or higher education graduates. This has been noted by parents and political leaders, and is partly responsible for the recent explosion in the growth of VSs across the country. Since 2000, the number has increased by 45% and enrollment by 24%.

7. **Public–Private Partnerships.** The private sector partners with the public sector both as a direct provider of SSE, and indirectly through links between schools and business or industry. Private schools contribute significantly to SSE, with an enrollment share of 73% in VE and 41% in GE. The high private share partly reflects decisions about public involvement in VE. In the 1970s and 1980s the Government invested heavily in VE, but over time vocational training was left increasingly to the private sector. Imbalances in the provision of training resulted, with more than half of all VSs focusing on business and management training and only one third on technology and industry. Today, with wage returns and other labor market outcomes that are better for VS than GS graduates, public funding is returning to the sector. The Government recognizes the need to redress the imbalance between public and private provision. The rapid growth of public VSs reflects the Government's new strategy. Private schools still predominate in enrollment share, but are smaller and of lesser quality than public schools. Public and private VSs coordinate through the Association of Vocational Senior Secondary School Principals and teachers participate in the same regular peer learning groups.

8. Local linkages with industry and the business community have strengthened in recent years. VSs rely on industry partners, local government, and the local business community to keep in touch with demand. Industry partners such as chambers of commerce and local business people sit on school committees; advise on course content; provide instructors and work placement opportunities and, in districts with significant industry, have supplied vehicles, equipment and scholarships. Close contact with the business community enables schools to be flexible and maintain program relevance.

9. **Financing.** Education funding has increased significantly over the last few years as the Government implements its policy of reaching a target for education spending of 20% of national and local expenditure, as mandated in the National Education Law. Total spending on education reached 17.2% of government expenditure and 3.9% of gross domestic product (GDP) in 2006; comparable to many other middle-income countries. The central budget for VE

doubled between 2005 and 2007. Most of these funds (63%) are channeled directly from the center to the schools to cover facility improvements, materials, scholarships and competency testing. Twenty-five percent is channeled to provinces, primarily for allocation to schools through additional block grants, and to provide support for provincial supervision and monitoring. In all, 90% of the funds for vocational education is channeled to schools. The remaining 10% is used for salaries and recurrent costs in DTVE. District support to vocational schools is growing and likely to increase as district budgets increase, and pressure on local governments to expand VE mounts.

10. The education budget increases, though sufficient to cover recurrent expenses, are insufficient for the capital investments needed for a significant revitalization and expansion of the VE system. The lack of investment in SSE over the past 15 years has left schools poorly prepared to deal with the influx of new students. The higher investment and operating costs for VSs have left them at a particular disadvantage in responding rapidly to these changes.

## **B. Analysis of Key Problems and Opportunities**

### **1. Problems and Opportunities**

11. Access to good quality SSE and economic opportunity is essential for reducing poverty. Although the recent relatively slow economic growth has reduced the capacity of the labor market to absorb new job entrants, the low quality of human resources, low productivity, and low mastery and application of technology are also key constraints to employment and economic growth.<sup>1</sup> The VE system helps to (i) ensure life skills and employment readiness for those who not continuing to postsecondary education and (ii) fulfill the need for mid-level workers in the sectors of manufacturing, industry, construction, mining, trading, social services, tourism, information and communications technology (ICT), agriculture, technology and arts.

12. VS graduates will be more attractive to employers if they are better trained and can demonstrate relevant skills in areas of high demand. Students will be attracted to VE if the training is perceived to result in good jobs and incomes, without closing off opportunities for further training or education. More girls and poorer students will be attracted to VE if access is widened and new opportunities are identified. Existing workers will be attracted to VE for skills improvement programs and certification if such courses become more widely available. And VSs will become more sustainable if unit costs are lowered through efficiency gains and increased income generation. The key issues thus relate to the growing demand for VE, quality and relevance of the programs offered, and cost-effectiveness of the training. A move toward larger, better-managed, and more efficient institutions; closer linkages with industry; improved teaching and an enhanced business focus in school management and training should help to revitalize the VE system and improve its capacity to satisfy student and workplace needs.

13. **Increasing Demand for Vocational Education.** In response to the growing demand for VE, the strategy of the Ministry of National Education (MONE) is to increase the size of existing VSs rather than establish new schools. This will result in more schools with enrollments over 1,000, generally located in urban or industrial areas. They will be termed “lead vocational schools.” These larger schools will act as models for other VSs, eventually expanding access. This strategy cannot succeed by simply constructing more buildings, purchasing more equipment,

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<sup>1</sup> National Development Planning Agency (BAPPENAS). 2005. *National Poverty Reduction Strategy*. Jakarta; and BAPPENAS. 2004. *National Medium-Term Development Plan 2004–2009*. Jakarta.

and hiring more staff who continue to teach using traditional methods. International experience shows that the development of effective lead VSs requires a series of fundamental changes to management practices, efficiency, flexibility and closer linkages with industry.

14. The expansion of access should be carried out along with a strategy for broadening equity. As many VS students come from the middle- and lower-income quintiles, the Government's strategy of channeling investment to public schools to increase the number of low fee places is a powerful tool in promoting social equity. To broaden access in rural areas, MONE will expand programs based on ICT. The Project, in combination with the national scholarship program for poor VS students, is likely to encourage more children from lower-income families to enroll. Gender equity will be addressed by identifying emerging opportunities for women in the workforce, particularly in newer technology areas, and encouraging schools to offer such courses.

15. **Program Quality in VS.** The quality of teaching and learning in academic and vocational programs needs improvement. Final examination scores for academic subjects are lower in VSs than GSs. Only 62% of VS teachers meet current qualification standards, and good teachers with industry experience are rare. Labor market outcomes can be raised by improving general cognitive skills to foster greater flexibility and independent thinking. MONE has begun to address these shortcomings by strengthening the teaching of academic subjects and improving teachers' technical skills. An important new reform is to assess students' technical skills as part of the national final examination. Quality standards are being raised by establishing international standard schools with higher quality standards and increased funding, as mandated in the National Education Law. Nevertheless, better teaching and learning in all subjects is critical, through more modern and varied teaching methods, wider use of ICT across the curriculum, and a much greater supply and variety of teaching and learning materials.

16. A turnaround in management practices and organization structures in VSs is important for their long-term success and vitality. Schools need to become more entrepreneurial in their training approach and must be able to enter into commercial arrangements. Existing good examples of commercial arrangements and business practices should be built into the management of all VSs. To support total quality management, schools should be encouraged to pursue ISO (International Organization for Standardization) or other accreditation.

17. **Relevance of Vocational Courses.** To improve the relevance of VS courses, stronger links with industry and entrepreneurship skill development are needed. School-industry linkages can extend to partnerships, increasing worker skills, and international certification of students to multinational competency standards. This can be achieved in a variety of ways, including (i) national-international linkages, such as those with Cisco and Caterpillar, encompassing principal and teacher placements as well as upgrading facilities and equipment to that of the partner, work placements for students, certification and job placement; (ii) local linkages between principals and local industry or businesses and (iii) industry certification for students. The developing trend for some VSs to offer short skills training courses to graduates and existing workers will reinforce ties with local industry, as will the strengthening of school production units. The development of competency-based training using industry standards will be continued and expanded. A linked strategy is to ensure that evaluation and assessment also has links to industry by involving industry workers in the assessment of students' practical skills.

18. VSs must also respond to labor market realities to better equip students destined for self-employment (30% of the labor force is employed in enterprises comprising one to four people, excluding agriculture). The technical skills taught lend themselves to self-employment

and the creation of small enterprises. The Education Strategic Plan 2005–2009 identifies the need for VSs to develop entrepreneurship programs, to help graduates develop self-employment opportunities. Extending the scope of school production units to provide support to students after graduation will help them to start up small businesses.

19. **Cost-Effectiveness of VS.** The sustainability of good quality vocational programs will depend partly on progress made in reducing unit costs. Facilities must be used more efficiently. The best way to do this is by expanding the size of institutions substantially to reduce overhead costs and promote higher utilization rates for buildings, classrooms, and equipment. Campuses should be suitable for use in the evenings and on weekends. This will require targeted planning for new facilities and equipment, as well as rehabilitation of existing teaching space to expand enrollment. Larger schools allow better utilization of teaching staff, as well as the development of a critical mass of teachers in specialized areas and teaching teams that stimulate new ideas and more varied teaching practices. A major cost factor for VSs is the need to carry up-to-date equipment. The Government is attempting to address this innovatively, primarily by contracting specific VSs to produce the training equipment needed. This has the added benefit of providing schools with income and students with practical manufacturing experience. The cost of technical training can be offset and technical skills enhanced through increased use of production units, on-site stores, restaurants, travel agencies and hotels. VSs can also earn additional income and improve their ties to local industry by offering short skills upgrading and certification courses for graduates or workers. These programs are cost-effective for local industry, especially small companies that lack the resources to train their own workers, while providing the school with a better understanding of local industry needs. The programs will benefit workers seeking formal sector employment at home or abroad, workers who want to learn new technologies or change industry streams, and women reentering the labor force.

20. The current high-level commitment to education reform provides a major opportunity to support education development in Indonesia. More public resources are being allocated to education, particularly basic education as the largest part of the education system. To achieve Government objectives for VE, increased external assistance will be required over the medium term to cover the initial investment costs for expansion and quality improvement. The upward trend in allocations for this subsector is expected to continue in the medium term to accommodate the growing output from basic education and the priority Government places on upgrading labor force skills and improving employment opportunities for senior school graduates.

## 2. Government Strategy and Policy

21. A central goal of the National Medium-Term Development Plan 2004–2009 is to increase access to quality education. The plan sets targets for SSE that reflect the need to broaden access in response to the expansion of junior secondary education, and to supply good quality SSE graduates to the labor market with training relevant to market demand. The Government plans to increase gross enrollment rates for SSE to 69% (about 9.07 million) by 2009, through an increase to 90% in the transition rate from junior secondary to SSE. MONE's Education Strategic Plan 2005–2009 notes that the thrust for SSE expansion will be through VE, to ensure life skills and readiness for employment for those who do not continue to postsecondary education and fulfill the needs for mid-level employment in relevant sectors.<sup>2</sup> Quality and relevance will be improved by (i) developing competency-based curricula, instructional materials

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<sup>2</sup> Manufacturing, industry, construction, mining, trading, social services, tourism, ICT, agriculture, and technology.

and assessment systems, including entrepreneurship skills and programs that are relevant to local job market needs; (ii) developing selected schools to become world class or model schools, to be developed by central and regional governments working together to identify and develop local competitiveness and promote international collaboration in curriculum and competency standard development; and (iii) expanding integration of ICT into teaching and learning to enhance the skills of future mid-level workers. Improved governance and accountability will result from greater involvement of business and industry partners in managing VE, and community participation in the management of school funds with the development of transparent and accountable financial management systems.

### **3. Asian Development Bank Sector Strategy**

22. The Project is included in the 2006–2009 country strategy and program<sup>3</sup> and supports its two pillars: pro-poor sustainable economic growth and social development. The country strategy and program identifies low competitiveness as a key constraint to growth. In the education sector, ADB aims to improve competitiveness of the labor force by strengthening the quality and competitiveness of VE graduates. The country strategy and program identifies specific education sector outcomes: (i) improved expansion and equity; (ii) better quality, relevance and competitiveness; and (iii) enhanced governance, accountability and public image. The Project will contribute to all three outcomes by expanding the size of selected schools; increasing the quality of graduates and competitiveness in the labor market; and introducing new school management practices based on a business approach. ADB has been a strong supporter of Indonesian education, providing \$2.2 billion in loans and \$17 million in TA. ADB support has been especially influential in technological and workforce skills development. The Project builds upon the gains of ADB projects from the 1980s and 1990s that were successful in establishing and developing the current VE system,<sup>4</sup> and whose legacy is still evident today. The schools established are still among the highest performers, and the vocational teacher training centers continue to play a key role in development of the VE system. The Project also complements current policy-led interventions aiming to improve the investment climate for growth and employment creation.

### **4. Other External Support and Aid Coordination**

23. Indonesia's strategic importance has attracted large amounts of grant funding for education in recent years, primarily for basic education, from donors including the Australian Agency for International Development, the United States Agency for International Development, and smaller donors such as the Japan International Cooperation Agency, German Agency for Technical Cooperation (GTZ), Embassy of the Netherlands, and Save the Children, as well as United Nations agencies (Appendix 3 provides a summary of external assistance). Some loan funds have also been directed to basic education, including madrasah education (ADB) and early childhood education (World Bank). Policy-based programs incorporating broad reforms in basic education have been supported by ADB and the World Bank. Fewer development agencies are involved with higher education, with the exception of ADB, GTZ/Reconstruction

<sup>3</sup> ADB. 2006. *Country Strategy and Program (2006–2009): Indonesia*. Manila.

<sup>4</sup> Loans 488-INO: Second Senior Technical Schools Project, 1980–1990; 574-INO: Vocational Education Project, 1982–1990; 675-INO: Agricultural Education Project, 1985–1992; 715-INO: Third Senior Technical Schools Project, 1985–1993; 1050-INO: Agricultural Technology Schools Project, 1991–1998; 1100-INO: Technical Education Development Project, 1991–1998; 1253-INO: Higher Education Project 1993–2000; 1319-INO: Vocational and Technical Education Project, 1995–2001; 1360-INO: Senior Secondary Education Project, 1995–2001; 1792-INO: Technological and Professional Skills Development, 2000–2007.

Credit Institute (KfW), which supports technical and vocational education in VSs and polytechnics; and the World Bank, Embassy of the Netherlands, and Japan Bank for International Cooperation all of whom have supported universities. One recently approved World Bank project for strengthening teacher development and teacher education should benefit the proposed Project.

24. Aid coordination in the education sector occurs through the education sector working group, with the major focus on basic education. The group has been working for some time to establish a policy dialogue board with Government leadership. Recently the Government announced that it will establish a high-level policy board to review education sector policy, to which development partners will be invited to discuss specific issues. This provides a stronger forum for strategic policy development, and will facilitate Government–development partner coordination.

## 5. Lessons

25. A review of ADB projects in technical and vocational education (TVE) across the Asia-Pacific region<sup>5</sup> concludes that linkages with industry are the single most important factor in training success. To strengthen school–industry linkages, the review recommends incentives for employers to participate in advising or directing TVE. Encouraging school managers to involve industry in the running of schools is also important. Entrepreneurship training, marketing and business support were found to be neglected in many projects. An impact evaluation study of ADB TVE projects observed that most TVE projects focus on short-term training as a safety net for the disadvantaged, while disregarding quality and industry demands. To redress this, the study recommends a shift to a competitive advantage orientation by investing in a number of key institutions producing well-qualified graduates.<sup>6</sup> The use of competency-based training furthers quality improvements and quality assurance by establishing competency standards agreed with industry. These lessons have been incorporated in the Project's design. National and local linkages with industry will be promoted through formal partnerships; and assessors from local industry will be paid to assess students completing competency-based modules, and to train teachers. School managers will be trained in business management practices involving closer links with the private sector. The Government's decision to invest significantly in a network of high-performing schools through the Project, while continuing other Government programs aimed at upgrading poorer quality schools and expanding access in rural areas, aims at achieving the twin objectives of high-quality training combined with broad access.

26. The sustainability of TVE programs is the most critical issue after linkages with industry. The continued success of the VSs and teacher training institutions established under earlier ADB projects augurs well for sustainability. Continued public investment is assured following significant increases in national and local education budgets, for both public and private schools, coupled with awareness that public investment in vocational education over the past 15 years has been too low. Most schools have active partnerships with local industry. During the Project, cost savings resulting from better efficiency and increased income generation will contribute to sustainability. ADB evaluations<sup>7</sup> recommend that schools develop annual preventive maintenance plans to protect their assets. These will be required under the Project.

<sup>5</sup> ADB. 2004. *Improving Technical Education and Vocational Training. Strategies for Asia*. Manila.

<sup>6</sup> ADB. 1999. *Impact Evaluation Study of the Technical and Vocational Education Projects in Malaysia, Pakistan, Papua New Guinea and Sri Lanka*. Manila.

<sup>7</sup> ADB. 2001. *Project Performance Audit Report on the Agricultural Technology Schools Project in Indonesia*. Manila.

A national subsidy program for operation and maintenance was introduced in 2007.

27. In Indonesia, recent experience with education projects continues to support the view that the most effective means for bringing about sustainable, whole-school development is to channel funds directly to schools while allowing flexibility in their usage. The advantages of this approach are closer supervision of the use of funds by schools; better outcomes at lower cost; more appropriate facilities, books, and programs; and a resultant building of capacity for project management within institutions.<sup>8</sup> As a result, all levels of government now use this approach when providing funds for school development. However, evaluation of the Government's subsidy system for school operating costs indicates that stronger systems for school financial management and compliance are needed.

### III. THE PROPOSED PROJECT

#### A. Impact and Outcome

28. In partnership with the Government, the Project is expected to increase the international competitiveness and employment opportunities for VS graduates, which is consistent with the Government's economic and industry policy agenda. The medium-term outcome of the Project is expected to be improved quality and relevance, expanded access and greater efficiency in VE. Key success indicators include (i) a 20% increase in enrollment in model VSs; (ii) upgrading of teaching in academic subjects, especially mathematics, science, and English, to national standards through upgraded curricula with increased time allocations in model and alliance schools; (iii) agreements with local industry to carry out student skills assessment in at least 50% of model VSs; (iv) entrepreneurship start-up programs in all model VSs; (v) trials of arrangements with international agencies for mutual skills recognition in at least 40 model VSs.

#### B. Outputs

29. The Project will produce four outputs to help ensure that 90 selected VSs are developed as model schools with (i) refocused school management using a business approach; (ii) improved quality of teaching and learning; (iii) strengthened school–industry linkages; and (iv) enhanced entrepreneurship focus. A TA grant will be provided to support increased efficiency, close links with industry, and more diversified courses by offering after-school courses for skills improvement and retraining.

30. The project design has two key features. The first is a national school cluster structure in which 90 model schools will form the center of clusters consisting of 3–4 surrounding schools. In all, 230 alliance schools will be mentored by the model schools and benefit from training opportunities and minor equipment. The Project is a national project with at least one model school cluster per province. In all, the Project covers 20% of districts. The 90 model VSs will be selected through a two-stage process from among 212 VSs (of which 10 are private) that MONE has already designated as “international standard schools.” In the first stage, 120 VSs will be selected based on an assessment of the data available and the school development plans prepared for DTVE. In the second stage, 90 of the 120 schools will be selected based on the

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<sup>8</sup> These results are evident in two ongoing projects: ADB. 2000. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to Indonesia for the Technological and Professional Development Project*. Manila; ADB. 2000. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to Indonesia for the Decentralized Basic Education Project*. Manila.

school business plans (SBPs) developed in the first year of the Project. The 90 SBPs that best demonstrate how the schools can contribute to the Government's objectives will be granted funds. The criteria for selecting model VSs will ensure broad district geographic representation, particularly in areas with good prospects for industry expansion and strong school–industry linkages; a balance among different types of schools and programs; a female enrollment share of 40%; potential for expansion; and strong local government commitment. Selection criteria for alliance schools include good potential for quality improvement as well as geographic proximity to the model VS. To give smaller and lower quality private schools an opportunity to learn from the model schools, they will comprise around 50% of the alliance schools. The model–alliance scheme will spread the benefits of improved management and teaching and learning practices from the model to the alliance VSs. Replication of the strategy will be fostered by treating the 30 VSs not selected as model schools as the core for the next batch of model schools to be developed by the Government. The 120 candidate VSs are listed in Supplementary Appendix A.

31. The second key feature of the design is the SBP. Around 75% of project funds will be used to finance the SBPs, of which two thirds will be channeled directly to schools to empower them through the planning and management of their own resources and programs to meet the Government's objectives of improving quality, relevance and efficiency. Although this mechanism is now used widely in Indonesia, the approach used here is more challenging for schools as it will cover all aspects of a school's operations. The resources are also substantial enough to fully fund medium-term plans rather than just specific aspects. Each model VS will prepare a 4-year SBP that will be demand-driven and involve extensive consultations with local industry. The SBP will include annual budgets and implementation plans that will be updated annually. It will be financed partly by funds channeled directly to the school (known as SBP funds) and partly by the central provision of some of the goods and services specified in the SBP. Appendix 4 provides a description of the SBPs and project fund flows.

32. The SBPs will be demand-oriented and results-based, specifying activities and a budget that shows sources of funding for each activity, tied to specific performance indicators with the following options: (i) civil works upgrading and extension to improve efficiency and increase enrollment; (ii) equipment, teaching and learning materials including computer-aided instructional materials and software; (iii) human resource development for upgrading general and technical teaching, management development, and entrepreneurship for both model and alliance schools; (iv) partnerships with industry; (v) development of business incubators or similar schemes to assist students to trial business ventures; (vi) improvement and development of new activities in production units; and (vii) project implementation costs at school level. One of the components of an SBP will be improvement of the technical, management and entrepreneurship skills of alliance schools. Outputs 2, 3 and most of 4 will be funded through the SBP funds paid to schools. Output 1 (management training) and VS equipment, management and teacher in-service training, and monitoring and evaluation services (under output 2) will be procured through DTVE.

## **1. Refocused School Management Using a Business Approach**

33. **Train School Managers in Demand-Oriented School Business Planning.** A mixed training and mentoring approach will be taken to develop the SBPs. First, a uniform approach and methodology for the formulation of SBPs will be developed, and the results disseminated to selected institutions that will support the model VSs in developing their SBPs. For around 6 months, the institutions and firms will provide training and mentoring to principals, senior teachers and school committee leaders in model schools, and facilitate development of SBPs by school management and the school committee. The completed SBPs will be reviewed and

refined by technical and industry specialists working with each school, before being assessed by an advisory panel of technical experts, including industry representatives. SBP funds will be allocated competitively, and tranche releases will be dependent upon performance as defined in the SBPs.

**34. Develop a Business Approach to School Management.** To enable managers to lead large and complex institutions more effectively, a new approach to school management will be encouraged. An integrated program of management training will be provided separately by a management training firm based on business principles including annual planning, cost-efficiency, business development, marketing and advocacy, effective personnel management and accountability, and gender awareness. This activity is an essential element for creating dynamic and well-managed institutions that can operate effectively and efficiently. The management training will be provided annually to both model and alliance schools.

**35. Establish School Management Systems and Improve School Administration.** While VSs with 200–300 students can manage with simple management information systems, the move to larger institutions demands more sophisticated systems with wider usage by staff. The Project will therefore support the development of computerized education management information systems and financial management systems, and will provide in-house support and follow-up to ensure their proper use in planning and monitoring in both model and alliance schools. Efficiency and effectiveness indicators will be developed for schools to use in project reporting, with all relevant staff trained in their use. The aim is also to develop indicators that can be used long beyond the Project to increase accountability and sustainability. As MONE has already made a substantial investment in the national education management information system, it will be relatively inexpensive to extend the system to a school-based system that can assist school management. This will be a requirement for all model schools.

**36. Improve Internal Communication Systems and Establish Networks.** As the model schools expand and develop, they will need to improve their internal and external communications to share innovations and best practice. The Project will support internet connections to enable project schools to share information and advice. A project website will aid information sharing among the model and alliance VSs, as well as the development of e-libraries to broaden the technical knowledge base of schools.

## **2. Improved Quality of Teaching and Learning**

**37.** The bulk of the SBP funds will be used to improve teaching and learning quality. The aim is to encourage model VSs to develop their own plans and to assess the relative priorities of (i) upgrading or constructing new facilities; (ii) providing new, or upgrading and relocating existing, equipment; (iii) new teaching and learning tools—computer learning aids, textbooks, online learning services, etc.; and (iv) upgrading teachers' technical and academic skills. The SBPs will identify school development priorities in relation to national and local skills demand, and will link these school priorities systematically to existing and planned new course offerings, planned curriculum and teacher development activities, and proposed facilities and equipment needs. The SBP activities will aim to put each school in a better position to meet the Government's objectives of improved quality and expanded access. This will necessitate efficiency and effectiveness gains in the core business of the VSs—delivering skills training.

**38. Improve Facilities to Increase Efficiency, Expand Enrollments and Extend Hours of Operation.** The extent to which new facilities and equipment are required, and the type, will be identified in the SBPs after each school has assessed its capacity for expansion in line with

skills demand and efficiency gains. Although the physical facilities in VSs are generally good, additional facilities will be necessary to expand enrollment and achieve the desired efficiencies. Schools will be able to obtain professional advice on proposed capital works. Refurbishment costs may also arise, especially where existing schools amalgamate to create larger institutions.

39. The equipment in most of the better VSs, including those selected for the Project, is adequate for basic training but needs to be updated to meet current industry standards. Emerging areas in electronics, computer-aided manufacturing and information technology will require new equipment. An equipment specialist will advise the model schools to ensure equipment purchases are in line with skills demand and planned SBP activities in terms of proposed training programs, curriculum and teacher development, and instructional materials. Each school will get the equipment it prioritizes and will pay for it out of its SBP allocation. The alliance schools will also be provided with selected minor equipment, based on an internal and external assessment of their equipment needs. SBPs will be required to include a preventive maintenance plan to ensure that new facilities and equipment can be maintained properly.

40. **Improve the Teaching of Academic and Technical Subjects.** To improve teaching skills and reach national standards in core academic subjects (especially mathematics and science) and industry standards in technical subjects, teachers will be offered a comprehensive in-service training program. The program will cover all teachers in model schools and half of the teachers in alliance schools. DTVE will implement the in-service training program together with other relevant institutions and industry. The curriculum in core subjects will be strengthened to approximate the curriculum for general schools, and revised curriculum guidelines and textbooks will be issued. Curricula for new skills training courses will be developed in consultation with industry. All teachers will receive intensive training in English to meet the requirements for international standard schools. Training in multimedia approaches and the use of computer-aided instruction will be a further priority. MONE will carry out long-term qualification upgrading and professional certification of teachers through the Directorate General of Quality Improvement of Teachers and Education Personnel. As there is currently only a fledgling system for the professional certification of vocational teachers, this will be developed under the Project. Appendix 5 provides the human resource development plan.

41. **Develop New Learning Methodologies Suitable to Large Institutions.** The use of new teaching methodologies such as group learning, project learning, computer-aided instruction, and self-paced learning is an essential element of the strategy to develop larger schools of international quality. In addition, a stronger emphasis on competency-based assessment will be necessary. The intention as the Project progresses is that teachers will facilitate learning through a wide variety of techniques, and that learning will not be confined to the classroom and workshop. Activities to achieve this output include research studies, examination and review of DTVE guidelines and school standards, plus trials of new approaches at all model VSs.

42. **Provide New Instructional Materials and Software.** Teaching and learning materials are both scarce and outdated in most VSs. New instructional materials will be identified for each school following decisions about the new teaching methodologies to be introduced and the content of the training program. Additional instructional materials, including e-learning tools, computer-aided instruction and software will be required in most schools.

### 3. Strengthened School–Industry Linkages

43. **Support Partnerships between Schools and Industry.** To support close ties with

industry, each model school will enter into at least one formal arrangement with a local industry partner to share knowledge and expertise. Each school will be expected to deliver more than three courses per year for skills improvement and retraining of workers. In these ways, VSs will build relationships with local industry that have two-way advantages: industry will benefit by having workers' skills upgraded and the schools will gain a better knowledge of industry needs. The enhanced linkage will facilitate appropriate student work placements and job placement, as well as strengthen the career center programs through which some VSs already provide a limited number of upgrading courses to workers.

44. **Support New Courses to Meet Local Industry Needs.** This activity will build upon and enhance the career center programs to strengthen VS links with local industry. The Project will support a series of school-based research studies to investigate the needs and priorities of schools and local industry, and explore new opportunities for men and women. The studies will be carried out by local trade or business experts. In the second stage, new short courses for existing workers will be developed and trialed by VS in collaboration or cosponsorship with industry partners. Evaluation of the trials will be led by industry experts. Given the experimental nature of this work, not all courses are expected to be successful. In the long term, successful courses could be institutionalized where similar industry needs exist.

45. **Examine Opportunities for International Benchmarking and Trial Selected International Standards and Benchmarks in Cooperation with Industry.** This activity responds directly to the Government's policy on international standard schools, specifically related to VSs. The model schools will examine opportunities for students to obtain international certification. At present, this is available to VS students in the field of computer operations, who obtain certification recognized by multinational ICT companies, and hotel management and tourism. These opportunities can be extended. As well, new fields such as auto-mechanics, aircraft maintenance, rigging and scaffolding, and heavy machinery operation will be examined.

46. The milestone for this activity is that at least 40 model schools will enter arrangements with multinational or international companies or organizations for mutual skills recognition arrangements by 2011. Moreover, based on trials by model schools, MONE will be able to assess the opportunity for entering formal agreements with multinational or international organizations for system-wide mutual recognition or international skills recognition.

#### 4. Enhanced Entrepreneurship Focus

47. A quarter of VS graduates become self-employed, and require general business skills in addition to technical skills. For new graduates, the job search can be lengthy as they lack basic workplace skills. Entrepreneurship training, business incubators and production units provide basic workplace and business experience needed for self-employment and the workplace.

48. **Provide Assistance to Students to Start Their Own Businesses.** This activity will involve the piloting of business incubators or similar initiatives designed locally to suit local opportunities. For example, a group of students might be assisted to rent premises or hire equipment, or they may be given access to school equipment after teaching hours. In all cases, they will be mentored by a staff member or a community expert. Each model school will make its own assessment of opportunities in its region for successful student businesses and include its proposals in its business plan. Some model schools are expected to enter partnership agreements with local chambers of industry or other private entities with similar objectives.

49. **Strengthen Entrepreneurship Education.** The need for increased entrepreneurship

education is recognized by the International Labour Organization (ILO) which has developed two programs for young people to teach them about business and give them the skills to plan and open their own businesses. Some VSs already have qualified trainers accredited by ILO and offer courses based on ILO materials. The Project will associate with ILO (or a similar organization) to enable the model schools to train staff in the use of the material and deliver the courses. All model schools will be involved in this initiative. About 80% of students are expected to undertake the basic modules and 40% the more advanced modules.

50. **Enhance Production Units.** These units are an important feature of VSs and comprise activities organized by the school to produce goods and services sold to the public. This is a practical means of giving students hands-on experience while offsetting direct costs and generating revenue for other school operations. They are an introduction to the world-of-work. Under the Project, model schools will be able to include in their SBP investments related to production units provided they can demonstrate that the unit is viable.

### C. Project Investment Plan

51. The project investment cost is estimated at \$115 million, including contingencies of \$4.4 million, and local taxes and financing charges of \$2.5 million (Table 1). The detailed cost estimates and financing plan are in Appendix 6.

52. Around three-quarters of the total project funds will be used to support the SBPs for model schools, of which 65% will be channeled directly to schools. These funds, termed SBP funds, will cover civil works and minor equipment, teaching and learning materials, partnerships with industry, some human resource development (including for alliance schools), entrepreneurship development, promotion of production units and business incubators, and project management in schools. Major items of equipment and the management and teacher development programs will be determined through the SBPs but procured centrally. Around 60% of the project funds are expected to be used to upgrade physical facilities and equipment to international standard. About 80% of the SBP funds will be used to modernize and expand physical facilities and equipment in line with the planned business directions.

**Table 1: Project Investment Plan**  
(\$'000)

<b>Component</b>	<b>Amount</b>
<b>A. Base Cost</b>	
1. Refocus School Management Using a Business Approach	6,766
2. Improve Quality of Teaching and Learning	88,102
3. Strengthen School–Industry Linkages	4,997
4. Enhance Entrepreneurship Focus	3,304
5. Project Management	4,878
<b>Subtotal (A)</b>	<b>108,047</b>
<b>B. Contingencies</b>	<b>4,434</b>
<b>C. Financing Charges during Implementation</b>	<b>2,519</b>
<b>Total (A+B+C)</b>	<b>115,000</b>

Source: Asian Development Bank estimates.

### D. Financing Plan

53. The Government has requested a loan of \$80,000,000 equivalent from ADB's Special Funds resources to help finance the Project. The loan from ADB's Special Funds resources will

have a 32-year term, including a grace period of 8 years, and an interest charge of 1.0% during the grace period and 1.5% per annum thereafter. The Government will provide the remaining \$35 million equivalent, or 30% of the total project cost, as counterpart financing. The Government counterpart funds will be used for SBP funds (32% of the total amount), project management, and taxes and duties (Table 2).

**Table 2: Financing Plan**  
(\$ million)

<b>Source</b>	<b>Total</b>	<b>%</b>
Asian Development Bank	80.0	70
Government	35.0	30
<b>Total</b>	<b>115.0</b>	<b>100</b>

Source: Asian Development Bank estimates.

**E. Implementation Arrangements**

**1. Project Management**

54. The Directorate General for the Management of Primary and Secondary Education (DGMPSE) will be the Executing Agency and will be responsible for overall implementation of the Project. The director of DTVE will be the project director and will provide implementation support to DGMPSE. The project management unit (PMU) has been established by DGMPSE, under the guidance of the project director. The PMU is headed by a project manager and will be responsible for day-to-day project implementation, planning and budgeting, procurement, disbursement, monitoring, supervising, overseeing of implementation in project schools, and submitting the required reports to the Government and ADB. The PMU will have at least 25 staff members from DTVE, including technical, finance, monitoring, and administrative staff. The PMU will also include a technical working group comprising full-time DTVE staff, who will work closely with consultants on each project component. An advisory expert panel will conduct the initial evaluations of SBPs using agreed criteria and procedures, and the annual evaluations of school performance thereafter. The panel will comprise a core group of around five education and industry representatives, hired as PMU consultants, with an ad hoc pool of experts in specific vocational fields to be called upon when required. The panel will be chaired by one of the technical experts. The school committee in each of the model schools will be responsible for implementing the approved SBP. Each school committee will be headed by a chairperson with the school principal acting as the secretary, and assisted by an implementation team consisting of members of the school committee and teachers. The secretary of the school committee will report to the PMU. A budget allocation to support the school committee will be required under each SBP. The organization structure is presented in Appendix 7.

55. A project steering committee (PSC) will be established to guide the PMU on general policy, intersectoral coordination and strategic direction. The deputy minister for Human Resources and Cultural Affairs, BAPPENAS will chair the PSC. The PSC will be supported by a project technical committee that will be chaired by the director of Religious Affairs and Education, BAPPENAS. The PSC and PTC will comprise representatives from the Ministry of Finance, MONE, BAPPENAS, the Ministry of Manpower, the Ministry of Industry and the Chamber of Commerce.

## **2. Implementation Period**

56. The Project will be implemented over 5 years, from 1 June 2008 to 31 May 2013. First-year activities will focus on human resource development and the SBPs. In subsequent years, project funding and support will be allocated in accordance with approved SBPs and performance. The implementation schedule is in Appendix 8.

## **3. Procurement**

57. Procurement of goods and services financed under the loan will be in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time). Contracts for the refurbishment of the PMU office including equipment and furniture will be awarded on the basis of shopping for contracts estimated to cost \$100,000 or less, and by national competitive bidding for contracts estimated to cost the equivalent of more than \$100,000 up to \$500,000. Civil works, teaching materials, textbooks, furniture and instructional aids will be procured using national competitive bidding for contracts estimated to cost the equivalent of more than \$100,000 up to \$500,000, and shopping for contracts estimated to cost \$100,000 or less. Contracts for works, goods and equipment estimated to cost more than \$500,000 will be awarded on the basis of international competitive bidding. The procurement plan is in Appendix 9 and the procurement capacity assessment is in Supplementary Appendix B.

## **4. Consulting Services**

58. All consultants to be financed from the loan proceeds will be selected in accordance with ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time). Individual national consultants will be engaged to guide the development of SBPs and to provide preparatory training to ensure a uniform approach. Institutions and firms will be engaged to help model VSs prepare SBPs and the PMU with selecting qualified consultants. Consultants for (i) the review and refinement of SBPs and SBP implementation; (ii) management development; and (iii) monitoring, evaluation, and reporting will be engaged through firms on the basis of quality- and cost-based selection with 80:20 weighting. MONE, through the PMU, will be responsible for selecting and hiring consultants. Individual consultants will be hired to assist the PMU. The outline terms of reference for consulting services are in Appendix 10.

## **5. Advance Contracting**

59. MONE will undertake advance contracting to speed up project implementation. DGMPSE may start consultant selection, but this will not include the signing of contracts.

## **6. Disbursement Arrangements**

60. The imprest account will be established at the Bank of Indonesia or a state-owned bank to be agreed between ADB and the Government. The account will be established, managed, replenished, and liquidated in accordance with ADB's *Loan Disbursement Handbook* (2007, as amended from time to time). The initial amount to be deposited into the imprest account shall not exceed the lower of (i) the estimated expenditure for the first 6 months of project replenishment, or (ii) the equivalent of 10% of the loan amount. The statement of expenditure procedure may be used to liquidate or replenish the imprest account for contracts not exceeding \$100,000. SBP funds will be remitted directly from the imprest account to the school committee's bank account. Remittances will be based on a payment order authorizing financing of the SBPs. The funds flow to schools is shown in Appendix 4.

## **7. Accounting, Auditing and Reporting**

61. Each school committee will be required to establish and maintain a separate account at a local branch of a bank acceptable to ADB, and evidence of the use of the SBP funds for audit by the PMU and the government audit agency. The SBP funds deposited into this account will be used exclusively for activities approved in the SBP. Each school committee will submit to the PMU quarterly and annual financial reports. The PMU will carry out spot checks on VSs by arranging for semiannual audits of accounts and records of a sample of model schools. In cases of fund misuse or irregularity, the PMU may suspend activities at the schools involved until the case is resolved. Any fund recovery will be determined by the PMU investigative panel, in collaboration with ADB. The Government's audit agency will audit all accounts annually in accordance with the Government's standard practices and submit its findings to MONE and Ministry of Finance to ensure that the SBP funds are used properly and that cases of irregularity and fraudulent practice are handled properly.

62. MONE will maintain separate records and accounts for the Project that identify goods and services financed from the loan proceeds. It will ensure that accounts and financial statements are audited annually by the Government's audit agency or other certified independent auditors acceptable to ADB. The auditor will prepare a report on the use of loan funds, compliance with loan covenants, use of the imprest account, and statement of expenditure procedures; issue findings of any irregularities or discrepancies; and recommend corrective measures so that the financial statements and audited accounts will be certified by the auditor as meeting generally accepted accounting practices. The auditors will provide audit standards and key procedures in their report. The financial management capacity assessment for MONE is in Supplementary Appendix C.

63. DTVE will submit the audited financial statements and the auditor's report on the project accounts, including the imprest account and use of the statement of expenditure, to ADB in English within 9 months after the end of each fiscal year. The PMU will prepare and submit to ADB and DTVE quarterly reports on the status and progress of project implementation within 20 days after each quarter. The reports will have a format acceptable to ADB and indicate progress made against established targets, status of performance indicators, problems encountered and actions taken, compliance with loan covenants, and the proposed program of activities for the following quarter. Within 3 months after project physical completion, the Government will prepare and submit to ADB a project completion report.

## **8. Anticorruption Policy**

64. The Government was advised of ADB's *Anticorruption Policy* (1998, as amended to date) and *Combating Money Laundering and the Financing of Terrorism Policy* (2003). Consistent with its commitment to good governance, accountability and transparency, ADB will require the Government to institute, maintain, and comply with internal procedures and controls following international best practice standards to prevent corruption or money laundering activities or the financing of terrorism, and covenant with ADB to refrain from engaging in such activities. The investment documentation between ADB and the Government will allow ADB to investigate any violation or potential violation of these undertakings. In particular, all contracts financed by ADB in connection with the Project will include provisions specifying the right of ADB to audit and examine the records and accounts of DTVE and all contractors, suppliers, consultants, and other service providers as they relate to the Project.

65. The Project incorporates several other measures, in addition to the standard ADB

requirements, to deter corruption and increase transparency. The Project will (i) build capacity within DTVE and model VSs to understand and comply with ADB and government procedures as outlined in the project administration manual; and (ii) widely publicize in schools and communities the existence of the integrity division within ADB's Office of the Auditor General, as the initial point of contact for allegations of fraud, corruption, and abuse in ADB-financed projects. A project website will be developed to disclose information about project matters, including procurement. The Project will establish a computerized financial management information system in model VSs and enforce strict reporting requirements. Finally, to encourage more stakeholder vigilance as well as ensure greater accountability, a complaints and action task force will be set up at the PMU to receive and resolve grievances or act upon stakeholders' reports of irregularities. The task force will (i) review and address grievances of project stakeholders, in relation to either the Project, any of the service providers, or any person responsible for carrying out the Project; and (ii) set the threshold criteria and procedures for handling such grievances, for proactively responding to them, and for providing the stakeholders with notice of the mechanism.

## **9. Project Performance Management and Review System**

66. A comprehensive and gender-disaggregated project management information system (PMIS) will be designed for different levels of management, including DTVE, provincial and district education offices, and model schools. A user manual will be developed, and workshops conducted for provincial, district, and model and alliance school staff. The workshops will help officials appreciate the value of the PMIS, and provide technical training. A national consultant will be contracted to design the PMIS, develop the manual, and conduct the training. Project performance will be monitored and evaluated by a firm providing consultants to monitor the progress of programs in accordance with the agreed indicators and targets.

67. Responsibility for the internal monitoring of project implementation performance will lie with the project monitoring unit in the PMU, shared with the provincial and district education offices. The SCs in each of the 90 model VSs will assume a vital role in monitoring implementation at schools, particularly in relation to the oversight and management role of the school committee and the generation of data for the monitoring system. The Project will help strengthen district management information systems by ensuring that all required data is submitted by schools to districts. External monitoring and evaluation will be contracted to a reputable firm or institution, which will carry out compliance monitoring through regular and systematic audits of a sample of model VSs and conduct the baseline, midterm, and final evaluation surveys. This firm will also assist the PMU in designing the internal monitoring system, and provide training and support during implementation. The monitoring and evaluation framework is in Supplementary Appendix D.

## **10. Project Review**

68. The Government and ADB will review the Project's progress jointly at least twice a year. They will jointly undertake a midterm review shortly after the PMU's submission of the third annual report. The midterm review will focus on overall project strategy and achievements, which may require adjustments of targets and processes, and reallocation of resources. Specifically, the midterm review will (i) review the project scope, design, implementation arrangements, and human resource development; (ii) assess project implementation against projections and performance indicators; (iii) review compliance with loan covenants; (iv) identify critical issues, problems, and constraints; and (v) recommend changes in project design or implementation. One month before the review, the PMU will submit to ADB a comprehensive

report on each of these issues. Following project completion, a project completion report will be prepared to assess early impact and identify lessons.

#### IV. TECHNICAL ASSISTANCE

69. ADB will provide a TA grant to help selected model schools introduce skills upgrading and certification programs for workers, and to develop a coherent policy framework for sustainable upgrading programs in the vocational school system. The total TA cost will be \$665,000. ADB will provide \$500,000 on a grant basis from ADB's TA funding program. The Government will contribute the balance of \$165,000, in kind. The TA will support the Project by strengthening the links of vocational schools with industry, improving school sustainability, and expanding skills upgrading opportunities for workers.

70. **Impact and Output.** The expected impact of the TA is that Indonesian workers will have better access to opportunities for skills upgrading, allowing them to move up in their careers, reenter the workforce, or find skilled positions overseas. The outcome is expected to be wider opportunities for skills upgrading for workers delivered through VSs on a demand-driven basis, in collaboration with industry. Although some schools have already established career centers to undertake such initiatives, they are ad hoc. A set of trials, which are well researched and monitored, will provide the basis for the confident expansion of such courses. This is consistent with the long-term objectives for the vocational education system.

71. **Methodology and Key Activities.** The TA activities comprise (i) a desk study review of examples of international best practice in vocational skills upgrading; (ii) a review of skills upgrading activities in model VSs and development of a database; (iii) an intensive review of best international practice in two other countries to gather ideas for implementing skills upgrading courses; (iv) an investigation of the feasibility of international links to develop joint cooperation for international certification, linkages, and mutual recognition; (v) a series of practical trials in 10 VSs; and (vi) preparation of a final report, based on the results of the trials, with recommendations for a sustainable skills upgrading program in VSs.

72. **Implementation Arrangements.** MONE will be the Executing Agency for the TA; the Directorate of Technical and Vocational Education will be the Implementing Agency. The TA will be undertaken over 2 years. A small task force will be created to oversee the TA, and DTVE will appoint a senior staff member as TA coordinator for all matters pertaining to the TA. ADB will engage a qualified consulting firm or educational institution to implement the TA. The firm will be selected using quality- and cost-based selection of the international consultant in association with national consultants. The firm will provide one international expert for 6 person-months and one national consultant for 8 person-months. The final TA output will be a comprehensive report that summarizes outcomes of the school trials and identifies directions for the sustainable development of VS upgrading programs. A summary of the TA is in Appendix 11.

#### V. PROJECT BENEFITS, IMPACTS, ASSUMPTIONS, AND RISKS

##### A. Benefits and Impacts

73. **Economic Benefits.** The Project will raise education quality and efficiency in 90 model VSs and initiate similar improvements in 230 alliance schools, thus establishing a presence in 20% of all districts in Indonesia and reaching 10% of VS students. By the sixth year after project start-up, 30,000 students will be graduating each year from the model VSs. If the improved standards are sustained over 15 years, the model VSs will have produced 0.5 million graduates,

and the alliance schools 0.25 million graduates.

74. The quantifiable project benefits were calculated based on the productivity increase required to achieve a 12% economic rate of return. The bulk of the quantifiable benefits accrue to the working graduates from the model schools. Project outputs include 367,000 male and female working graduates generating 3.7 million work-years between year 4 and year 20 of the Project. The net increase in productivity of these graduates at a conservative 12% economic rate of return is equivalent to 30 minutes of additional productivity per worker per day worked or 13 additional days per worker each year. The Project's marginal productivity gain with a 12% economic rate of return is equivalent to an additional 230,000 work-years.

75. While a 12% economic rate of return is considered easily achievable, a higher rate of return appears more likely. Although labor force surveys do not allow estimation of the return to quality, anecdotal evidence from schools, employers, and parents indicate that the return to a better quality education can be measured in much larger wage premiums ranging from half to double the median wage; a 50% premium would result in a rate of return of 30%.

76. Further benefits accrue from the enhanced partnerships with industry by reducing the search time for the first job and by reducing the amount of employment mismatch. A 1-month reduction in job search time accruing to career development center enhancement would increase project benefits by a further 31,000 work-years. The entrepreneur development and business incubators will enable recent graduates destined to become own account workers or owners of microenterprises to establish more productive businesses and reduce the rate of start-up failure. Starting in year 9, the Project will support the development of at least 3,000 successful microenterprises per year generating 99,000 jobs and 580,000 work-years of employment through the student assistance for business and business incubators.

77. Staff development will provide leadership development, business planning, management, and financial information system training to 2,396 administrative staff in the 90 model schools, 230 alliance schools and 33 provincial offices. Subject matter and technical skills training will be provided to 10,428 teachers. While this training is necessary to realize the project benefits, other indirect benefits will accrue to improved capacity for non-project activities. The summary financial and economic analysis is in Appendix 12.

78. **Social and Poverty Benefits.** Given that almost half of VS students are from poor and low-income households (cottage industry, drivers, self-employed), the channeling of investment to VSs is a powerful tool in promoting social equity. As enrollments expand, more students from lower-income families will enter VE. The Project will initially benefit 22,000 such students each year. VE will place male and female graduates in a more competitive position as they enter the labor force, as they will have more marketable skills and workplace experience. The time taken to find jobs will also be reduced; in schools with a good reputation, students even now are hired directly upon graduation by the companies where they gained workplace experience. Getting young people into work quickly is important for the economy and for alleviating the loss of confidence and social ills that accompany prolonged job search and unemployment. The gender analysis and strategy includes actions aimed at creating equal opportunities for VS participation among both young men and women. These specific actions will be incorporated into SBPs and national and school project implementation in response to local conditions (The summary poverty reduction and social strategy is in Appendix 13; the summary gender strategy is in Appendix 14).

79. The career counseling offered by VSs, as well as the exposure to different types of enterprises and industry during training, will help students make more strategic job choices. The

opportunity to take part in skills enhancement through the upgrading programs in career centers will allow continuing career development. Skills upgrading and entrepreneurial skill development are especially important for women, who often struggle to reenter the labor force after child rearing, and is essential in an economy where one third of all employment is informal.

80. **Environment and Social Safeguards.** The Project involves upgrading of existing schools where all work, including construction of new classrooms, will be carried out on existing school property. Project support for physical construction will only be extended if the land required is already owned by the school. School upgrading, particularly rehabilitation, will require management of possible hazardous and nonhazardous solid wastes. These potential impacts will be managed through standard construction contract requirements. As the schools are located in urban areas, other construction impacts such as road blocking or traffic disturbances, noise and dust, and silt runoff must be similarly managed. No negative environmental impact is expected. As project schools are located in city or district urban centers, no encroachment will occur on indigenous people's territory.

81. **Fiscal Impact and Sustainability.** A financial plan showing the fiscal impact of the Project and identifying the funding needed to finance project expenditures during and beyond the project period was prepared. The financial sustainability analysis is based on the assumption that gross domestic product (GDP) will continue to grow with relative real growth of 5%, that the share of public expenditure will remain unchanged, and that education expenditure as a percentage of GDP will increase to around 20% annually in line with the National Education Law. Project-related expenditures will increase annually and will reach \$115 million during the last year of the Project. Some commitments will terminate at the end of the Project. The continuing annual incremental cost of \$0.25 million after the Project ends will add \$3 million to the total from 2013–2025. This is feasible and sustainable, given the Government's commitment to educational expansion and development.

82. The Project will contribute to efficiency gains in the model VSs by lowering unit costs through expanded enrollment, higher utilization of facilities and equipment, a business-like approach to school management, and stronger financial management. Schools will increase revenue to some extent through stronger and more numerous partnerships with industry, broader course offerings for workers and others, and increased output and better management of production units. The Government's annual commitment to the Project as a percentage of the central education budget ranges from 0.04% to 0.14%, and decreases to 0.01% by project end. The Government's funding share is estimated to increase from \$1.5 million in year 1 to more than \$11 million in years 2 and 3 and to decrease gradually to \$1.5 million by the end of the Project. The Government's annual commitment for the Project is judged affordable, as this represents only 0.01% of the MONE budget and 0.16% of the DTVE budget.

83. **Replication Strategy.** The Government is committed to replicating the model school approach in all districts, as part of the strategy to revitalize vocational education. The Project will incorporate the first stage of a replication strategy into the Project itself. The 90 model schools are to be selected from a shortlist of 120 schools. The 30 schools not selected will automatically become alliance schools, thereby immediately receiving some project support. They will subsequently form the foundation for the next batch of model VSs, and receive additional financial and other support toward the end of the Project. Local governments will be encouraged to include support for these schools in their 5-year plans, with this support coming on-stream before the end of the Project. Provincial, district, and city governments have already indicated their desire to play a key role in project planning and implementation, as well as their commitment to providing resources for future model school development. Guidelines for the

replication of model schools nationwide, as required by the National Education Law, will be prepared under the Project. The sustainability and replication strategy is described in Supplementary Appendix E.

## **B. Risks and Assumptions**

84. **Macro.** The Project is directly linked to the cornerstone of the National Medium-Term Development Plan to improve quality and relevance through better linkages with industry. The main risk in any project that invests in vocational education is that an economic downturn will occur just as the project benefits are emerging. Economic downturns, especially for construction and industry, always affect skilled workers more than the professional work force. The other macro risk is that economic growth will be jobless growth. These risks are endemic to projects directly linked to government economic and industrial development. The emphasis of the Project on entrepreneurship will assist in mitigating these risks because skilled workers will have both big industry and micro-industry options.

85. Current commitment to policy reform is expected to continue, ensuring the longer-term sustainability of the reform process. This seems likely over the next decade because of the Government's strong interest in expanding the number of skilled workers and entrepreneurs; issuance of the Education Strategic Plan 2005–2009 resulting from extensive consultations between MONE, BAPPENAS and Parliament; a nationwide campaign to promote vocational education and regular consultations between MONE and industry on vocational education.

86. Government resources for VE are expected to continue, despite the large amount of resources still needed to finance the compulsory 9 years of basic education. This appears more likely now than in the past because of MONE's strong thrust to expand VE substantially. The Government has also launched new economic policies to lessen barriers to direct investment, encourage small and medium-sized industries, and give institutional incentives to business.

87. **Project.** Insufficient transparency and accountability in Government financial management and accounting processes are a potential project risk, which will be mitigated by (i) support for governance reforms through technical support for strengthened financial management and reporting in project schools, along with public disclosure; (ii) managing SBP funds through school committees to strengthen community governance and accountability; and (iii) extensive monitoring and evaluation and public information systems. The financial management capacity assessment indicates that DTVE's financial management system meets ADB requirements but the financial management systems of many VSs will need strengthening.

88. Another risk is that school principals and senior management will aim for enrollment growth rather than structural and management change, and will lack the capacity to manage large VSs successfully. This will be mitigated through a careful school selection process, training in leadership, a business approach to management, and strategic planning to help prepare school principals and local education officials for the changes envisaged.

89. The model schools may have difficulty retaining better-skilled technical teaching staff given their low salaries. The Government plans to introduce financial incentives for teachers fulfilling qualification standards and having full teaching loads; this will reduce the risk. The long-term financial sustainability of the model VSs will be addressed through efficiency gains from higher enrollment, partnerships with industry, and income-generating measures.

## VI. ASSURANCES AND CONDITION

### A. Specific Assurances

90. In addition to the standard assurances, the Government and DTVE have given the following assurances, which are incorporated in the legal documents.

- (i) The Government will provide counterpart funds for project implementation on time. DGMPSE will make timely submission of annual budgetary appropriation requests to MOF and MOF will ensure prompt disbursement of appropriated funds during each year of project implementation.
- (ii) The Government will ensure the smooth flow of funds from central level to the model schools in accordance with the flow of funds mechanism agreed between the Government and ADB.
- (iii) The Government and DGMPSE will ensure that only model schools meeting the agreed eligibility criteria for grant assistance set out in Appendix 4 to this document will receive funding under the Project.
- (iv) The Borrower will ensure that each of the school committees will establish a separate account at a local branch of a bank acceptable to ADB, for the purpose of the SBP funds. The Government will further ensure that the SBP funds will be used exclusively for the activities approved under the model VS SBP.
- (v) Within 12 months following the loan effective date, DGMPSE will design and standardize a comprehensive PMIS for the different levels of management including for DGMPSE, the provincial education offices, and model schools. Furthermore, DGMPSE will develop a users' manual within same period of time.
- (vi) To ensure that women benefit equally from the Project, the Government and DGMPSE will ensure that the Project will be carried out in accordance with ADB's *Policy on Gender and Development (1998)* and the agreed gender analysis and strategy described in Appendix 14 to this document.
- (vii) Within 9 months following the loan effective date, DGMPSE will create a project website to disclose information about various matters on the Project, including procurement. With regard to procurement, the website will include information on the list of participating bidders, name of the winning bidder, basic details on bidding procedures adopted, amount of contract awarded, and the list of goods and services procured.
- (viii) Within 9 months following the loan effective date, DGMPSE will establish within the PMU a complaints and action task force to receive and resolve complaints/grievances or act upon reports from stakeholders on misuse of funds and other irregularities. The task force will (a) review and address grievances of stakeholders of the Project, in relation to either the Project, any of the service providers, or any person responsible for carrying out any aspect of the Project; and (b) set the threshold criteria and procedures for handling such grievances, for proactively and constructively responding to them, and for providing the stakeholders with notice of such mechanism.

- (ix) Although no significant environmental impacts were identified, the siting, design, construction, and operation of school facility rehabilitation work undertaken under the Project will be implemented in line with the Government's environmental laws and regulations and ADB's *Environment Policy* (2002). All civil works contracts will contain standard requirements for environmental impact mitigation.
- (x) The Government and DGMPSE will ensure that it will not approve any SBP funds if the rehabilitation or construction of the new school facilities will involve involuntary resettlement according to ADB's *Involuntary Resettlement Policy* (1995). To be eligible for SBP funds the schools are required to confirm that no land acquisition or resettlement is required under the Project. Construction of new classrooms will be added to existing model schools on unoccupied land already owned by the model schools.
- (xi) DGMPSE will ensure that the construction of multistory buildings will comply with construction safety standards. Schools will not be allowed to construct a new storey without first obtaining assurance from a qualified engineer that the existing classroom construction is strong enough for the additional upper level.

#### **B. Condition for Loan Effectiveness**

91. Prior to loan effectiveness, the Government will have established the PSC in accordance with paragraph 55 of this document.

### **VII. RECOMMENDATION**

92. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB), and recommend that the Board approve the loan in various currencies equivalent to Special Drawing Rights 50,581,000 to the Republic of Indonesia for the Vocational Education Strengthening Project from ADB's Special Funds resources with an interest charge at the rate of 1.0% per annum during the grace period and 1.5% per annum thereafter; a term of 32 years, including a grace period of 8 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft Loan Agreement presented to the Board.

Haruhiko Kuroda  
President

7 March 2008

## DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/ Reporting Mechanisms	Assumptions and Risks
<p><b>Impact</b> Increased competitiveness and employment opportunities for vocational school graduates</p>	<ul style="list-style-type: none"> <li>• VS graduates entering skilled employment increased by 20% by 2015</li> <li>• VS graduates in productive self-employment increases from 22% to 30% by 2020</li> <li>• MONE establishes formal arrangements with 10 multinational or international organizations for mutual recognition or international skills recognition by 2015</li> </ul>	<ul style="list-style-type: none"> <li>• Labor force surveys by NSA</li> <li>• Labor force surveys by NSA</li> <li>• MOUs between MONE and international organizations</li> <li>• MONE annual reports</li> </ul>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• Substantial policy support and resources continue to be available for vocational education.</li> <li>• Industry involvement will continue to grow.</li> </ul> <p><b>Risks</b></p> <ul style="list-style-type: none"> <li>• Indonesia's economic development does not support the employment of more skilled workers and skilled entrepreneurs.</li> <li>• VSs aim for enrollment growth rather than structural and management change to sustain innovations.</li> </ul>
<p><b>Outcome</b> Improved quality and relevance, expanded access, and greater efficiency in senior secondary vocational education</p>	<ul style="list-style-type: none"> <li>• Model VSs increase overall enrollment intake by 20% by 2012</li> <li>• 40 model schools enter formal arrangements with multinational or international companies or organizations for international skills certification by 2011</li> <li>• Final examination results for VS students in core subjects are equivalent to those for GS students</li> <li>• Industry personnel are involved in course identification and development in all model VSs by 2012</li> <li>• 50% of model VSs use industry standards and personnel to assist with student competency assessment by 2012</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluation and monitoring reports provided by PMU</li> <li>• MONE EMIS for data on model VSs in comparison with all VSs</li> <li>• Project evaluation and monitoring reports</li> <li>• Final examination scores for VSs and GSs, 2008–2013</li> <li>• Monitoring of SBP implementation by PMU and M&amp;E consultants</li> <li>• Annual reports from schools to PMU</li> <li>• MONE review of multinational and international skills recognition arrangements as a precursor to MOUs</li> </ul>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• VS enrollment demand will be sufficient to meet growth targets.</li> <li>• New approaches to VS management and teaching and learning will be accepted.</li> <li>• Industry involvement will be effective.</li> <li>• International skills recognition will be feasible, affordable, and not involve large payments to international agencies.</li> </ul> <p><b>Risks</b></p> <ul style="list-style-type: none"> <li>• VS leadership will be conservative and not look for new approaches to management and program delivery.</li> <li>• MONE policies will impede expanded industry involvement.</li> </ul>
<p><b>Outputs</b> 1. Refocused vocational school management using a business approach</p>	<ul style="list-style-type: none"> <li>• By end of 2008, model and alliance schools selected on basis of agreed criteria and competitive process</li> <li>• By 2009, all model VSs begin to implement agreed SBPs for 2008–2011 that match their individual capacities with national Government objectives</li> </ul>	<ul style="list-style-type: none"> <li>• Review of performance indicators set in individual SBPs at midterm and at project conclusion</li> <li>• Revisions of SBPs based on review and final approval</li> <li>• Review of performance indicators set in individual SBPs at midterm and at project conclusion</li> </ul>	<p><b>Risk</b></p> <ul style="list-style-type: none"> <li>• National, provincial, and local authorities do not give model VSs the independence or necessary skills training to develop their own plans.</li> </ul> <p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• All VSs have representative and functioning school committees that are capable and participate in decision-making concerning school</li> </ul>

Design Summary	Performance Targets/Indicators	Data Sources/ Reporting Mechanisms	Assumptions and Risks
	<ul style="list-style-type: none"> <li>• Each VS has an FMIS, an EMIS, an updated website with school profile, good interconnectivity, ISO 9001:2000, and an HRD plan for school staff by mid-2010</li> <li>• Each model VS files quarterly and annual reports to the PMU on the status of achievements according to specified formats</li> <li>• Each model VS has a functioning job placement information office and database entries for employment status of graduates by end-2010</li> <li>• Each VS SBP includes a 5-year growth strategy that is achievable under existing local conditions</li> <li>• Each VS achieves its SBP targets for each year of the Project</li> </ul>	<ul style="list-style-type: none"> <li>• Monitoring of SBP implementation by PMU and M&amp;E consultants</li> <li>• Quarterly and annual reports from schools to PMU</li> <li>• Model VS websites and MONE project website</li> <li>• Monitoring of SBPs by PMU and M&amp;E consultants</li> <li>• Quarterly and annual reports from schools to PMU</li> <li>• Monitoring of SBPs by PMU and M&amp;E consultants</li> <li>• Monitoring of SBP implementation by PMU and M&amp;E consultants</li> <li>• Monitoring of SBP implementation by PMU and M&amp;E consultants</li> <li>• Quarterly and annual reports from schools to PMU</li> </ul>	<p>development and financial management.</p> <ul style="list-style-type: none"> <li>• All SBPs have clearly articulated and verifiable targets and indicators of achievement.</li> </ul>
<p>2. Improved quality of teaching and learning in model and alliance schools</p>	<ul style="list-style-type: none"> <li>• All model VSs have completed agreed refurbishment and equipment upgrading program by mid-2012</li> <li>• All model VSs have introduced new teaching methodologies such as group teaching, self-paced learning, and applied project work by end 2010</li> <li>• Schools establish e-libraries and use e-learning regularly as part of teaching strategies from 2010</li> <li>• Teaching of academic subjects, especially mathematics and science, upgraded to national standard through <ul style="list-style-type: none"> <li>(i) revised guidelines and syllabus for mathematics and science circulated to schools by end-2008,</li> <li>(ii) revised textbooks with practical examples in</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Monitoring of SBP implementation by PMU through school reports and M&amp;E consultants Project MIS</li> <li>• Midterm and final M&amp;E surveys and reports</li> <li>• Monitoring of SBP implementation by PMU and M&amp;E consultants</li> <li>• Quarterly and annual reports from schools to PMU</li> <li>• Monitoring of SBP implementation by PMU and M&amp;E consultants</li> <li>• Quarterly and annual reports from schools to PMU</li> <li>• Revised curriculum guidelines</li> <li>• Revised textbooks</li> </ul>	<p><b>Risk</b></p> <p>VS may opt for innovations that are high in new technology but do not give sustainable results. Facilities and equipment upgrading may not be supported by sufficient operating budgets for operation, maintenance, and supplies.</p>

Design Summary	Performance Targets/Indicators	Data Sources/ Reporting Mechanisms	Assumptions and Risks
	<p>print and on web by mid-2009</p> <ul style="list-style-type: none"> <li>• Technical skills of teachers upgraded to industry standard by end-2011</li> <li>• A system for the professional certification of vocational teachers developed by mid-2010</li> <li>• A “what works” manual produced at project-end, edited by independent experts</li> </ul>	<ul style="list-style-type: none"> <li>• Monitoring of SBP implementation by PMU and M&amp;E consultants</li> <li>• Quarterly and annual reports from schools to PMU</li> <li>• Midterm and final M&amp;E surveys and reports</li> <li>• Guidelines issued by MONE, QITEP</li> <li>• Independent review of project successes by experts</li> </ul>	
3. Strengthened school–industry linkages in model VSs	<ul style="list-style-type: none"> <li>• Each model VS enters at least one formal arrangement with a local industry to share knowledge and expertise by 2010</li> <li>• Each model VS delivers two courses per year for skill improvement and retraining of workers from 2010</li> <li>• 50% of model VSs enter agreements with local industry groups to implement skills assessment using local industry personnel by 2010</li> </ul>	<ul style="list-style-type: none"> <li>• Monitoring of SBP implementation by PMU and M&amp;E consultants</li> <li>• Quarterly and annual reports from schools to PMU</li> <li>• Monitoring of SBP implementation by PMU and M&amp;E consultants</li> <li>• Quarterly and annual reports from schools to PMU</li> <li>• Monitoring of SBP implementation by PMU and M&amp;E consultants</li> <li>• Quarterly and annual reports from schools to PMU</li> </ul>	<p><b>Assumption</b> VSs will be able to form real links with industry not merely ceremonial links.</p>
4. Enhanced entrepreneurship focus in model VSs	<ul style="list-style-type: none"> <li>• By 2010 all model VSs will use entrepreneurship training programs to deliver (i) introductory program to 80% of students, and (ii) advanced program to 40% of students</li> <li>• 50% of model VSs have designed and implemented assistance programs for student entrepreneurship start-up by 2010</li> <li>• Income from existing production units increases by 20% or viable new units are established by mid-2012</li> </ul>	<ul style="list-style-type: none"> <li>• Monitoring of SBP implementation by PMU and M&amp;E consultants</li> <li>• Quarterly and annual reports from schools to PMU</li> <li>• Monitoring of SBP implementation by PMU and M&amp;E consultants</li> <li>• Quarterly and annual reports from schools to PMU</li> <li>• Monitoring of SBP implementation by PMU and M&amp;E consultants</li> <li>• Quarterly and annual reports from schools to PMU</li> </ul>	<p><b>Risk</b> VS may lose money on unsuccessful ventures.</p>

<b>Core Activities with Milestones</b>	<b>Inputs</b>
<p><b>1. Refocused VS Management Using a Business Approach</b></p> <p>1.1 Train and mentor VS managers and provincial staff to develop SBPs and entrepreneurship to manage large institutions effectively and plan for growth.</p> <p>1.1.1 100% of model and alliance VS principals and 20% of other VS staff complete programs in management and leadership by end-2009 and 80% of VS principals complete follow-up training by 2011</p> <p>1.1.2 Structures and procedures for VS SBP reviews and formal approval designed and in place by mid-2008</p> <p>1.1.3 100% of model VS principals and 20% of other VS staff complete programs in management and leadership by mid-2010 and all VS principals complete follow-up training by mid-2012</p> <p>1.1.4 100% of model VS principals and 20% of other VS staff complete programs in entrepreneurship development by mid-2011 and 80% of all involved VS staff complete follow-up training by mid-2012</p> <p>1.2 Establish management systems in model VSs and improve school administration, including by use of MONE EMIS. Train model VS staff to optimize use of MIS for planning and monitoring.</p> <p>1.2.1 100% of target VSs have computer systems in place and staff trained in MIS use by end-2009</p> <p>1.3 Develop efficiency and effectiveness indicators for VSs and train all relevant staff in their use.</p> <p>1.3.1 Indicators are included in business plans submitted in 2008</p> <p>1.4 Introduce teachers to the school EMIS as a means to provide tracking of student progress and counseling.</p> <p>1.4.1 All teachers complete training in the use of the MONE EMIS by 2009; carry out annual audits to assess the extent of use of EMIS in schools</p> <p>1.5 Improve internal communication systems in the model VSs and establish networks among them to share innovation and best practice.</p> <p>1.5.1 Internal network system in place by 2009</p> <p>1.5.2 School websites developed by end-2009</p> <p><b>2. Improved Quality of Teaching and Learning in VSs</b></p> <p>2.1 Improve facilities for learning (equipment and civil works) in model VSs to allow expanded enrollments, longer hours of operation, and better efficiency by 2011.</p> <p>2.2 Develop new learning methodologies in model VSs suitable for large institutions by 2010.</p> <p>2.3 Provide new textbooks, materials, and software to model VSs.</p> <p>2.3.1 VSs to purchase all textbooks and software by 2009 to be in place by 2010</p> <p>2.4 Improve teacher technical skills to industry standards in model and alliance VSs, including time in industry.</p> <p>2.4.1 100% of teachers complete training needs analysis and 30% of teachers commence programs to meet needs identified by 2010</p> <p>2.5 Improve teaching and learning in English, mathematics and science to national standards in model and alliance VSs.</p> <p>2.5.1 100% of teachers complete training needs analysis and 30% of teachers commence programs to meet needs identified by 2010</p> <p>2.5.2 Model VSs contract companies to teach English to teachers by 2009</p> <p>2.5.3 40% of teachers attain MONE-required English test score by 2011</p> <p>2.5.4 Model VSs contract institutions for in-service training in mathematics and science by 2009</p> <p>2.5.5 DTVE issues new guidelines for mathematics and science by mid-2008</p> <p>2.6 Identify workable systems for certifying technical skills of VS teachers and issue guidelines by 2010, in collaboration with QITEP.</p> <p>2.7 Review outputs of the Project and innovations introduced by VSs, and prepare a "what works" manual describing successful innovations. Circulate to all VSs with enrollment exceeding 500 in 2012.</p> <p><b>3. Strengthened School-Industry Linkages</b></p> <p>3.1 Support partnerships between VSs and industry.</p> <p>3.1.1 Each model VS enters at least one formal arrangement with a local industry to share knowledge and expertise by 2010</p> <p>3.2 Deliver courses for existing workers.</p> <p>3.2.1 New courses developed to meet local industry needs in collaboration with</p>	<p><b>ADB: \$80.00 million</b></p> <ul style="list-style-type: none"> <li>• Management and in-service training: \$7.02 million</li> <li>• Consulting services: \$2.24 million</li> <li>• M&amp;E surveys: \$1.77 million</li> <li>• Model and alliance VS development program: \$61.64 million</li> <li>• MIS and project management: \$1.74 million</li> <li>• Contingencies: \$3.09 million</li> <li>• Interest Charges: \$2.50 million</li> </ul> <p><b>Government: \$35.00 million</b></p> <ul style="list-style-type: none"> <li>• Model and alliance VS development program: \$29.50 million</li> <li>• Project management: \$4.15 million</li> <li>• Contingencies: \$1.35 million</li> </ul>

<b>Core Activities with Milestones</b>	<b>Inputs</b>
<p>industry by 2009</p> <p>3.2.2 Each model VS holds discussions with local employers and draws up list of priority needs by 2009; by 2010 each VS has two courses developed and marketed to local industry</p> <p>3.2.3 Examine models for VSs to develop and trial programs to upgrade skills and certification for workers, and develop a coherent policy framework for sustainable activities in the VS system (Appendix 11).</p> <p>3.3 Examine opportunities for international benchmarking and trial selected international standards and benchmarks in cooperation with industry by 2011.</p> <p>3.3.1 40 model VSs enter arrangements with multinational or international companies or organizations for mutual skills recognition arrangements by 2011</p> <p>3.3.2 MONE enters into MOUs with 10 multinational or international organizations for mutual recognition or international skills recognition by 2012</p> <p><b>4. Enhanced Entrepreneurship Focus</b></p> <p>4.1 Provide assistance to students to develop their own businesses.</p> <p>4.1.1 50% of schools have assistance programs in place for entrepreneurship start-up by students by 2010</p> <p>4.2 Introduce entrepreneurship training into all student courses by end-2009.</p> <p>4.3 Review existing production units and develop plans for enhancement by 2009.</p> <p><b>5. Project Management</b></p> <p>5.1 Set up PMU, and train school committees and implementation teams.</p> <p>5.2 Set up steering committee, and technical and consultant teams to guide the Project along business lines.</p> <p>5.3 Establish SBP review mechanisms.</p> <p>5.4 Establish M&amp;E unit and develop M&amp;E work plans.</p> <p>5.5 Project website established by PMU in 2008.</p>	

DTVE = Directorate of Technical and Vocational Education, EMIS = education management information system, FMIS = financial management information system, GS = general senior secondary school, HRD = human resource development, ISO = International Organization for Standardization, M&E = monitoring and evaluation, MONE = Ministry of National Education, MOU = memorandum of understanding, NSA = National Statistical Agency, PMU = project management unit, QITEP = Quality Improvement of Teachers and Education Personnel, PMU = project management unit, SBP = school business plan, VS = vocational senior secondary school.

## SECTOR ASSESSMENT

1. Indonesia has made impressive progress in providing basic education. Net enrollment is estimated at 94% for primary and 64% for junior secondary education (gross enrollment rates are 115% and 83%, respectively). Internal efficiency rates in basic education have also improved, with repetition and dropout rates below 3%. The number of graduates from the compulsory 9 years of basic education increased steadily over the last decade, to more than 3 million annually. These graduates are increasingly demanding senior high school education, with 83% of junior secondary graduates currently making the transition. The first steps to introducing 12 years of compulsory education have been taken by encouraging districts with universal basic education coverage to pursue this strategy independently.

2. Senior secondary education (SSE) covers about 50% of eligible students, of whom 82% are aged 16–18, in diversified vocational senior secondary schools (VSs) and academic or general senior secondary schools (GSs). Net enrollment is around 40%. In comparison with other Asian countries, access to SSE is in the mid-range and is surpassed significantly by neighboring Malaysia, Thailand, the Philippines and Viet Nam. However, based on population projections of the senior secondary-aged population, the Government is targeting an increase in SSE enrollments to 9 million students by 2009, yielding a gross enrollment rate of almost 70%. Particular emphasis will be placed on increasing VS enrollment to fulfill the needs for mid-level employment in specific sectors.

3. In 2006, of the approximately 3.8 million SSE students, about 60% were in general education (Table A2.1). General education is the natural choice for students who aim to continue on to higher education. However about one half of all exiting GS students do not proceed to higher education and enter the labor market at the conclusion of their courses. VS students still have opportunities for higher education, but the path is not as straightforward.

**Table A2.1: Senior Secondary Education: Number of Schools and Students, 2000–2006**

Year	No. of VS			Pupils of VS			No. of GS			Pupils of GS		
	Public	Private	Total	Public	Private	Total	Public	Private	Total	Public	Private	Total
2000	771	3,658	4,429	579,892	1,354,045	1,933,937	2,897	5,083	7,980	1,721,342	1,217,172	2,938,514
2001	796	3,726	4,522	596,147	1,431,317	2,027,464	2,925	4,860	7,785	1,791,935	1,232,241	3,024,176
2002	838	4,105	4,943	598,876	1,500,877	2,099,753	3,120	4,916	8,036	1,827,046	1,316,684	3,143,730
2003	899	4,216	5,115	608,441	1,533,133	2,141,574	3,203	5,035	8,238	1,886,701	1,371,272	3,257,973
2004	1,159	4,506	5,665	636,064	1,528,004	2,164,068	3,634	5,265	8,899	2,000,241	1,402,374	3,402,615
2005	1,262	4,662	5,924	640,342	1,642,014	2,282,356	3,940	5,377	9,317	2,069,243	1,428,177	3,497,420
2006	1,464	4,974	6,438	644,619	1,756,024	2,400,643			9,903			3,785,471

GS = general senior secondary school, VS = vocational senior secondary school.

Source: Education Management Information System, Ministry of National Education.

4. Enrollment growth in both general senior secondary education and vocational education (VE) from 2000 to 2006 has been quite rapid, at 29% and 24% respectively. The number of schools has increased even more rapidly, especially for VSs, from 4,429 in 2000 to 6,438 in 2006—a growth rate of 45%. This is no doubt a response by local government and, less so, the private sector, to strong community demand for vocationally oriented schooling. Over recent years, about 20% of applicants have failed to gain admission to VSs.

5. The private sector contributes significantly to both general and VE, with enrollment shares of 73% and 40% respectively. The high private share in VE partly reflects decisions about public involvement. In the 1970s and 1980s, the Government invested heavily in VE, but over time the provision of vocational training was increasingly left to the private sector. By 2002, 83% of VSs were privately run. Imbalances in the provision of training resulted, with more than half focusing on business and management training and only one third on technology and industry. However, today this situation has changed, with wage returns and other labor market outcomes now better for VS than GS graduates. This is reflected in the growth of community demand for VE, alongside growing government concerns about increasing youth unemployment. The larger public investment is reflected in the rapid growth of public VSs, which increased 90% over the last 6 years compared with private school growth of 34%. Most VSs concentrate their teaching activities on a set of related areas. Business and management is the most popular program for both public and private schools, followed by technology and industry. Tourism, agriculture, and forestry programs are more concentrated in the public sector.

6. The system is generally efficient with regard to student flow. Completion rates exceed 95%, with dropout rates of around 5%, and overall repetition rates of below 0.5%. Almost all repetition is for boys in grades 1 and 2. Around 40% of classroom time is devoted to general academic subjects such as English, Indonesian, physics, chemistry, and mathematics, which are adapted to the area of specialty. The Ministry of National Education (MONE) estimates that around 60% of VS graduates enter the labor market through formal employment, around 25% try to set up their own businesses usually as part of a group, and 10%–15% pursue further studies.

7. Despite the popular demand for VE, significant problems exist. The quality of academic education and relevance of vocational courses are generally not well regarded by employers, and many argue that the labor market outcomes do not justify the cost of VE (because of the lower student–staff ratios required in workshop and technical classes and the cost of consumables, etc.; the average recurrent cost per student in a VS is currently 25% higher than in an academic school). The focus on business and entrepreneurship skills to help graduates establish their own small businesses is also seen as too weak. Finally, VSs are seen as highly gender-segregated and ineffective in reaching the poor.

## **A. Major Issues**

### **1. Quality and Relevance**

8. All SSE students take final national examinations, on which VS students perform slightly below GS students (5% lower in 2005/06). Public VS students outperform private VS students in all subjects. Failure rates of 22% are high, despite improvement in recent years. The general public perception is that the quality of VE is lower than general education. Given concerns about the quality of the academic subjects being provided for VE students, MONE has decided to increase the time allocation and difficulty level for English, mathematics, and science subjects.

9. Quality standards are being raised through the establishment of international standard schools, as mandated in the National Education Law (20/2003). At least one international standard school is to be established in each district. The VE subsector has led the way, with around 200 VSs already identified and supported with additional funding. Performance and other standards have been identified for international standard schools, including performance on academic courses, standards on competency tests for vocational courses, English

competency among students and teachers, good facilities, and a link with at least one international partner.

10. **Teacher Quality.** The quality of teachers and the teaching–learning process are fundamental to learning outcomes. VSs face difficulties in recruiting and retaining good teachers, especially teachers with industry experience. Around 68% of VS teachers teach vocational subjects. Only 62% meet current qualification standards (a degree in education), a further 11% have a non-education degree. Part-time staff are used widely, particularly in private schools; this allows schools to hire industry personnel as teachers. Training in pedagogy will be needed to transform the traditional teaching methods generally used by VS teachers.

11. Relevance in technical and vocational education is assessed through employer satisfaction with the quality of graduates and labor market outcomes. The only data available relates to the situation of vocational graduates in the labor market. Vocational school graduates comprise 25% of the skilled labor force and outperform graduates of general schools, with the difference being particularly marked for girls (Table A2.2). They have a higher labor force participation rate than GS graduates—about 10% higher overall and 25% greater for women—and are also 20% more likely to be in the formal sector; while this is not a guarantee against poverty, it does provide greater certainty of a regular income. Unemployment rates are lower than for diploma, academy, or university graduates. The wage returns are also impressive as these graduates not only outperform GS graduates in obtaining quality jobs but also earn slightly more, especially women. All of these indicators have been noted by parents and political leaders in particular, and are partly responsible for the explosion in growth of vocational schools across the country.

**Table A2.2: Labor Force Participation and Earnings:  
GS and VS Graduates**

Item	GS	VS	All Workers
Labor Force Participation	67.6	77.6	66.2
% of Total Labor Force	14.8	7.1	100.0
% in Formal Sector	56.2	66.2	31.1
% in Informal Sector	43.8	33.8	68.9
% Unemployed	18.1	17.3	10.3
% Underemployed	13.5	13.2	27.4
Earnings in Rp/month, formal sector	1,045,303.0	1,079,580.0	997,000.0

GS = general senior secondary school, VS = vocational senior secondary school.

Source: Labor Force Survey, 2006.

12. Nevertheless, questions remain about the relevance of vocational courses, including the gap between the courses and industry needs, the slow response to changing labor market needs and technological advances, the cost of vocational education, and the focus on formal employment rather than entrepreneurship skills.

## 2. Internal Efficiency

13. **School Size.** Most VSs are too small to provide economies of scale or improved quality through more varied courses and stronger teaching teams. The average VS in 2006 had 380 pupils, while many had less than 200. To reduce running costs, the trend to smaller school sizes

must be reversed and school size increased significantly. A move to larger schools will have benefits in terms of efficiency and the quality of vocational courses.

14. **Teacher–School and Pupil–Teacher Ratios.** The average number of teachers per school is low at 48 per school for public VSs and 28 per school for private schools. This has implications for teaching quality and the potential for teachers to upgrade their skills. It also indicates that many schools will lack a critical mass of teachers in each discipline. The pupil–teacher ratio is 12:1 for public and 13:1 for private VSs. These ratios are low by international standards, especially as nearly half of the students are in business studies. The average class size of 36, on the other hand, is quite high, indicating short working hours associated with small school size. An increase in school size will alleviate these inefficiencies and reduce overstaffing.

### 3. Social Equity

15. Only 40% of pupils who begin primary school enter SSE, with around 33% graduating (an increase from 22% over the past decade). The main cause is the low continuation rate of 72% from primary to junior secondary (excluding madrasah), which has proved stubbornly resistant to Government efforts to raise it. Given the links between poverty and continuation, not surprisingly the lowest income quintiles are underrepresented in SSE. VSs, however, cater more to the poor than GSs, with a slightly U-shaped distribution. Representation is highest for the middle quintiles 3 and 4 (22%–23%), slightly lower for quintiles 1 and 2 (15%–19%) and quintile 5 (21%). Equity is greater in urban than rural areas. The distribution range for GSs is more regressive, rising steadily from 13% for the first quintile to 27% for the fifth. To encourage more poor students to enter SSE, the Government has been giving scholarships to 10% of students since 2005. The greater problem, however, is to increase the number of poor graduates from junior secondary education.

16. The overall gender gap for SSE enrollment is small: 52% of students are male. However, these figures mask marked differences across schools and programs. Many schools are essentially single-sex, overwhelmingly male, or overwhelmingly female. All of the schools with large female enrollments offer programs in tourism and/or information and communication technology. None of the schools offering construction, machinery, or automotive have less than 90% male enrollment and most are 95–98% male. Moving girls into male-dominated programs is usually difficult, but new opportunities for girls in electronics, surveying, drafting, mechatronics, and information and communication technology are being identified. These emerging opportunities for girls will need to be taken into account during the planned school expansions. Further, decisions to expand the size of particular institutions will have direct effects on the relative opportunities for females and males to participate in vocational education.

### 4. Labor Market

17. Vocational courses are designed to prepare graduates for direct entry to the labor market, but unemployment among these graduates remains a concern: VS graduates make up 7.1% of the total workforce, but they are 9.2% of the unemployed workforce. Given the types of skills that VS graduates have learned, many would be suited to self-employment. Entry-level positions in the labor market will remain tight for new entrants over the next few years, and agriculture will remain the dominant form of employment.

18. Indonesia, as other economies, has skill shortages that impact on the capacity for business investment and economic growth. But such shortages are generally for experienced workers. In response to the training needs of these workers, DTVE has been developing career

centers offering upgrading courses to workers to enable them to seek promotions and new and better jobs, be more productive in their own businesses, or to work overseas. In this way the VS system will expand its focus to embrace a more comprehensive skills training role.

## 5. Education Policy Directions

19. The National Medium-Term Development Plan 2004–2009 targets for SSE reflect the need to broaden access in response to the expansion of junior secondary education, and to supply SSE graduates to the labor market with training relevant to market demand. The Government plans to increase gross enrollment rates for SSE to 69% (about \$9.07 million) by 2009 by increasing the transition rate from junior secondary to SSE to 90%. In the case of VE, the plan notes specifically the importance of improving quality and relevance through better linkages with industry. MONE's Education Strategic Plan 2005–2009 acknowledges the need to expand SSE in anticipation of increased output from basic education.

### B. Strategic Response to the Issues Raised

20. The Project's rationale and design is in response to the broad policy, strategies, and institutional features derived from this sector assessment. In addition, the project design responds to the unique opportunities, challenges, and potential risks facing the VE subsector. Demand for VE is being sustained and is growing. Improving and sustaining the VS system is critical if the Government's goals to provide young people with marketable skills, reduce youth unemployment, and create a competitive work force are to be achieved. The educational response to these imperatives is that "access to vocational education should be expanded cost-effectively while quality and relevance are raised." Two overarching strategies are suggested to achieve this goal: (i) link the development of VE to industry and internationally accepted quality standards; and (ii) take a cost-effective phased approach to expansion by targeting a number of existing schools with the potential to expand and develop into dynamic training institutions, while sharing their experience with a wider pool of schools. Within these broad strategies, a discussion of the major thrusts proposed for addressing the issues raised in the sector assessment follows.

21. **Expansion of Access and Equity.** The Project will help expand access to SSE, and VE in particular, by establishing different types of VS to serve needs in different areas. For remote areas, small schools, integrated senior secondary schools, and greater use of ICT will be introduced, while large lead VSs will be established in industrial areas. These larger schools will act as models for emulation by other VSs, thus expanding access. To run these large schools successfully, a number of fundamental changes will be needed. First, a turnaround in management practices and organization structures of the VSs will be critical. Central to this approach is the need for VSs to become more entrepreneurial in their approach to training to be able to enter into commercial arrangements. Second, facilities must be used more efficiently, requiring high utilization rates for buildings, classrooms, and equipment. Third, carefully targeted planning of new facilities and equipment will be needed, as well as rehabilitation of existing teaching space to expand enrollment and improve efficiency.

22. As many VS students come from the middle- and lower-income quintiles (cottage industry, drivers, self-employed), the channeling of investment to VSs is a powerful tool in promoting social equity. And as enrollment expands, more students from lower-income families are likely to enter training. Gender equity will be addressed by encouraging programs that offer new and emerging opportunities for girls particularly in the areas of information and communication technology and other new technologies.

23. **Relevance and School–Industry Linkages.** To improve the relevance of VS courses, stronger links with industry, including partnerships, skill enhancement of workers, and international certification of students to multinational competency standards, are essential. The new trend for VSs to offer short skills training courses to graduates and existing workers will reinforce ties with local industry, while the strengthening of production units in schools will forge closer ties with the local economy. VSs must respond to the needs of their students by preparing them for current labor market conditions through the development of specific skills as well as general workplace skills. Entrepreneurship skills are especially important. Extending the scope of school production units to providing support to students after graduation will facilitate the involvement of graduates in small businesses.

24. **Quality of Teaching and Learning.** One of the constraints to the balanced expansion of VSs will be the availability of qualified teachers. MONE is introducing a national certification program for teachers, but arrangements for the certification of teachers' technical skills remain unclear. The development of this system is urgent to ensure that technical teachers are not excluded from the benefits of certification. Equally important, VS students must have a solid general education. Industry needs flexible workers with the ability to calculate, communicate, work in teams, be responsible citizens, and be able to cope with new technologies. The quality of education in the general subjects must be equivalent to that in GSs. Teachers will need training in new ways of teaching and learning to encourage self-paced learning, learning in teams, and other innovative learning strategies more appropriate for large institutions. Continuous improvement in the efficiency of teaching methods will be essential. Wider use of information and communication technology across the curriculum will be critical in helping VS graduates compete in a competitive labor market.

### C. Priority Opportunities and Challenges

25. The opportunities and challenges for the VE system can be summarized as follows:
- (i) Expansion of the system must be achieved by changing the management and operation of existing schools rather than by further proliferation of schools. Larger, more efficient schools have better potential to improve access and quality.
  - (ii) A start must be made in this process; some model schools must test appropriate ways to develop new approaches to school management, teaching and learning, and links with industry. This will be the key to quality and expansion.
  - (iii) To achieve these objectives, the model VSs will need to be provided with a range of support: equipment and works, management development, teacher training, and assistance with industry linkages. In addition, VSs should enhance the learning of entrepreneurship within the curriculum to prepare students for employment.
  - (iv) VSs also need to reach out beyond students 16–18 years old. The Indonesian workforce needs access to skills upgrading, and VSs have the potential to make a significant contribution to meeting this need.

## EXTERNAL ASSISTANCE

Project Name	Value and Year	Focus of Assistance
<b>Indonesia–German Institute (IGI)</b> West Java, Central Java, East Java, Banten, North Sumatra	Phase 1 (2001–2004) €10 million grant Phase 2 (2005–2007) €2.5 million grant and €6 million loan Planned: Phase 3 (2008–2010)	The project aims to improve the quality of the labor force through vocational education and training in 5 IGI centers, which collaborated with 17 IGI partner institutes. All 22 IGI institutes in the alliance were equipped with state-of-the-art technology to provide high-quality, demand-oriented regular training as well as industrial standard basic and advanced training. The IGI centers are also designed to provide skills retraining for industry to improve skills of employees and to provide consultancy services.
<b>Indonesia–Australia Partnership in Skills Development (IAPSD)</b>	\$25 million  Jul 1998–Mar 2005	The goal of the project was to improve the capacity of public and private sector agencies to improve workforce skills in selected industries and provinces. The capacities of government agencies and industry associations responsible for planning and delivering competency-based training relevant to the needs of Indonesian industry were strengthened.
<b>Vocational and Technical Education Project</b> ADB Loan 1319-INO All 26 provinces	\$85 million  Apr 1995–Jan 2001	The project objectives were to improve quality, relevance, and internal and external efficiency of technical and vocational education. The project had three components: (i) improving teaching and learning; (ii) supporting industrial growth through human resource development; and (iii) improving management practices. The teaching and learning improvement included supporting the introduction of competency-based training, providing instructional materials, enhancing students' industrial exposure through practice in industry and business, and upgrading teachers' skills. The project also developed 28 new schools and provided new equipment and materials to 25 existing schools.
<b>Senior Secondary Education Project</b> ADB Loan 1360-INO All 27 provinces	\$110 million  Jul 1995–Oct 2000	The project aimed to improve the quality of SSE, address imbalances in the provision and standards of educational facilities and resources, and improve the capacity of the Ministry of Education and Culture to deliver SSE. The project upgraded 1,250 schools, and trained principals, teachers, and staff in about 3,000 schools under four technical teacher training centers.
<b>Technical Education Development Project</b> ADB Loan 1100-INO	\$100 million  Sep 1991–Jun 1998	The project helped to render the technical education system more relevant and responsive to the needs of industry as well as consolidate the gains made in earlier projects. The overall objective was to improve the quality, efficiency, and sustainability of the SSE technical education system. The project upgraded 47 public trade schools as well as teacher training colleges, including assistance with income-generating units.
<b>Agricultural Technology Schools Project</b> ADB Loan 1050-INO West and Central Java, D.I Yogyakarta, Aceh, Jambi, Bengkulu, South Sumatra, Lampung West, South and East Kalimantan, Central and Southeast Sulawesi, Bali, West and , East Nusa Tenggara, Maluku, and Irian Jaya	\$85 million  Mar 1991–Oct 1998	The project improved the quality of agricultural technology education; provided equitable access to agricultural schools for rural students, especially on islands other than Java; and developed entrepreneurial skills of teachers and students to accelerate regional development and contribute to the growth of the agriculture sector. The project had three components: (i) educational programs development; (ii) educational facilities development for upgrading 8 existing agricultural senior secondary schools; establishing 16 new schools; and providing equipment, instructional materials, and books; and (iii) production unit and entrepreneurial support, which involved providing production facilities and equipment, and seed capital for operating project implementation units. The project built upon the earlier Loan 675-INO.

Project Name	Value and Year	Focus of Assistance
<b>Second Vocational Education Project</b> ADB Loan 969-INO and ADB Loan 970-INO (SF) All 27 provinces	\$70 million (OCR) and \$30 million (SF)  Sep 1989–Mar 1996	The project improved the quality of senior secondary vocational education with limited increases in enrollment. It was designed to build on the achievements of Loan 574-INO, particularly by making use of new teacher training facilities, and improved curriculum and facility standards. Two main components: development of (i) educational programs and (ii) educational facilities by upgrading 48 VSs and establishing new schools in business and commerce, and arts and craft. At least one school was upgraded in each of the 27 provinces, and new schools were established in Jakarta and underserved provinces.
<b>Third Senior Technical Schools Project</b> ADB Loan 715-INO Aceh; North, West, and South Sumatra; Lampung; West, Central, and East Java; South, Southeast, and Central Sulawesi; West Nusa Tenggara; and East Timor	\$83 million  Feb 1985– Sep 1993	The project improved quality and access to senior vocational education, leading to a better quality work force. The project built upon the earlier technical education projects. It upgraded 24 trade schools in 11 provinces; and established 7 new trade schools in outer islands; three specialized trade schools in shipbuilding, graphic arts, and industrial chemistry; a technical training center for private senior technical schools; and a technical teacher upgrading center.
<b>Agricultural Education Project</b> ADB Loan 675-INO Aceh; North, West, and South Sumatra; Lampung; West, Central, and East Java; South, Southeast, and Central Sulawesi; West Nusa Tenggara; Irian and East Timor	\$68 million  Apr 1984–Dec 1992	The project objectives were to (i) improve the quality and supply of skilled agricultural workers, technicians, and teachers in agricultural schools and polytechnics; and (ii) provide project schools with adequate agricultural education facilities. The project upgraded 18 agricultural schools; and established six new agricultural schools in the outer islands, a teacher training center for agriculture, six new polytechnics (five in the outer islands), and the Polytechnic Education Development Center for Agriculture.
<b>Vocational Education Project</b> ADB Loan 574-INO All 26 provinces	\$40 million  Jun 1982–Dec 1990	The project aimed to improve the quality of education in public VSs in business and commerce, home economics, and arts and crafts. It upgraded 48 VSs in 26 provinces; constructed two technical teacher training centers; and provided fellowships to upgrade the qualifications and skills of teachers, supervisors, and administrative staff.
<b>Second Senior Technical Schools Project</b> ADB Loan 488-INO	\$26 million  Nov 1990–Aug 1990	The project aimed to improve the quality of senior technological schools to produce better quality graduates for the labor market. It upgraded 16 technology schools and one technical teacher training center, and constructed a technical teacher training center.

ADB = Asian Development Bank, IAPSD = Indonesia-Australia Partnership in Skills Development, IGI = Indonesia–German Institute, INO = Indonesia, OCR = ordinary capital resources, SF = Special Funds, SSE = senior secondary education, VS = vocational senior secondary schools.

Source: Asian Development Bank estimates.

## **SCHOOL BUSINESS PLANS AND FUND CHANNELING**

### **A. Rationale**

1. About 70% of project funds will be channeled directly to the school committees of the model vocational senior secondary schools (VSs) to allow them to plan and manage their educational resources and programs according to their individual situations and needs to meet the Government's policy objectives. Each school will prepare a 4-year school business plan (SBP) covering all aspects of its operations with the objective of improving the quality and relevance of the education it offers to students. Project funds will finance SBPs that clearly demonstrate a school's capacity to contribute to the Government's objectives.

2. The Project is based on a model-alliance scheme that consists of 90 model schools and 230 alliance schools. By the end of the Project, the model schools will enroll a large number of students; have successfully implemented income-generating measures through new demand-oriented training courses; produce marketable goods in their production units and have implemented partnerships with industry. The alliance schools will have the same programs as their local model school and will have potential for growth. The model-alliance scheme will improve management and teaching and learning technology, which will, in turn, improve the quality, relevance and access to the vocational education system. Selection criteria for model schools include (i) provincial geographic representation to ensure that experience can be transferred within each province, (ii) capacity to expand to up to 2,000 students and located in areas where industry may expand, (iii) representation and balance among different types of schools and programs to yield a gender ratio near the average of 40% girls, (iv) local government commitment, and (v) linkages with local industry.

### **B. Development of School Business Plans**

3. The Project will provide training in performance-based school planning and budgeting for school management teams and provincial and district staff. Training in the latest approaches in school-based performance planning will be provided to selected institutions and firms, and a methodology for the formulation of SBPs developed. These institutions or firms will provide training for the model and alliance schools and facilitate the development of VS plans for 6 months in year 1. The SBPs must be developed in collaboration with local industry. The completed SBPs will be assessed by an advisory panel consisting of education and industry experts, and funds allocated competitively. Subsequent tranche releases will be dependent upon performance as defined by performance indicators in the SBPs.

4. The SBPs will be demand-oriented and results-based, and comprise an analysis of local and national skills demand, a strategy for school development responding to these demands, activities and a budget specifying sources of funding for each activity, and specific performance indicators. The menu options include (i) civil works upgrading and extension to improve efficiency and increase enrollment; (ii) equipment, and teaching and learning materials including computer-aided instructional materials and software; (iii) human resource development for general teaching and technical skills upgrading, management development, and entrepreneurship for both model and alliance schools; (iv) partnerships with industry; (v) development of business incubators or similar schemes to assist students to trial business ventures; (vi) improvement and development of new activities in production units; and (vii) project implementation costs at school level. Each SBP will include a gender plan based on the gender strategy prepared for the Project (Appendix 14). Schools will be informed that all civil works must take place within existing school premises. One of the key components of an SBP

will be improvement of the technical, management, and entrepreneurship skills of alliance schools.

### **C. Disbursement Procedures for SBP Funds**

5. The model schools will submit their SBPs to the project management unit (PMU) in the Ministry of National Education (MONE) for review and evaluation by technical experts. The experts will recommend allocation of the funds on a competitive basis. Unapproved SBPs will be returned to the schools for revision. Upon approval of the SBP, an MOU will be signed between the school committee and the project director to authorize financing of the SBP. The MOU will specify the name of the school, performance agreements, activities, bank account information, and amount of funding.

6. Funds will be allocated for each school to implement its SBP activities. SBPs will cover 4 years and funds will be provided in annual tranches, based on SBP project commitments and accomplishments. The SBP fund for the first year will be based on the expenses approved for the first year of SBP activities (year 2 of the Project). The subsequent releases will be based on reports from schools on progress achieved, and funds utilized and committed, submitted to the PMU against targets in the business plan. Schools will make any necessary adjustments to years 3, 4, and 5 and submit their updated business plans. In conjunction with the monitoring and evaluation specialists, the advisory panel of technical experts will evaluate the achievement of performance indicators in the SBPs, which will be verified by the PMU prior to approval of subsequent tranche releases. VSs that do not perform will have their participation in the Project reconsidered, or funds for years 3, 4, and 5 reduced so that they can be reallocated to more successful VSs.

7. The SBP funds will be channeled through the imprest account, with payments made directly to the school committee's bank account. The fund channeling mechanism for the SBP funds is illustrated in Figure A4.1. Payments may also be made through the direct payment method illustrated in Figure A4.2.

### **D. Accounting and Auditing**

8. The school committee of each model VS will be required to establish a separate account at a local branch of a bank acceptable to ADB, and maintain evidence of the use of the SBP funds for audit by the PMU and the government audit agency. The SBP funds deposited into this account will be used exclusively for activities approved in the SBP. Every 6 months, the PMU will arrange for an audit of the accounts and records of a sample of schools as a spot-check mechanism to ensure that the SBP funds are used properly in accordance with the approved plan and budget. If irregularities, corruption cases, or fraudulent practices are noted in the use of the SBP funds, the PMU will investigate and take administrative and legal action against the school and individuals involved. The PMU will report to ADB and issue an order suspending the activities at the particular school until the case is resolved satisfactorily. When the SBP funds are used improperly, fund recovery will be determined by the PMU investigative panel in consultation with ADB. A similar procedure will be followed for audits conducted by the Government audit agency. MONE will also request the audit agency to audit the project accounts and statements of expenditures annually, and provide a management letter covering internal controls and procedures associated with the maintenance of project accounts and preparation of audited project accounts. The audited accounts should be submitted to ADB no later than 9 months after the close of each fiscal year.

## E. Criteria for Allocation of SBP Funds

9. A shortlist of 120 model VSs will be agreed to prior to the start of the Project. After preparation of the SBPs, DTVE will appoint an advisory panel of technical experts—from the education and business communities—to help select 90 SBPs from among this group. The PMU and DTVE will provide secretariat and analytical assistance to the advisory panel. The panel will assess the SBPs of each VS, make recommendations on the funding needed, and provide each VS with a non-binding assessment of the funding needs for years 3 and 5 (subject to satisfactory performance). Each VS will be free to include in its SBP whatever it requires to meet the Government and project objectives. However, DTVE will provide advice to each VS about a lower and upper limit of funds for which to bid. This will be done to avoid getting bids that are far in excess of the total funds available. After each quarter, each VS will report on implementation of its SBP and any required changes. The advisory panel will review these performance reports and recommend the allocation of funds for subsequent years. The advisory panel will reach judgments on each bid and be free to negotiate with VSs on modifications to their bids. However, transparency is essential and the panel will need to justify its decisions and recommendations to the PMU. For this reason, a standard template will be used to evaluate each bid (Table A4.1):

**Table A4.1: Proposed Criteria for Evaluation of School Business Plans**

No.	Particulars	Score 1–5
1	School profile is complete and adequately represents the school's potential for development, and provides an indication of shortcomings that need to be addressed and problems identified	
2	General responsiveness to project and Government objectives (in terms of goals and objectives, e.g., expansion of enrollment, programs, etc.)	
3	Ability to draw in industry and other contributions (in terms of demonstrated approach and concrete plans)	
4	Extent of innovation and general quality of business plan: does this plan have a vision for the future? Does it have effective performance indicators?	
5	Does the plan have concrete and realistic targets that are consistent with existing conditions and demonstrated ability to achieve them?	
6	What are program/project activities and are they well integrated to represent a comprehensive and integrated approach to development of capacity in well-specified area?	
7	How well-developed, complete, and accurate are annual implementation plans and is costing well developed and realistic?	
8	Inclusion of a gender plan: is the plan gender-inclusive? Does it have actions for promoting increased female enrollment and equal access to opportunities for female students and teachers?	
9	Cost effectiveness of individual initiatives and of total plan	
10	Extent of industry cooperation: what commitments have industry given? (To what extent has the school demonstrated capacity to attract industry support and how does it plan to change or expand that capacity?)	
11	Efficiency benefits in use of VS facilities: how many extra students, how much increase use of existing facilities?	
12	Value for money in relation to equipment and capital works purchases (What are projected costs and are they realistic and cost-effective?)	
13	Affordability: is this plan realistic for funding under the Project?	
14	Management structures: does the plan demonstrate that the VS will have the management structures and training plans to transform the school into a lead VS (and what are implementation management procedures and structures?)	
15	Management and accountability: does the plan provide the required management and accountability measures to undertake the work in the plan	

VS = vocational senior secondary school.

Source: Asian Development Bank estimates.

## F. Indicative Cost Estimates for SBP Funds

10. The indicative cost of SBP funds by field of study are presented in Tables A4.2 to A4.4. The key assumptions are (i) civil works and equipment costs are based on DTVE standards, civil works upgrading cost is 50% of new construction, and equipment estimates are based on 60% replacement for technological schools and 100% for other schools; (ii) management training, most teacher in-service training and external monitoring and evaluation will be non-SBP fund activities, while entrepreneurship, some in-service teacher training and school-industry linkages will be under the SBP fund; and (iii) teacher academic subject upgrading (general subject content and methodology) for teachers will be managed by DTVE in coordination with the Directorate General for Quality Improvement of Teachers and Education Personnel.

**Table A4.2: Estimated Summary Costs for Model VS (\$'000)**

Item of Expenditure	Under SBP Funds	Not Under SBP Funds	Total
Civil Works	28,417	0	28,417
Equipment	0	37,059	37,059
Teaching and Learning Materials	3,850	0	3,850
Human Resource Development	2,200	0	2,200
Partnership with Industry	4,500	0	4,500
Entrepreneurship Development	1,805	0	1,805
Assessment and Curriculum	1,224	0	1,224
<b>Total</b>	<b>41,996</b>	<b>37,059</b>	<b>79,055</b>

SBP = school business plan.

Source: Asian Development Bank estimates.

**Table A4.3: Estimated Average for SBP Funds by Field of Study (\$'000)**

Item of Expenditure	Technical	Agriculture	Business and Management	Hospitality and Restaurant	Arts and Crafts	Total
Civil Works	15,126	1,554	5,616	5,320	801	28,417
Equipment	21,636	2,177	5,976	6,270	1,000	37,059
Teaching and Learning Materials	1,540	299	1,027	813	171	3,850
Human Resource Development	880	171	587	464	98	2,200
Partnerships with Industry	1,800	350	1,200	950	200	4,500
Enhance Entrepreneurship	722	140	481	381	81	1,805
Assessment and Curriculum	490	96	326	258	54	1,224
<b>Total</b>	<b>42,194</b>	<b>4,787</b>	<b>15,213</b>	<b>14,456</b>	<b>2,405</b>	<b>79,055</b>

SBP = school business plan.

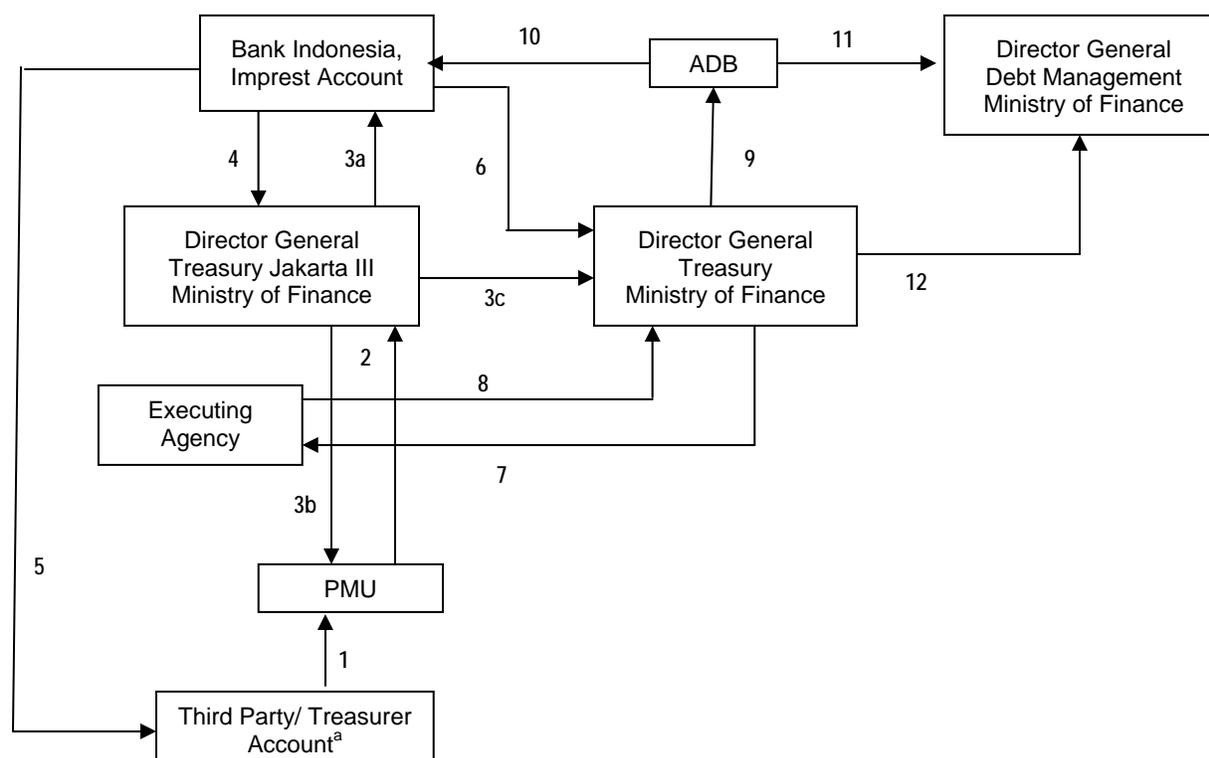
Source: Asian Development Bank estimates.

**Table A4.4: Estimated Average for SBP Funds per Model VS (\$'000)**

Item of Expenditure	Technical	Agriculture	Business and Management	Hospitality and Restaurant	Arts and Crafts
Civil Works	420	222	234.00	280	200
Equipment	601	311	249.00	330	250
Teaching and Learning Materials	43	43	43.00	43	43
Human Resource Development	24	24	24.00	24	24
Partnerships with Industry	50	50	50.00	50	50
Enhance Entrepreneurship	20	24	24.00	20	20
Assessment and Curriculum	14	14	14.00	14	14
<b>Total</b>	<b>1172</b>	<b>688</b>	<b>638.00</b>	<b>761</b>	<b>601</b>

SBP = school business plan.

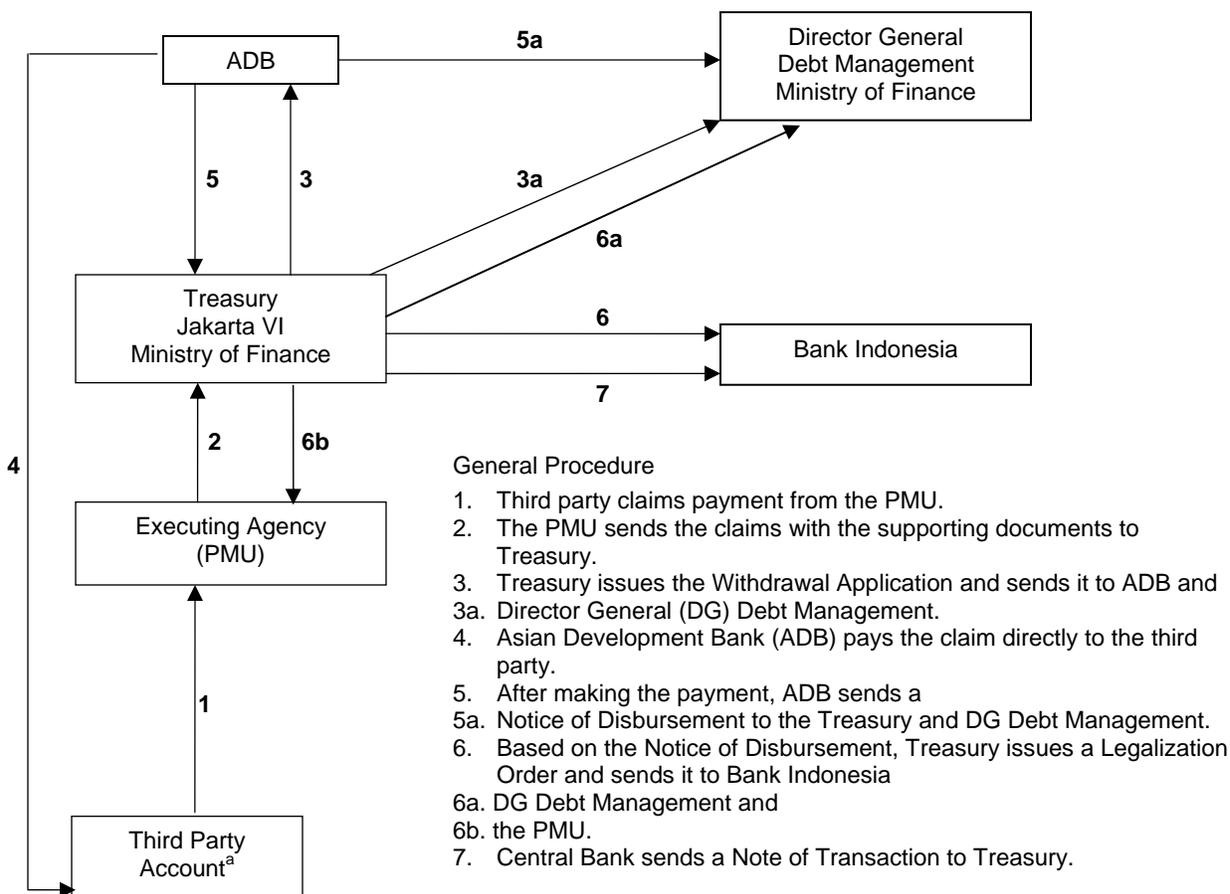
Source: Asian Development Bank estimates.

**Figure A4.1: Fund Channeling through the Special Account Mechanism**

1. a. The model vocational school (VS) submits its school business plan (SBP) to the project management unit (PMU) as Budget User (PA) or Authorized Budget User (KPA). The SBP is reviewed by the PMU and advisory expert panel. The PMU may request the VS to revise the SBP to meet the requirements. Afterwards, a Memorandum of Understanding (MOU) will be signed between the VS and the PMU.  
b. The VS submits a payment request along with necessary documents to the PMU. The document will then be reviewed, and the VS may need to revise it until acceptable by PMU.
2. Once the payment request is approved, the PMU prepares a Payment Order (SPM), which will then be submitted to the Director General (DG) Treasury appointed in Jakarta.
- 3a On the basis of the Payment Order from the PMU, DG Treasury Jakarta issues an Instruction for Disbursement (SP2D) and sends it to Bank Indonesia (BI).
- 3b Parallel to 3a, DG Treasury Jakarta sends a copy of the Instruction for Disbursement to PMU for their records.
- 3c Treasury, Jakarta sends a copy of the Payment Order, Instruction for Disbursement and supporting documents to the DG Treasury, Ministry of Finance (MOF) for replenishment.
4. Upon receiving the Instruction for Disbursement from DG Treasury Jakarta, BI dispatches a "Nota Debet" (ND) to DG Treasury Jakarta to inform them of the transfer to the account of the school committee, contractor, supplier or treasurer of the PMU.
5. Funds are transferred from BI to the account of the school committee, contractor, supplier or treasurer of the PA/KPA.
6. BI dispatches a copy of the Bank Statement of the Imprest Account to DG Treasury. The Bank Statement will then be used by the Executing Agency (EA) to begin the replenishment process.
7. DG Treasury then sends a copy of the bank statement to the EA for information.
8. The EA, with supporting documents from the PMU, prepares a Withdrawal Application (WA) for ADB
9. DG Treasury submits the WA to ADB for replenishment.
10. On the basis of the WA from DG Treasury, ADB replenishes the BI imprest account.
11. ADB dispatches a Notice of Disbursement to DG Debt Management, Directorate of Evaluation, Accounting, and Settlement, for their information and records.
12. Parallel to (9), DG Treasury, Directorate of Cash Management, dispatches a copy of the WA to DG Debt Management, Directorate of Evaluation, Accounting, and Settlement for their information and records.

<sup>a</sup> A third party account can be an account for a consultant, contractor, supplier, school committee or PMU treasurer.

Source: Asian Development Bank.

**Figure A4.2: Fund Channeling through the Direct Payment Mechanism****Procedure for Senior Secondary Vocational Schools (VS)**

1. a. The VS submits its school business plan (SBP) to the project management unit (PMU) as Budget User (PA) or Authorized Budget User (KPA). The SBP is reviewed by the PMU and advisory expert panel. The PMU may request the VS to revise the SBP to meet the requirements. Afterwards, a Memorandum of Understanding (MOU) will be signed between the VS and the project director.  
b. The VS submits an invoice along with necessary documentation to PMU. The document will be reviewed, and then PMU may request the VS to complete it until acceptable.  
c. The contractor, supplier or consultant submits an invoice along with supporting documents to PMU. The invoice is based on the terms and condition for payment stipulated in the contract between the PMU and the contractor, supplier or consultant.
2. PMU reviews the invoice and supporting documents. If acceptable, the PMU will prepare a Payment Order for DG Treasury Jakarta VI.
3. Based on the Payment Order from PMU, DG Treasury Jakarta VI issues a Withdrawal Application (WA) and dispatches it to ADB.
4. ADB transfers the funds as specified in the WA to the beneficiary accounts (VS, contractor, supplier or consultant)
5. ADB dispatches a Payment Advice to DG Treasury Jakarta VI.
6. Treasury Jakarta VI dispatches a Legalization Order to BI and a copy to PMU.
7. Bank Indonesia sends a Note of Transaction to DG Treasury Jakarta VI.
8. ADB sends a Notice of Disbursement to Director General, Debt Management and Bank Indonesia

<sup>a</sup> A third party account can be an account for a consultant, contractor, supplier, school committee, or treasurer PMU.

Source: Asian Development Bank.

## HUMAN RESOURCE DEVELOPMENT PLAN<sup>a</sup>

Training Program	Target Group	Programs/Courses	Length of Program	Means of Implementation	Total Number of Participants	Unit	Implementing Unit
<b>Output 1: Refocus School Management and Governance</b>							
1. Leadership development training	Principals, selected teachers, and local government officials	Business development and leadership	6 days in years 1–3 (approximate)	Management consulting firm or university	1,064 participants: - 5 x 90 model VSs - 2 x 230 alliance VSs - 1 x 90 district staff - 2 x 33 provincial staff	Person-days	DTVE
2. Management training/business planning performance-based budgeting	Principals, teachers, administrative staff, school committee, local government officials	School management (performance-based) and accountability	3 days in years 1–3 (approximate)	Management consulting firm or university	1064 participants: - 5 x 90 model VSs - 2 x 230 alliance VSs - 1 x 90 district staff - 2 x 33 provincial staff	Person-days	DTVE
3. Financial management information systems	Administrative finance staff	Training on the financial management system, using the financial software	5 days in years 1–3	Financial information technology specialist or firm	704 participants: - 2 x 320 VSs - 2 x 33 provincial staff	Person-days	DTVE
4. Management information systems	Principals, VS administrative staff, and provincial DTVE management and staff	Essential knowledge, skills in MIS	5 days in years 1–3	Management consulting firm, consultants	1,024 participants: - 5 x 320 model VS - 2 x 33 provincial staf	Person-days	DTVE
<b>Output 2: Strengthen School–Industry Linkages</b>							
1. Industry-VS cooperative training	VS staff and industry workers	New technology, methodology, equipment, new techniques, new methods of work organization	2 days in years 2–5 in 5 group regions	Regional seminars, workshops	500 participants: - 100 per regional workshop	Participants	Model VSs
<b>Output 3: Enhance Entrepreneurship Focus in VSs</b>							
1. VS entrepreneurship training	Teachers, Industrial personnel	ILO or similar entrepreneurship training	3 days per year in 5 group regions	Regional training	762 participants: - 2 x 320 VSs - 1 x 90 industrial partners - 1 x 33 provincial staff	Participants	Model VSs
<b>Output 4: Improve Quality of Teaching and Learning in VSs</b>							
1. Teacher trainer training (all types)	Selected teachers	English, mathematics, science, methodology, and ICT	1 month in 5 group regions	Institutions or firms	50 teacher trainers: - 2 x 5 subjects x 5 group locations	Participants	DTVE
2. Subject matter training for model school teachers	Subject matter teachers	English, mathematics, science, methodology, and ICT	1 month in 5 group regions	Institutions or firms	1,400 participants: - All 3 subject matter teachers from each of 90 model VSs	Participants	DTVE

Training Program	Target Group	Programs/Courses	Length of Program	Means of Implementation	Total Number of Participants	Unit	Implementing Unit
3. Subject matter training for alliance school teachers	Subject matter teachers	English, mathematics, science, methodology and ICT	2 weeks in 5 group regions	Institutions or firms	1,848 participants: - half of 40% of 3 subject matter teachers from each of 230 alliance VSs	Participants	DTVE/ Model VSs
4. Short-term training on assessment, quality assurance and ISO or similar standards	Principals and selected teachers	Development of teaching-learning assessment, QA & QC in education, and orientation of applied ISO standards	1 week per year	Industry or professional associations; regional (competency examination centers—former VSs upgraded into assessment or testing centers)	1,600 participants: - 5 x 320 VSs	Participants	DTVE
5. Skills and management training model schools	Selected teachers	Practical teaching strategies, lesson planning, classroom management; regular training	1 week per year	Institutions or firms	2,376 participants: - (44 x 90 VSs x 60%)	Participants	DTVE/ Model VSs
6. Skills and management training for alliance schools	Selected teachers	Practical teaching strategies, lessons planning, classroom management, regular training	1 week per year	Institutions or firms	1,518 participants: - (44 x 230 VSs x 60% x 25%)	Participants	Model VSs
<b>Output 5. Project Management</b>							
1. Project tracking	PMU and PCU staff, and VS management teams	Monitoring and evaluation for VSs	4 days per year	MIS/M&E specialist preferably in the regions, M&E consultant firm	125 participants: - 3 staff from PMU - 1 x 32 staff from each provincial education office - 1 x 90 principal of model VSs	Participants	DTVE
2. Project management systems	PMU and PCU staff, and VS management teams	Disbursement, procurement of goods and services, and project accounting and reporting	9 days (3 days per topic) per year	ADB, PMU trainers	164 participants: - 10 staff from PMU - 2 x 32 staff from each provincial education office - 1 x 90 staff from model VSs	Participants	DTVE

<sup>a</sup> The Human Resources Development Strategy is in Supplementary Appendix F.

ADB = Asian Development Bank, DTVE = Directorate for Technical and Vocational Education, ICT = information and communication technology, ILO = International Labour Organization, ISO = International Organization for Standardization, M&E = monitoring and evaluation, MIS = management information system, PCU = project coordinating unit, PEO = provincial education office, PMU = project management unit, QA = quality assurance, QC = quality control, VS = vocational senior secondary schools.

Source: Asian Development Bank estimates.

## DETAILED COST ESTIMATES AND FINANCING PLAN

**Table A6.1: Project Investment Plan**  
(\$'000)

Item	2008/09	2009/10	2010/11	2011/12	2012/13	Total
<b>A. Base Costs<sup>a</sup></b>						
1. Refocus School Management Using a Business Approach	3,476	1,559	1,361	185	185	6,766
2. Improve Quality of Teaching and Learning	578	31,630	31,548	22,712	1,633	88,101
3. Strengthen School–Industry Linkages	900	1,077	1,060	1,060	900	4,997
4. Enhance Entrepreneurship Focus	1,204	750	750	300	300	3,304
5. Project Management	1,114	959	1,009	899	899	4,880
<b>Subtotal (A)</b>	<b>7,272</b>	<b>35,975</b>	<b>35,728</b>	<b>25,156</b>	<b>3,917</b>	<b>108,048</b>
<b>B. Contingencies<sup>b</sup></b>						
1. Physical Contingencies	90	293	299	293	9	984
2. Price Contingencies	103	645	1,055	1,278	369	3,450
<b>Subtotal (B)</b>	<b>193</b>	<b>938</b>	<b>1,354</b>	<b>1,571</b>	<b>378</b>	<b>4,434</b>
<b>C. Interest Charges (C)<sup>c</sup></b>	<b>167</b>	<b>827</b>	<b>830</b>	<b>599</b>	<b>96</b>	<b>2,519</b>
<b>Total (A+B+C)</b>	<b>7,632</b>	<b>37,740</b>	<b>37,912</b>	<b>27,326</b>	<b>4,391</b>	<b>115,000</b>

<sup>a</sup> As of 2007, inclusive of taxes and duties.

<sup>b</sup> Physical contingencies are computed at 2%–5% of civil works and equipment costs. Price contingencies include (i) local costs: 5% for 2008–2012; and (ii) foreign costs: 1.9% for 2008–2012. School business plan funds are assumed at 0% price contingency.

<sup>c</sup> For the Asian Development Fund loan, interest charges are computed at 1% per year during project implementation.

Source: Asian Development Bank estimates.

Table A6.2: Financing Plan

Item	2008/09		2009/10		2010/11		2011/12		2012/13		Total			
	ADB	Govt	ADB	Govt	ADB	Govt	ADB	Govt	ADB	Govt	ADB	Govt	Project	
<b>A. Base Costs<sup>a</sup></b>														
1. MIS Equipment	1,625	0	0	0	110	0	0	0	0	0	1,735	0	1,735	
2. Management and Teacher Training	1,685	0	2,009	0	1,894	0	717	0	717	0	7,022	0	7,022	
3. Consultant Services	1,002	0	555	0	264	0	209	0	208	0	2,238	0	2,238	
4. Monitoring and Evaluation Surveys	325	0	360	0	360	0	360	0	360	0	1,765	0	1,765	
5. Model and Alliance VS Development Program <sup>b</sup>	1,220	584	21,791	10,429	21,825	10,445	15,582	7,457	1,217	583	61,636	29,498	91,134	
6. Project Management	0	830	0	831	0	830	0	831	0	831	0	4,153	4,153	
<b>Subtotal (A)</b>	<b>5,857</b>	<b>1,414</b>	<b>24,715</b>	<b>11,260</b>	<b>24,453</b>	<b>11,275</b>	<b>16,868</b>	<b>8,288</b>	<b>2,502</b>	<b>1,414</b>	<b>74,396</b>	<b>33,651</b>	<b>108,047</b>	
<b>B. Contingencies<sup>c</sup></b>														
1. Physical Contingencies	62	28	205	88	209	91	202	90	7	2	685	299	984	
2. Price Contingencies	73	27	458	188	736	320	881	398	252	116	2,400	1,050	3,450	
<b>Subtotal (B)</b>	<b>135</b>	<b>55</b>	<b>663</b>	<b>276</b>	<b>945</b>	<b>411</b>	<b>1,083</b>	<b>488</b>	<b>259</b>	<b>118</b>	<b>3,085</b>	<b>1,349</b>	<b>4,434</b>	
<b>C. Interest Charges<sup>d</sup> (C)</b>	<b>167</b>	<b>0</b>	<b>827</b>	<b>0</b>	<b>830</b>	<b>0</b>	<b>599</b>	<b>0</b>	<b>96</b>	<b>0</b>	<b>2,519</b>	<b>0</b>	<b>2,519</b>	
<b>Total (A+B+C)</b>	<b>6,160</b>	<b>1,469</b>	<b>26,205</b>	<b>11,536</b>	<b>26,229</b>	<b>11,686</b>	<b>18,549</b>	<b>8,776</b>	<b>2,858</b>	<b>1,532</b>	<b>80,000</b>	<b>35,000</b>	<b>115,000</b>	

ADB = Asian Development Bank, Govt = Government, MIS = management information system, VS = vocational senior secondary schools.

<sup>a</sup> As of 2007, inclusive of taxes and duties.

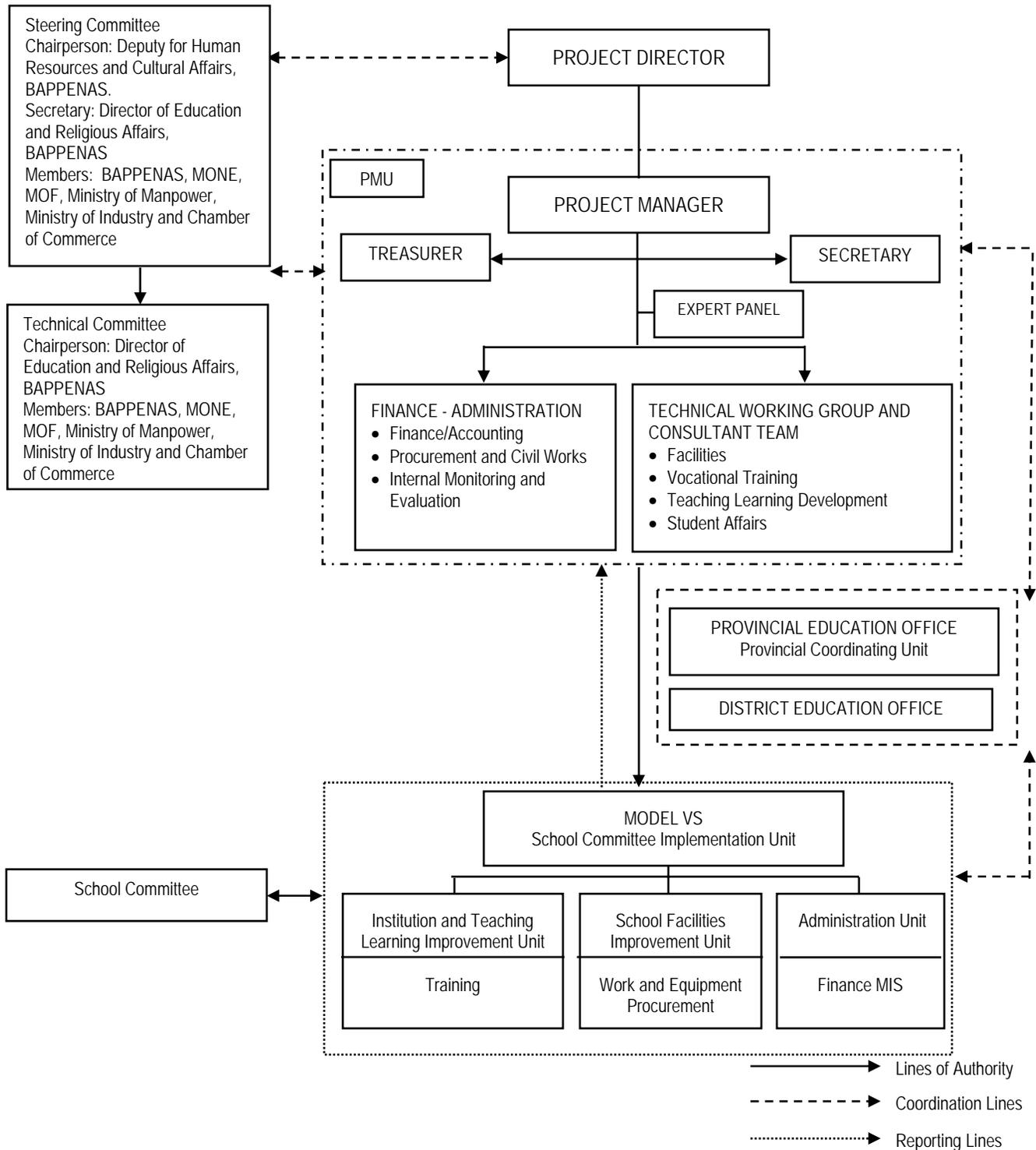
<sup>b</sup> Includes SBP funds for model schools and equipment for alliance schools.

<sup>c</sup> Physical contingencies are computed at 2%–5% of civil works and equipment costs. Price contingencies are (i) local costs: 5% for 2008–2012; and (ii) foreign costs: 1.9% for 2008–2012. School business plan block funds are assumed at 0% price contingency.

<sup>d</sup> For the Asian Development Fund loan, interest charges are computed at 1% per year during project implementation.

Source: Asian Development Bank estimates.

### ORGANIZATION STRUCTURE



BAPPENAS = National Development Planning Agency, MIS = management information system, MOF = Ministry of Finance, MONE = Ministry of National Education, PMU = project monitoring unit, VS = vocational senior secondary school.  
 Source: Asian Development Bank.

## PROJECT IMPLEMENTATION SCHEDULE

Description	2008			2009				2010				2011				2012				2013	
	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	
<b>1 Refocus School Management using a Business Approach</b>																					
1.1 Conduct training and mentoring of school managers in performance-based planning and budgeting																					
a. Develop SBP results-based planning methodology and training for managers																					
b. Train selected institutions or firms on SBP																					
c. Facilitate the development of SBP at selected model/alliance VSs																					
1.2 Establish school management systems and improve school administration, including school EMIS for planning and monitoring																					
Develop and implement school management systems																					
Develop and implement school EMIS																					
1.3 Develop a business approach to school managers so that managers can lead large and complex institutions																					
1.4 Improve internal communication systems and establish networks to share innovation and best practice																					
<b>2 Strengthen School-Industry Linkages</b>																					
2.1 Support partnerships between VS and industry																					
Establish linkages between VS and industry																					
2.2 Support new courses to meet local industry needs																					
Conduct workshops with local industry experts																					
2.3 Examine opportunities for international benchmarking and trial																					
Select international standards and benchmarks in cooperation with industry																					
<b>3 Enhance Entrepreneurship Focus</b>																					
3.1 Provide assistance to students to start their own businesses																					
a. Develop system for student entrepreneurship assistance																					
b. Provide student assistance fund																					
3.2 Make entrepreneurship education part of all students' courses																					
Conduct entrepreneurship training for teachers																					
3.3 Enhance production units																					
<b>4 Improve Quality of Teaching and Learning</b>																					
4.1 Improve facilities for learning (equipment and works)																					
a. Prepare detailed civil works design and equipment specifications																					
b. Procure and implement civil works and equipment																					

Description	2008			2009				2010				2011				2012				2013
	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1
4.2 Develop new learning methodologies suitable to large institutions Develop learning methodologies					■	■	■	■	■	■	■	■	■	■	■	■	■	■		
4.3 Provide new instructional materials and software a. Prepare a list of instructional materials and software for VSs b. Procure and train on use of training aids, software, and materials			■		■	■	■	■	■	■	■	■	■	■	■	■	■	■		
4.4 Improve the teaching of academic and technical subjects a. Review existing curricula b. Develop proposed methodologies and conduct training of trainers			■		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Project Implementation</b>	■																			
Set up PMU and School Committee/school implementation team	■																			
Identify and hire project implementation consultants, and technical experts to review and guide SBP funds	■																			
Develop project website			■	■	■															
Develop project management information system		■	■	■	■															
Produce a manual for VS based on project experience		■	■	■	■															
Midterm project review											■									
Final project review																				■
Continuous monitoring and evaluation																				■

EMIS = education management information system, PMIS = project management information system, PMU = project management unit, SBP = school business plan, VS = vocational senior secondary school.

Source: Asian Development Bank estimates.

## PROCUREMENT PLAN

### A. General

Project Information	
Country	Republic of Indonesia
Name of Borrower	Republic of Indonesia
Project Name	Second Senior Secondary Education Project
Loan Reference	TA 4239-INO: Preparing the Decentralized Senior Secondary Education Project
Date of Effectiveness	
Amount	\$80 million
Executing Agencies	Directorate General of Management of Primary and Secondary Education, Ministry of National Education
Approval Date of Original Procurement Plan	17 June 2007
Approval of Most Recent Procurement Plan	26 February 2008
Period Covered by this Plan	1 June 2008–31 May 2013

### B. Procurement Project Thresholds

Except as ADB may otherwise agree, the following process thresholds will apply to procurement of goods and works:

Method	Threshold
International Competitive Bidding (ICB) for Works	More than \$500,000
International Competitive Bidding (ICB) for Goods	More than \$500,000
National Competitive Bidding (NCB) for Works	More than \$100,000 up to \$500,000
National Competitive Bidding (NCB) for Goods	More than \$100,000 up to \$500,000
Shopping (SHP) for Works	\$100,000 or less
Shopping (SHP) for Goods	\$100,000 or less

### C. ADB Prior or Post Review

Except as ADB may otherwise agree, the following prior or post review requirements apply to the various procurement and consultant recruitment methods used for the Project:

Procurement Method	Prior or Post	Comments
<b>Procurement of Goods and Works</b>		
NCB Goods	Prior	Usage subject to <i>Procurement Guidelines</i> , chapter III.
Shopping for Works	Post	Usage subject to <i>Procurement Guidelines</i> , para. 3.5 and PAI 3.04 C.
Shopping for Goods		
Limited International Bidding	Prior	Usage subject to <i>Procurement Guidelines</i> , para. 3.2 and PAI 3.03 H.
Single Source Selection	Prior	ADB needs to be satisfied that the prices to be paid are reasonable, and method applied in accordance with <i>Procurement Guidelines</i> , para. 3.6 and PAI 3.05 A.
Direct Contracting	Prior	ADB needs to be satisfied that direct contracting is the appropriate method and in accordance with the <i>Procurement Guidelines</i> , para. 3.6.
<b>Recruitment of Individual Consultants</b>		
Individual Consultant Recruitment by DGMPSE, the Executing Agency	Prior	DGMPSE selects, contracts, and manages contract. One DGMPSE submission is required, namely, candidate ranking and draft contract. <i>Guidelines on the Use of Consultants</i> , chapter II, A.1.a and PAI 2.03.

Procurement Method	Prior or Post	Comments
<b>Recruitment of Consulting Firms</b>		
QCBS (80:20) of firm by DGMPSE	Prior	DGMPSE selects, negotiates, and manages the contract. Three DGMPSE submissions are required: (i) shortlist, (ii) technical evaluation, and (iii) financial ranking and minutes of negotiations and draft contract. <i>Guidelines on the Use of Consultants</i> , chapter II, A. 1. a. and PAI 2.02, Part E, B.
CQS	Prior	DGMPSE selects, negotiates, and manages the contract. A minimum of three firms should submit amplified EOIs. <i>Guidelines on the Use of Consultants</i> , chapter II A. 1. e.
Single Source Selection	Prior	ADB needs to be satisfied that the prices to be paid are reasonable, and method is applied in accordance with the <i>Guidelines on the Use of Consultants</i> (2007, as amended from time to time) para. 3.6 and PAI 3.05 A.

**D. Goods and Works Contracts Estimated to Cost in Excess of \$1 million**

General Description	Contract Value (\$)	Procurement Method	Prequalification of Bidders (y/n)	Advertisement Date
MIS Computer and Software X 2	1.625 million	NCB <sup>1</sup>	No	First 10 months

**E. Consulting Services Contracts Estimated to Cost in Excess of \$100,000**

General Description	Contract Value (\$)	Recruitment Method	Advertisement Date	International or National Assignment	Comments
<b>Component 1</b> Preparation and facilitation of SBP by institutions and firms X 9	200,000 each	QCBS (80:20)	First 2 months	National	DGMPSE through the PMU will invite and evaluate EOIs on broad criteria. Top-ranked EOIs will submit a technical and financial proposal. Contracts will be negotiated on the basis of QBS. ADB will endorse.
<b>Component 1</b> Review and refinement of SBP (i.e., whole school planning) and instructional materials	750,000	QCBS (80:20)	First 5 months	National	DGMPSE through the PMU will select and negotiate the contract the consultant.
<b>Components 1, 2, and 4</b> SBP Implementation consultant (review architectural plans, FMIS in schools, and prepare ideas and strategies for VSs)	470,000	QCBS (80:20)	10th–12th month	National	DGMPSE through the PMU will select and negotiate the contract of the consultant.
<b>Component 5</b> Monitoring evaluation and surveys	325,000	QCBS (80:20)	15th–18th month	National	DGMPSE through the PMU will select the consultant, and negotiate the contract. ADB will endorse.

<sup>1</sup> For specific package NCB has been approved as the procurement method.

**F. Consulting Contracts Expected to be below \$100,000**

General Description	Contract Value (\$)	Recruitment Method	Advertisement Date	International or National Assignment	Comments
<b>Component 1</b> Management training and leadership	80,000	Individual consultant	First month	National	DGMPSE through the PMU will select and negotiate the contract.
<b>Component 1</b> Developing planning modules, VS business planning and facilitation	25,000	Individual consultant	First 5 months	National	DGMPSE through the PMU will select and negotiate the contract.

**G. Goods and Works and Related Services Contracts Estimated to Cost Less than \$1 million**

Description	Value of Contracts (\$) <sup>a</sup> per VS	Number of Contracts <sup>b</sup>	Procurement / Recruitment Method	Advertisement Date
<b>A. Technical Schools x 36</b>				
1. Equipment <sup>c</sup>	600,000 or less	Multiple	NCB	18th–36th month
2. Civil Works	380,000 or less	Multiple	NCB/SHP	First 18 months
3. Teaching and Learning Materials	43,000 or less	Multiple	SHP	First 12 months
<b>B. Business Management Schools x 30</b>				
1. Equipment	234,000 or less	Multiple	NCB	18th–36th month
2. Civil Works	240,000 or less	Multiple	NCB/SHP	First 18 months
3. Teaching and Learning Materials	43,000 or less	Multiple	SHP	First 12 months
<b>C. Hospitality Schools x 13</b>				
1. Equipment	330,000 or less	Multiple	NCB	18th–36th month
2. Civil Works	280,000 or less	Multiple	NCB/SHP	First 18 months
3. Teaching and Learning Materials	43,000 or less	Multiple	SHP	First 18 months
<b>D. Agricultural and Agro-Industry x 7</b>				
1. Equipment	310,000 or less	Multiple	NCB	18th–36th month
2. Civil Works	225,000 or less	Multiple	NCB/SHP	First 18 months
3. Teaching and Learning Materials	43,000 or less	Multiple	SHP	First 18 months
<b>E. Arts and Craft x 4</b>				
1. Equipment	190,000 or less	Multiple	NCB	First 18 months
2. Civil Works	200,000 or less	Multiple	NCB/SHP	First 18 months
3. Teaching and Learning Materials	43,000 or less	Multiple	SHP	First 18 months
<b>F. Furniture and Equipment Project Management)</b>				
1. PMU	110,000	1	SHP	First 12 months
2. Provincial Education Office	160,000	1	NCB	First 12 months

<sup>a</sup> These amounts represent the threshold amounts allocated from the SBP fund for each VS. Actual amounts will be determined from the SBPs.

<sup>b</sup> The contracts are to be determined after approval of the SBPs. However for the purposes of the procurement plan, the use of multiple contracts is assumed to arise from the use of the SBP fund for each VS. In each case the procurement method will be based on the threshold for contract values for NCB and shopping outlined in section A.

<sup>c</sup> Equipment for all schools will be procured centrally by the Directorate General for the Management of Primary and Secondary Education, which will determine procurement packages based on approved SBPs.

ADB = Asian Development Bank, CP = community participation, CQS = consultants qualification selection, DC= direct contracting, DGMPSE = Directorate General for the Management of Primary and Secondary Education, EOI = expression of interest, FMIS = financial management information system, ICB = international competitive bidding, NCB = national competitive bidding, NCB/SHP = combination of national competitive bidding and shopping within the thresholds established in Section A, NCB/SHP = based on available information not possible to disaggregate; usage in accordance with sections A and B, PAI = Project Administration Instruction, PMU = project monitoring unit, QCBS = quality- and cost-based selection, SBP = school business plan, SHP = shopping, SSS = single source selection, VS = vocational senior secondary school.

Source: Asian Development Bank estimates.

## OUTLINE TERMS OF REFERENCE FOR CONSULTING SERVICES

1. The Project provides for four contracts for consultancy services and two individual consultants for preparatory work. Under the main contract for school business plan (SBP) preparation and implementation, 21 national consultants for a total of 207 person-months will be needed.

### A. Framework for School Business Plans

2. **School Business Planning Specialists** (2 individual consultants for 6 person-months). The specialists will (i) develop performance-based school business planning and budgeting methodology; (ii) prepare training modules and conduct training for core trainers on performance-based school planning and budgeting; and (iii) work closely with vocational education development centers and other institutions in the initial training and management of SBP preparation and submission.

### B. School Business Plan Preparation

3. **Facilitators for SBP Preparation** (10 institutions or firms; 6-month duration). The institutions or firms will (i) conduct training for model schools on performance-based school planning and budgeting; (ii) help the model schools through mentoring and on-site assistance in the preparation of performance-based SBPs, including 4-year rolling budgets and performance indicators; (iii) oversee the preparation of detailed equipment and civil works specifications for inclusion in the bidding documents; and (iv) work closely with the other institutions, provincial governments, and project management unit (PMU) in the training and management of SBP preparation and submission.

### C. SBP and Project Implementation

4. One firm will be contracted to provide 21 national consultants for 207 person-months.

5. **Education Specialist** (6 person-months). The specialist will (i) review policies, programs, strategies, and initiatives to contribute to developing sustainable programs for upgrading skills; (ii) assess and improve vocational education standards and student assessment; (iii) review upgrading of academic and technical subject content and methodology and (iv) develop strategies for networking with industry.

6. **Education Technology and Instructional Materials Specialist** (6 person-months). The specialist will (i) work with the teacher training specialist to assist schools in selecting textbooks and instructional materials for inclusion in the SBPs, based on the choice of learning methodologies; (ii) guide schools in the selection of library and reference materials, including development of an e-library; (iii) assist schools in planning procurement of these materials; (iv) help instructional staff from selected institutions to produce or identify multimedia and internet-accessible resource materials for teaching; and (v) conduct training programs for teachers on multimedia technology.

7. **Equipment Specialist** (6 person-months). The specialist will (i) review the existing equipment of the selected school; (ii) develop the list of equipment to be procured for each major field of study; (iii) assist VSSs in preparing specifications for learning and resource materials for tendering and (iv) develop appropriate procedures of equipment maintenance, including equipment replacement.

8. **Procurement Specialists** (2 consultants, 12 person-months). The specialists will (i) help model schools develop their procurement plans and advise them of relevant Asian Development Bank and Government requirements; (ii) advise schools of the relative merits, costs, warranty, and delivery timetables for equipment identified in the SBPs; (iii) advise on procedures for procurement of civil works, materials, and goods and services; (iv) assist schools in arranging for any bulk purchases; and (v) advise schools on warranty and delivery issues.

9. **Civil Works Specialists** (7 consultants, 12 person-months for SBP review and 90 person-months for SBP implementation). The specialists will (i) review the existing school buildings, prepare detailed designs, and develop the civil works implementation plan; (ii) confirm the budget estimations for civil works, as submitted by VS business plans; (iii) supervise the civil works construction at all model VSs to ensure adherence to building standards and plans; and (iv) conduct periodic reviews and evaluation of the civil works including the completion report.

10. **Project Education Management Information System (EMIS) Specialist** (6 person-months). The specialist must have a good understanding of the management information systems for VSs and computerized management information systems. The consultant will (i) review the overall design of the vocational education and training EMIS; (ii) design, develop, and test the project EMIS; (iii) produce and assist in the installation of the project EMIS in the selected VSs; and (iv) train the central, provincial, district, and schools in its use.

11. **Financial Management Specialists** (2 consultants, 24 person-months). The specialists must have a good understanding of the VS education financial management information systems and project accounting and computerized project financial information systems. The key tasks and expected outputs are (i) assess the adequacy of accounting and internal controls in VSs, and enhance the control system; (ii) review the overall design of the financial management information system for VSs, including the financial systems developed under earlier technical assistance; (iii) design, develop, and test the financial management information based on Ministry of National Education and project requirements; (iv) prepare operating manuals; and (v) provide guidance and conduct initial training for relevant central, provincial, district, and VS staff responsible for financial management.

12. **Quality Assurance Specialist** (3 person-months). The specialist will (i) review the existing quality assurance (QA) system in VSs and the Directorate of Technical and Vocational Education; determine its compatibility with other institutions of the education system; and revise as necessary; (ii) conduct training programs for staff of selected institutions on the proposed quality assurance system; (iii) working closely with the project management specialist, implement a QA system as part of the new management system of selected institutions; and (iv) evaluate the effectiveness of the QA system and make changes as appropriate.

13. **School-Industry Linkages Specialist** (3 person-months). The specialist will (i) develop a system for DTVE that supports partnerships between VSs and industry; (ii) develop terms of reference for a series of school-based research studies to investigate the needs and priorities of schools and local industry, and explore new opportunities; (iii) assist in developing new short courses for existing workers for VS trials in collaboration or co-sponsorship with industry leaders; (iv) evaluate the trials to be led by industry experts; (v) develop prototype courses that could be institutionalized where similar industry needs exist; and (vi) examine opportunities for international benchmarking, and trial selected international standards and benchmarks in cooperation with industry.

14. **Teacher Training Specialist** (12 person-months). The specialist must have experience in vocational teacher training. The specialist will (i) establish a framework for the provision of in-service training in new teaching methodologies to schools, in collaboration with DTVE and the Directorate General for Teacher Quality; (ii) identify partner institutions or firms that can deliver the training as well as arrangements with local industry; (iii) help schools identify their training needs for inclusion in the SBPs; (iv) draft contracts for partner institutions; (v) liaise with the Directorate General of Teacher Quality on a program for upgrading and professional certification of VS teachers; (vi) propose a means for certifying technical teachers; and (vii) prepare a final report assessing the teacher training program including detailed suggestions for follow-up and an implementation plan for the remaining project years.

15. **Project Management Specialist** (24 person-months). The specialist must have a background in school management and vocational education, and will work in coordination with other specialists to establish the project administrative and financial systems, guidelines on project management for schools and the PMU, and reporting arrangements. Experience working with school principals would be an asset. The key tasks are (i) lead overall activities that relate to project implementation; (ii) conduct periodic reviews of project implementation, including supervision missions, annual performance review, and preparation for the midterm review and project completion reports; and (iii) continuously adjust implementation strategies and activities.

16. **Writer and Editor for “What Works” Publication** (3 person-months). The specialist will collect information about successful initiatives undertaken by the model schools and prepare a publication titled “What Works in VSs”. The work will involve editing of the final document, procurement of photographs, and arrangements for printing.

17. **Procurement Specialist** (6 person-months). The specialist will (i) develop procurement guidelines for consulting services; (ii) prepare draft request for proposals; (iii) oversee and assist procurement and contract preparation; (iv) prepare procurement packages including a procurement plan to cover the project implementation period, to be updated on an annual basis or as the need arises; and (v) conduct other activities that relate to procurement activities.

**D. Management Development** (one firm, 4 years, intermittent).

18. The firm will (i) develop a school-based management methodology for VSs using a business approach; (ii) provide a consultant team that will visit selected schools, and assess appropriate content and methods for conducting school-based management training for the model VSs; (iii) plan and prepare school-based management system modules and materials for a series of training programs to be delivered in five regional locations; and (iv) evaluate and revise management training programs to introduce new management methods based on business approaches for delivery at model and alliance schools.

**E. Monitoring and Evaluation** (one firm, 5 years, intermittent)

19. The firm, in collaboration with an education management information system specialist, will (i) conceptualize and design the monitoring and evaluation (M&E) system for the PMU; (ii) develop project and SBP performance indicators; (iii) develop the M&E system and procedures in accordance with performance indicators; (iv) carry out baseline and annual surveys; (v) carry out specific surveys as required including checking of financial compliance and fiduciary controls on SBP funds; (vi) train relevant staff members on M&E; and (vii) institutionalize a results-based monitoring system for schools through workshops and training as part of surveys.

## **SUMMARY TECHNICAL ASSISTANCE TO ENHANCE CONTINUING SKILLS DEVELOPMENT**

1. The Project will have an attached technical assistance (TA) designed to introduce and trial policy changes for the vocational education system. The changes will create opportunities for vocational senior secondary school (VS) graduates and other members of the community to return to the VS system to obtain skills upgrading, recertification, and other training services that will help them in their careers.

### **A. Impact and Outcome**

2. The expected impact is that Indonesian workers will have better access to opportunities for skills upgrading, allowing them to move up career ladders, reenter the workforce, or find skilled positions overseas. The expected outcome is that skills upgrading courses are provided to graduates and other adults on a demand-driven basis through career centers. The outputs would be a research study on the career center concept and alternative approaches, school trials of alternative career center arrangements, incorporation of course statistics into the MONE EMIS, and a policy paper and manual on the provision of skills upgrading courses in VSs.

### **B. Methodology and Key Activities**

3. The TA activities will comprise (i) a desk study review of examples of international best practice in vocational skills upgrading; (ii) a review of skills upgrading activities in model VSs and development of a database; (iii) an intensive review of best international practice in two other countries to gather ideas for implementing skills upgrading courses; (iv) an investigation of the feasibility of international links to develop joint cooperation for international certification, linkages, and mutual recognition; (v) implementation of a series of practical trials in 10 VSs; and (vi) preparation of a final report, based on the results of the trials, with recommendations for a sustainable skills upgrading program in VSs.

4. The first phase of the TA will consist of the desk review of international best practice in skills upgrading and development of a presentation about international practice. In the second phase, the international consultant will meet with the task force, help identify 10 VSs and other professional upgrading institutions, and together with the task force hold discussions with industry representatives to gauge needs and priorities. The task force will then hold a national workshop on the findings of the study. School principals and others with practical experience in skills upgrading, together with industry representatives, will be asked to share their views and experience. The third phase of the TA will plan an approach to gather international best practice and pursue international linkages, involving a task force visit to two or three countries (20 days in total) identified by the international consultant. The objectives of the visits are to experience international best practice; and to investigate the feasibility of international linkages for international certification, linkages, and mutual recognition.

5. The final phase will comprise a series of practical trials for 10 VSs selected from among public and private schools that already offer a range of skills upgrading courses and are interested in improving. Issues of cost recovery and demand will be addressed during these pilots. The trials will be costed and a proposal submitted to the Asian Development Bank (ADB) for approval before implementation. The task force and TA coordinator will monitor the pilots and submit quarterly reports to ADB. At the conclusion of the trials, the task force will prepare a final report with recommendations for a sustainable skills upgrading program in VSs. The

recommendations will cover the nature and extent of possible courses and the administrative and financial structures required within the VS system to support career centers.

### C. Cost and Financing

6. The total cost of the TA will be \$665,000 equivalent. ADB will provide \$500,000 on a grant basis from ADB's TA funding program. The Government will contribute \$165,000.

**Table A11: Cost Estimates and Financing Plan (\$)**

Item	Total Cost
<b>A. Asian Development Bank Financing<sup>a</sup></b>	
1. Consultants' Remuneration and Per Diem	
a. International Consultants	102,000
b. National Consultants	36,000
c. International Travel and Local Travel	36,000
d. Reports and Communication	6,000
2. Study Visits <sup>b</sup>	66,000
3. National Workshops <sup>c</sup>	100,000
4. Fund for Pilot Vocational Senior Secondary Schools	114,000
5. Miscellaneous Administration and Support Costs <sup>d</sup>	15,000
6. Contingencies (5%)	25,000
<b>Subtotal (A)</b>	<b>500,000</b>
<b>B. Government of Indonesia Financing</b>	
1. Office Accommodation	83,000
2. Office Operations and Communications	33,000
3. Workshops, Seminars, and Meetings	49,000
<b>Subtotal (B)</b>	<b>165,000</b>
<b>Total</b>	<b>665,000</b>

<sup>a</sup> Financed by the Asian Development Bank's technical assistance funding program.

<sup>b</sup> 20 days international study visit, including the international consultant.

<sup>c</sup> 3-day seminar, 100 participants; two from each province.

<sup>d</sup> Including materials, office supplies, and others.

Source: Asian Development Bank estimates.

### D. Implementation Arrangements

7. MONE will be the Executing Agency; the Directorate of Technical and Vocational Education (DTVE) will be responsible for overall TA implementation. The TA will be undertaken over 2 years. A small task force will be created to oversee the TA, comprising (i) three VS principals, chosen because of their expertise and commitment to continuing skills training and because their schools will be among the sites chosen for pilot activities; (ii) the TA coordinator and one other senior officer of DTVE, who will guide this process from a research viewpoint and contribute national policy direction; and (iii) an international consultant who will have expertise in vocational training relating to career upgrading, retraining, and institutional management. The international consultant will be assisted by a national consultant whose responsibilities will include data gathering and establishment of a management information system (MIS) to collect data on the skills upgrading activities of the VS system.

8. DTVE will appoint a senior staff member as TA coordinator for all matters pertaining to the TA. Three counterpart staff from DTVE will be appointed to work closely with the consultants to help ensure that the TA activities fit within the overall Project, and set the timetable for individual activities accordingly.
9. ADB will engage a qualified consulting firm or educational institution to implement the TA. The firm will be selected using quality- and cost-based selection of the international consultant in association with national consultants. The firm will provide one international expert for 6 person-months, intermittent—a vocational training and upgrading specialist; and one national consultant for 8 person-months, intermittent—a skills analysis and statistics specialist. The consulting firm will be engaged by ADB in accordance with its *Guidelines on the Use of Consultants* (2007, as amended from time to time). The consulting firm will also be responsible for organizing the study tours and national seminar, and payment of funds to schools.
10. Both consultants will report to the TA coordinator. Although the project manager will not be a designated member of the task force, he or she will work closely with the task force and ensure that it is facilitated to undertake its work efficiently. The project director will meet regularly with the task force to monitor policy directions being pursued and financial and logistic arrangements. The project director will approve the itinerary and membership of the study tour.
11. The consulting firm will prepare (i) a TA inception report after commencement of the international consultant's first visit to Indonesia and include the research paper identifying options for upgrading courses, a summary of initial findings, suggestions for any changes needed to the methodology and program, and a TA implementation plan; (ii) a midterm report summarizing the finding of the study tours and progress to date in the school trials; and (iii) a final report summarizing the outcomes of the school trials, identifying future directions for the sustainable development of VS upgrading programs, and identifying successes and weaknesses of the overall TA objectives and approach.
12. The TA design and monitoring framework, as well as the consultant terms of reference, can be found in Supplementary Appendix G.

## SUMMARY FINANCIAL AND ECONOMIC ANALYSIS

### A. Financial Analysis

#### 1. Macroeconomic Context

1. Now over the financial crisis, Indonesia has adequate financial resources to address its development needs. Prudent macroeconomic policies, particularly the extremely low budget deficits, were instrumental in this recovery. The reduction in fuel subsidies opened up space for additional spending, debt dropped below 40% of gross domestic product (GDP) by the end of 2006,<sup>1</sup> aggregate expenditure increased by 20%, and transfers to sub-national governments grew by 28%. Spending on core government administration including salaries (20%) and subsidies (15%) now accounts for 35% of total government spending. Subsidies still consume roughly 15% of the budget and remain at the 2004 level. Following the reallocation of fuel subsidies to pro-poor social programs in 2005, public investment has recovered and returned to the pre-crisis 7% of GDP. However, Indonesia's public investment rate is still one of the lowest among middle-income countries. With its bold reallocation of resources, Indonesia is now at a point where investment can and must rise above pre-crisis levels to compensate for the low investment from 1999 to 2002. In terms of spending, Indonesia is already one of the most decentralized countries in the world; sub-national governments now manage half of Indonesia's public investment and spend a record 40% of total public funds.

2. Substantial progress has been made over the past 2 years in reallocating spending (from inefficient subsidies) to pro-poor programs. Since the economic crisis and decentralization, the composition of sectoral expenditures has changed substantially. Spending on infrastructure has still not recovered to its pre-crisis level and has remained at only 3% of GDP since 2001. The reduction in oil subsidies was designed to sustain macroeconomic stability and enable redirection of a greater share of public expenditure to education and health. Impressive gains have been made in allocating additional funds to education. Total spending on education is now 17.2% of Government expenditure, the highest share of any sector and comparable to that of many other low- and middle-income countries. Education spending reached 3.9% of GDP in 2006, increasing from 2% in 2001. Public infrastructure spending never recovered from its post crisis low and is only 3.4% of GDP. This structural change has implications for job creation and its effect on employment and income.

#### 2. Education Financing Outlook

3. Due to difficulty obtaining education budget data from districts, the education budget analysis focuses on central Government budgets. Trends have shown significant budgetary increases to education, as central education budgets grew from \$4.4 billion in 2005 to \$5.8 billion in 2007, representing an annual growth rate of 15%. Of the \$5.8 billion allocation to the sector, 82.5% was allocated to the Ministry of National Education (MONE) and the remainder to the Ministry of Religious Affairs and other ministries. Secondary education, particularly junior secondary, is a priority for Indonesia.

4. In the context of rising education budgets, MONE recognizes the need for increased spending for secondary education; its medium-term development plan proposes increasing the

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<sup>1</sup> World Bank. 2007. Spending for Development: Making the Most of Indonesia's New Opportunities. *Indonesia Public Expenditure Review*. Washington, DC.

budget to Rp8.9 trillion by 2009. In the decentralized system, district governments are responsible for providing primary and secondary education; salary expenditures are the largest district expenditures. They are financed through block grant transfers and accounted for as sub-national expenditures. While spending on junior secondary education by districts is significantly lower than that of primary, higher central spending on junior secondary education partially compensates for this. Developing the vocational education system is critical for achieving the Government's objectives of making the labor force globally competitive. Of all students, 40% are enrolled in vocational senior secondary schools (VSs), constituting a significant proportion of the future work force. Senior secondary vocational education received a twofold increase in 2007, as the Directorate of Technical and Vocational Education (DTVE) budget increased from Rp0.9 trillion in 2005 to Rp1.6 trillion in 2007. However, this still represents only 3.7% of MONE budget.

**Table A12.1: Central Government Education Budget Analysis of Indonesia, Actual and Projected, 2005–2011**  
(\$ million)

Indicator	Actual		Projection				
	2005	2006	2007	2008	2009	2010	2011
GDP	292,944	226,756	238,093	249,998	262,498	275,623	289,404
Revenue	57,356	69,467	72,940	76,587	80,416	84,437	88,659
Expenditure	60,309	76,611	82,944	89,801	97,225	105,263	113,964
Central Government Budget	43,647	52,244	55,111	58,135	61,325	64,690	68,239
Central Education Budget	4,404	5,123	5,846	6,672	8,006	9,607	11,529
% of GDP	1.5	2.3	2.5	2.7	3.0	3.5	4.0
% of Total Budget	7.3	6.7	7.0	7.4	8.2	9.1	10.1
% of Central Budget	10.1	9.8	10.6	11.5	13.1	14.9	16.9
MONE Education Budget	3,767	4,333	4,822	5,787	6,944	8,333	9,999
% of Central Budget	8.6	8.3	8.8	10.0	11.3	12.9	14.7
% of Central Education	85.5	84.6	82.5	86.7	86.7	86.7	86.7
DTVE Education Budget	100	150	180	225	292	395	552
% of Education Budget	1.2	0.3	0.3	0.4	0.5	0.6	0.8
% of Central Education	2.3	2.9	3.1	3.4	3.7	4.1	4.8
% of MONE Education	2.6	3.5	3.7	3.9	4.2	4.7	5.5

DTVE = Directorate of Technical and Vocational Education, GDP = gross domestic product, MONE = Ministry of National Education.

Sources: 2005–2006: Anggaran Pendapatan dan Belanja Negara 2005–2006; 2007: Directorate of Technical and Vocational Education, Ministry of National Education data; 2008–2010: Asian Development Bank estimates.

### 3. Financial Sustainability

5. A financial plan showing the fiscal impact of the Project and identifying funding needed to finance project expenditures during and beyond the project period is in Table A12.2. Project expenditures will be disbursed annually and accumulate to about \$115 million during the last year of the Project in relation to incremental costs related to the VS expansion, upgrading, and quality improvement. Several commitments will terminate at the end of the Project, and hence not be an ongoing burden for the Government. The continuing incremental cost of \$0.25 million annually after the Project ends will add \$3 million to the total for 2013–2025. This is feasible and sustainable given the Government's commitment to educational expansion and development. Some efficiency and quality gains will have long-term beneficial impact and are not susceptible to short-term resource constraints. The Government's annual commitment to the Project as a percentage of the central education budget ranges from 0.04% to 0.14%, and decreases to 0.01% at the end of the Project; as a percentage of the MONE budget, this ranges

from 0.04% to 0.15%, and likewise decreases to 0.01% in 2012. The Government's share in the Project is estimated to increase from \$2.4 million in year 1 to over \$11 million in years 2 and 3, and to gradually decrease to \$1.2 million at the end of the Project. The Government's annual commitment for the Project is deemed affordable, as this represents about 0.01% of the MONE budget and 0.16% of the DTVE budget.

**Table A12.2: Fiscal Impact 2007–2012**  
(\$ million)

Indicator	Project Years					
	2007	2008	2009	2010	2011	2012
<b>Education Budget</b>						
Central Education Budget	5,846	6,672	7,613	8,688	9,914	11,313
MONE Budget	4,822	5,366	5,972	6,645	7,395	8,229
DTVE Budget	180	225	297	395	552	801
<b>SSE Financing Plan</b>						
Asian Development Bank		5.55	27.03	26.43	18.56	2.92
Government of Indonesia		2.38	11.59	11.33	7.96	1.25
<b>Total</b>		<b>7.94</b>	<b>38.62</b>	<b>37.75</b>	<b>26.52</b>	<b>4.17</b>
<b>SSE Fiscal Impact</b>						
Impact on Central Education Budget		0.04	0.14	0.12	0.07	0.01
Impact on Total MONE Education Budget		0.04	0.17	0.14	0.08	0.01
Impact on Total DTVE Education Budget		1.06	3.96	2.87	1.44	0.60

DTVE = Directorate of Technical and Vocational Education, MONE = Ministry of National Education, SSE = senior secondary education.

Sources: 2007: Anggaran Pendapatan dan Belanja Negara; 2008–2010: Asian Development Bank estimates.

## B. Economic and Benefit and Cost Analysis

6. **Economic Rationale.** As the Government pursues its universal 9-year education policy, demand for senior secondary education (SSE) is outstripping supply and is rapidly becoming the minimum standard for formal sector employment. Government key planning and budgeting documents prioritize the importance of increasing both access and quality of SSE to achieve poverty reduction targets and realize Indonesia's growth potential. The *Asian Development Outlook 2007*<sup>2</sup> and the 2006–2009 country strategy and program<sup>3</sup> emphasize the need to increase the quality of SSE including vocational education (VE) as a necessary complement to investment climate reforms to achieve higher productivity, lower unemployment, and sustainable growth.

7. The VE system is a major component of SSE accommodating one third of total SSE enrollment, while VS graduates comprise a quarter of the skilled labor force.<sup>4</sup> Labor statistics indicate that VS graduates, particularly women, outperform GS graduates in the labor market. In the public eye, vocational education is now seen as a more certain route to employment than GS for non-college bound students at a time of slack employment.

8. Public sector investment is required to upgrade quality. While the private sector plays a crucial role in system expansion, it is often at lower quality and higher cost. Private VSs generally belong to grassroots organizations, are smaller than public schools, have fewer

<sup>2</sup> ADB. 2007. *Asian Development Outlook 2007*. Manila.

<sup>3</sup> ADB. 2006. *Country Strategy and Program (2006–2009): Indonesia*. Manila.

<sup>4</sup> The skilled labor force includes senior high school level, diploma, and university graduates.

qualified and full-time teachers, and are unable to raise the capital investment required from their members or parents of students. The Project will develop a network of public model schools and mainly private alliance schools, where the stronger model school acts as a benchmark for the surrounding private alliance schools. The model school is a means for channeling public investment for training and other improvements to alliance schools, creating positive interactions to increase system quality faster than investing on a school-by-school basis.

9. **Comparing Benefits and Costs.** The benefit–cost analysis calculates the increase in productivity required to achieve a 12% return on investment over 20 years. The economic costs are taken as the financial costs net of price increases and taxes. The quantifiable benefit of the investment is the marginal productivity increase expressed in terms of wages accruing to working graduates from the higher quality education obtained from the upgraded model and alliance schools, and the marginal productivity of graduates produced with the expansion of vocational schools. A more detailed economic benefit cost analysis is in Supplementary Appendix H.

10. The number of male and female working graduates is based the number of model school graduates each year plus 10% of the male and female students graduating from the alliance schools. Without the synergies accruing to the full investment in the model schools, the alliance schools are assumed to achieve fewer benefits. The number of working graduates is the estimated number of project graduates, and their expected labor force participation rate and unemployment rate is taken from the 2006 National Labor Force Survey. Due to the limited capacity of the SSE system and rising junior secondary enrollment and transition rates, the additional capacity generated through efficiency gains would enable more junior secondary school graduates to attend SSE. Therefore, the marginal increase in average earnings accruing to an SSE graduate over a junior secondary graduate is counted toward the project benefits. Wages and earnings are not increased over time; any further contribution from improved education prior to work cannot be separated from increases due to post-school experience or training. The social contributions of graduates outside the labor force were not quantified.

**Table A12.3: Marginal Increase in Monthly Wages and Earnings Required to Achieve a 12% Economic Rate of Return under Various Scenarios**

Item	Main Scenario	10% Capital Cost Increase	10% Benefit Decrease
Required increase	52,800.0	62,400.0	63,500.0
Percent of median wage	6.9	8.2	8.4

Source: Asian Development Bank estimates.

11. Under the general scenario described, the monthly wage increase required to achieve a 12% economic rate of return is Rp52,800 or \$5.87 per working graduate. This is equivalent to 6.9% of the current median wage or 30 minutes of additional effort per workday.<sup>5</sup> Two alternative scenarios were considered: (i) a 10% increase in capital and recurrent costs, and (ii) a 10% decrease in benefits. The required increase in productivity is feasible. The investment will enable model schools to produce consistently higher quality graduates with greater capacity to learn new skills. While labor force surveys do not track returns to quality, anecdotal evidence from schools, employers, and parents indicates that graduates from quality schools can expect wage premiums ranging from half to double the median wage. While the 12% rate of return is achievable, a 50% wage premium is equivalent to a 30% economic rate of return. Thus the

<sup>5</sup> Assuming an 8-hour or 480 minutes per day working day, a 6.9% increase in a working day is equivalent to 33 minutes while an 8.4% increase is equivalent to an additional 40 minutes.

economic rate of return needed will be met though a higher proportion of students accessing higher quality employment with higher wages or earnings.

12. The bulk of the quantifiable benefits accrue to working graduates from the model schools. Project outputs include 367,000 male and female working graduates generating 3.7 million work-years between year 4 and year 20 of the Project. The net increase in productivity of these graduates at a conservative 12% economic rate of return is equivalent to 30 minutes of additional productivity per worker per day worked. The Project's marginal productivity gain with a 12% economic rate of return is equivalent to an additional 230,000 work-years. Further benefits accrue from enhanced partnerships with industry by reducing search time for the first job and reducing employment mismatch. A 1-month reduction in job search time from enhanced career development centers increases project benefits by another 31,000 work-years. The entrepreneur development and business incubators will enable recent graduates destined to become own account workers or owners of microenterprise to establish more productive businesses and reduce the rate of start-up failure, generating additional benefits.

13. **Distribution of Benefits.** Affordability and expected returns influence choice of school and distribution of benefits. SSE of all types is more expensive than junior secondary and elementary school. Nonetheless, greater access resulting from expansion of the education system has led to an increase in the proportion of children from poor households attending senior secondary schools. By 2006, the average gross enrollment rate had risen over 50% with 36% of children in the bottom quintile enrolled. While SSE continues to benefit the non-poor more than the poor, the degree of disparity has greatly diminished. Location plays a large role in determining participation in SSE including vocational schools. Urban students have better access to general schools than vocational schools; this is even more marked for rural students. Gender enrollment by vocational school programs tends to reflect labor market gender segmentation. Male students are concentrated in industry-oriented programs, while female students are in services-oriented programs. As vocational schools are skewed toward technical programs, the participation of males is higher than for females.

**Table A12.4: Distribution of VS Students by Income Quintile, Gender, and Location (%)**

Item	Q1	Q2	Q3	Q4	Q5	Total
VS Urban	11.3	14.4	14.8	13.2	9.1	62.8
VS Rural	3.7	5.0	7.4	9.5	11.6	37.2
VS Male	8.8	12.1	13.6	13.8	12.8	61.1
VS Female	6.2	7.3	8.6	8.9	7.9	38.9
VS Total	15	19.4	22.2	22.7	20.7	100.0
GS Total	12.7	17.3	19.9	23.5	26.6	100.0

GS = general senior secondary school, Q = quintile, VS = vocational senior secondary school.

Source: Asian Development Bank estimates.

14. In comparison with general schooling, the benefits of vocational schooling accrue disproportionately to poor and low-income households. This is particularly notable as households incur higher out-of-pocket expenses for vocational education due partly to the cost of workshops and consumables. As a result of lower access in rural areas, vocational schooling benefits accrue more to urban males and females. The tendency of VSs to offer more programs for males means that VSs benefit proportionally fewer females than general schools.

## SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY

### A. Linkages to the Country Poverty Analysis

<b>Is the sector identified as a national priority in country poverty analysis?</b>	<input checked="" type="checkbox"/> Yes	<b>Is the sector identified as a national priority in country poverty partnership agreement?</b>	<input checked="" type="checkbox"/> Yes
<b>Contribution of the sector or subsector to reduce poverty in Indonesia:</b>			
<p>The vocational senior secondary education system is a key component of the Indonesian Government's policy to provide young people with the skills needed to stay out of poverty, reduce the unemployment rate, and create a globally competitive labor force. The National Medium-Term Development Plan 2004–2009, the <i>Asian Development Outlook 2007</i> and the country strategy and program 2006–2009 emphasize the need to improve technical skills in senior secondary and tertiary education to facilitate the transformation of technology into long-term growth. Technical and vocational education (TVE) provides young males and females with marketable skills and initial work experience through apprenticeships. The Vocational Education Strengthening Project builds on this comparative advantage to help increase Indonesia's competitiveness in the global economy.</p>			

### B. Poverty Analysis

#### Targeting Classification: General Intervention

<p>The senior secondary education (SSE) system consists of vocational senior secondary schools (VSs), general senior secondary schools (GSs) and madrasah aliyah. Each offers an academic curriculum over 3 years. About 50% of 16–18 year olds are enrolled in SSE, with 40% of the students enrolled in VSs (or 17% of the age group). Approximately 42% of VS students are female. VSs are particularly favored by students from urban households.</p> <p>SSE is more expensive than junior secondary and elementary school, and is increasingly becoming the minimum requirement for any formal sector job. The proportion of children from the highest to lowest quintile attending SSE has remained constant from 1993 to 2006 (less than 2 to 1). However, students in VSs come from families with lower incomes than those enrolled in GSs. Some data show that households incur higher out-of-pocket expenses for VSs, as GS students have fewer workshop classes and no practicum. However, the returns on vocational education can be assumed to be higher than for general education, as demonstrated by the disproportionately higher share of students from the lower quintiles, especially from urban areas.</p> <p>VS graduates from poor and low-income households often participate in cottage industries, are drivers, or are self-employed. The Project is expected to expand male and female VS enrollment by strengthening model–alliance school networks. It will channel investment to VSs and help promote social equity.</p>
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### C. Participation Process

<b>Is there a stakeholder analysis?</b>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>A stakeholder analysis was conducted to determine key project stakeholders: oversight and line government ministries, district government education offices, gender working unit within DTVE, public and private VSs, school committee representatives, parents, and male and female students. The Project was designed in consultation with each stakeholder and reflects the needs, contributions, and concerns of each party.</p>		
<b>Is there a participation strategy?</b>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

### D. Gender Development

<b>Strategy to maximize impacts on women:</b> See Appendix 14.		
<b>Has an output been prepared?</b>	<input checked="" type="checkbox"/> Yes (see Supplementary Appendix H)	<input type="checkbox"/> No

### E. Social Safeguards and Other Social Risks

Item	Significant/ Not Significant/ None	Strategy to Address Issues	Plan Required
Resettlement	<input checked="" type="checkbox"/> None		<input checked="" type="checkbox"/> None
Affordability	<input checked="" type="checkbox"/> None		<input checked="" type="checkbox"/> No
Labor	<input checked="" type="checkbox"/> None		<input checked="" type="checkbox"/> No
Indigenous Peoples	<input checked="" type="checkbox"/> None		<input checked="" type="checkbox"/> No
Other Risks and/or Vulnerabilities	<input checked="" type="checkbox"/> None		<input checked="" type="checkbox"/> No

## SUMMARY GENDER STRATEGY

1. The Project supports the Government's efforts to strengthen technical and vocational education to increase competitiveness and employment opportunities for vocational senior secondary school (VS) graduates. A gender analysis and strategy (Supplementary Appendix I) highlights the specific needs and interests of female and male VS students and teachers. It is in accordance with the Asian Development Bank *Policy on Gender and Development* (1998), Ministry of National Education gender mainstreaming efforts, and *Indonesia: Country Gender Assessment*.<sup>1</sup>

Project Output	Actions Proposed
<b>General</b>	
The 90 model VSs to be included in the Project will have an overall female enrollment share of at least 37%. The alliance schools to be included in the Project will have an overall female enrollment share of at least 37%. Each school business plan (SBP) will be gender inclusive. SBPs will include a gender action plan and sex-disaggregated performance indicators based on the overall gender strategy for the Project. Each gender plan will include specific actions to promote (i) increased female enrollment; (ii) construction of separate sanitation facilities for males and females; (iii) equal access for female and male students to work placements, apprenticeships, and production units or school-run businesses; and (iv) equal access to female and male teachers for upgrading teaching skills.	
<b>Output 1: Refocused School Management Using a Business Approach</b>	
1.1. School managers trained in demand-oriented school business planning	Provide male and female school managers with equal access to training opportunities. Involve women from school management/committees in SBP preparations (Target: at least 40% of members on school committees are females).
1.2. Business approach to school management developed	Include a module and/or session on gender-awareness in the integrated program of management training and incorporate gender-specific considerations. Ensure separate management training firm employs women in the delivery of the program to managers (target: at least a 1:3 female–male ratio for the training group).
1.3. School management systems established and administration improved	Develop and include sex-disaggregated efficiency and effectiveness indicators in the EMIS. For planning and monitoring, include reporting on specific sex-disaggregated indicators. Ensure relevant male and female staff have equal access to training opportunities.
1.4. Internal communication systems improved and networks established	As part of the project website, post the gender strategy, summary progress reports, and specific model and alliance school reports; individual schools with their own websites may do the same.
<b>Output 2: Improved Quality of Teaching and Learning</b>	
2.1. Facilities to increase efficiency improved, enrollment expanded, and hours of operation extended	Reflect specific gender needs with respect to facilities and equipment in SBPs. Provide safety equipment (e.g., gloves and goggles) for male and female students. Achieve a 50% gender balance for the 6-month VS scholarships awarded by MONE to junior secondary students, according to the number of male and female applicants. Improve existing VS facilities to encourage greater female participation and retention (e.g., improve separate sanitation, washing, and changing facilities for males and females). Monitor impact of improved facilities and equipment on male and female students and staff.
2.2 Teaching of academic and technical subjects improved	Design in-service training programs in core academic subjects to attract female and male teachers, especially for subjects where female participation is low. Increase access for female staff to training opportunities on multimedia approaches and use of computer-aided instruction. Develop a system for professional certification of VS teachers that is gender inclusive and has sex-disaggregated information.
2.3. New learning methodologies suitable to large institutions developed	Develop and monitor new teaching methodologies (e.g., group or self-paced learning). <sup>a</sup> Develop new teaching methods for increasing female and male student participation. Incorporate gender-specific aspects into activities related to the development of new teaching materials (e.g., research studies, review of DTVE guidelines and school standards).

<sup>1</sup> ADB. 2006. *Indonesia: Country Gender Assessment*. Manila.

<b>Project Output</b>	<b>Actions Proposed</b>
2.4. New instructional materials and software provided	Ensure female and male staff have equal access to training on new instructional software. Purchase new instructional materials that are gender-sensitive and free of gender bias, especially in more male-dominated technical subjects. Review the approved list of materials for VSs and include a criterion that evaluates materials for gender bias and gender stereotyping.
<b>Output 3: Strengthened School–Industry Linkages Strengthened</b>	
3.1. Partnerships between schools and industry supported	Explore partnerships with technical and service industries (e.g., mechanics and tourism) to achieve a gender balance in the development of partnerships. Support VSs to develop and market “added value” to industries. Encourage equal recruitment of female and male students in all subjects, including those that are traditionally sex-aggregated.
3.2. New courses to meet local industry needs supported	Include a gender perspective in school-based research studies, course development, and evaluations, especially when investigating the needs and priorities of schools and local industry, and exploring new opportunities for men and women
3.3. Trial international standards and benchmarks in cooperation with industry	Provide equal opportunities to both female and male students to obtain international certification through information, dissemination of application and procedures, and individual student quotas at VSs. Extend opportunities into new fields to enable participation by female and male students for international benchmarking. Incorporate a gender perspective into MONE’s assessment of the trials by disaggregating information and the number of students in each expanded field by sex.
<b>Output 4: Enhanced Entrepreneurship Focus</b>	
4.1. Students assisted students to start their own businesses	Creation of incubators or similar initiatives will be open to all female, all male, or mixed female and male groups of interested students. Mentoring staff member or community expert will encourage both male and female students through gender-sensitive and inclusive methods (e.g., support public speaking by both female and male students or equal opportunities to apprenticeship opportunities)
4.2. Entrepreneurship education strengthened	Use the ILO game and training materials <sup>a</sup> in model schools. Use the game to build self-confidence among female students in technical and non-technical subjects. Game players will be female only, male only, and both. Increase a balance of trainers (female and male) that use the materials and deliver the courses.
4.3. Production units (e.g., shops, travel agency, etc.) enhanced	Involve both male and female students in surveying the local markets and assessing regional demand for goods and services. Among the core members of a production unit, aim to balance the number of female and male students involved in management responsibilities.
<b>Project Implementation Arrangements</b>	
<p>The PMU (15 DTVE staff) will include a representative from the gender working groups within DTVE who will be responsible for overseeing gender activities for the Project.</p> <p>The advisory expert panel that assesses the completed SBPs will include technical and service industry representatives. A member of the School Committee or the implementation team in each VS will oversee gender activities.</p> <p>The terms of reference for SBP preparation and implementation will include a social and gender specialist to (i) deliver gender awareness training to facilitators and model school staff, and (ii) work with DTVE in the implementation of gender-specific actions pertaining to SBPs and project implementation.</p> <p>The terms of reference for the writer/editor for the “What Works in VS” publication will collect information about successful initiatives from different types of schools and include a gender balance in its final publication (text, photos, and illustrations).</p> <p>The terms of reference for the monitoring and evaluation firm will mainstream gender actions into its M&amp;E activities (e.g., disaggregate by sex performance indicators and progress information in reports, develop an M&amp;E system that can accommodate sex-disaggregated data, conduct baseline surveys with both male and female recipients, and train both male and female staff)</p>	

DTVE = Directorate of Technical and Vocational Education, EMIS = education management information system, ILO = International Labour Organization, MONE = Ministry of National Education, M&E = monitoring and evaluation, PSC = project steering committee, SBP = school business plan, VS = vocational senior secondary school.

<sup>a</sup> Lessons may be learned from the development and implementation of UNESCO/Jakarta *Scientific, Technical and Vocational Education for Marginalized Girls and Young Women: A Guideline to Facilitate Expansion and Effectiveness of the STVE Programme* (2007). In addition, ILO-supported Dikmenjur to develop two sets of materials: (i) *Know about Business: Entrepreneurship Education in Schools* (VS, levels 1 and 2); and (ii) *Start and Improve Your Business* (VS, level 3). Both have been adapted to the Indonesian context and include photos to counter gender-stereotypes.

Source: Asian Development Bank estimates.