PROJECT INFORMATION DOCUMENT (PID)
APPRAISAL STAGE

Report No.: AB6163

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Project Name	Ghana Skills and Technology Development Project
Region	*AFRICA*
Country	REPUBLIC OF GHANA
Sector	Vocational training (70%); General information and communications sector (10%);Agricultural extension and research (10%);General industry and trade sector (10%)
Lending Instrument	*SIL*
Project ID	*P118112*
Borrower(s)	REPUBLIC OF GHANA
Implementing Agency	Council for Technical and Vocational Education and Training (COTVET)
Environmental Screening Category	{ }A { X}B { }C { }FI
Date PID Prepared	January 26, 2011
Date of Appraisal Completion	December 16, 2010
Estimated Date of Board Approval	March 29, 2011
Decision	Project authorized to proceed to negotiations upon agreement on any pending conditions and/or assessments.

I. Country Context

Ghana is a strong performer among the Sub-Saharan African economies. It is a low-income, agriculture-driven country of 23 million people, with a GDP per capita of 655 US dollars, striving to become middle-income (per capita GDP 1000 US dollars) by 2015.[1] Ghana has shown impressive gains in economic growth and in poverty reduction over the past decade. Real GDP growth has averaged over 5.7% per annum over 2000-2009 and is projected to be 4.5% in 2010 and over 20% in 2011, once oil revenues come online.[2] This strong growth has nearly halved the poverty level from 52% at the beginning of the 1990s to 28.6% in 2005-6.[3] As a result, living conditions have improved and Ghana is ahead of schedule in achieving the MDGs. Building on this success, the government's second Growth and Poverty Reduction Strategy (GPRS II) aims to go beyond the MDGs, including focus on the "manpower needs of a future middle-income Ghana" beyond basic education attainment.

[1] A report on November 5, 2010 showed that the rebased national accounts of Ghana based on a 2006 snapshot put GDP per capita over the 1,000 mark (provisionally) indicating graduation to a MIC is a few years away.
[2] IMF, 2010
[3] Ghana Statistical Service, 2007, cited in Rolleston, 2010

The key drivers of Ghana's growth are improvements in macroeconomic policies and investment climate, and an increase in private investment and aid. Ghana, along with Tanzania and Uganda, is among the top three economic policy reformers in Africa with all sectors contributing to growth.[4] In the meantime, the economic growth relied heavily on commodity exports, including cocoa, rubber, gold, timber and also on remittances. Within the agriculture sector, there are several success stories in horticulture. The services sector also contributed to growth, driven by wholesale, retail, construction, and hospitality sub-sectors. The relatively small industry sector has started showing dynamism in gold related mining and quarrying, though manufacturing has been declining. The economic structure has been shifting from agriculture to services: during 2000-2009, agriculture's share in GDP declined from 35% to 33%, services rose from 39% to 42%, while industry remained constant at 25%.

Yet, Ghana must address several significant challenges for sustained growth such as infrastructure gaps, low productivity, and weaknesses in business and investment climate all highlighted in the most recent World Bank Country Economic Memorandum (CEM). Although Ghana's aggregate productivity is improving, its level remains below the most productive African economies (e.g., Mauritius and Botswana) and far behind the Asian economies. Low productivity is reflected in low competitiveness.[5] Evidence shows that Ghana is relatively weak in the related areas of education, technology, innovation, and labor market efficiency, suggesting that skills and productivity lie at the heart of the competitiveness challenge for Ghana.[6] The CEM concludes that up until 2007 growth was mostly based on factor accumulation, but accelerated growth cannot be achieved without productivity improvements, and to this end, the CEM recommends policy efforts for increasing the stock of skills and technology in the country.

Productivity growth through skills and technology in non-traditional sectors will also help diversification goals. The narrow economic base and the risk of Dutch disease from oil discovery give rise to diversification as a pressing agenda. Ghana's exports have not diversified in the past 25 years, and commodities such as cocoa, gold, timber, and fish continue to account for approximately the same proportion of total exports as they did before economic growth accelerated: 48 percent of GDP; 90 percent of foreign export earnings; and 70 percent of total employment. Furthermore, economic growth has been fed predominantly by domestic absorption rather than exports. Consequently, Ghana's economic base remains narrow, inward looking, and to the extent it does export commodities, vulnerable to commodity price shocks.

The recent discovery of oil and gas reserves reinforces the risk of Dutch Disease, especially if a broad economic base is not built by productivity gains in other key economic sectors, including manufacturing, agriculture and services. The ability of Ghana's firms to cope with the effects of an anticipated oil boom remains unclear. Both the sustainability and shared nature of growth would be at risk if productivity in non-oil sectors does not increase.

[4] See World Bank's Doing Business Indicators, 2010
[5] See Ghana Country Economic Memorandum (World Bank, 2007) or The Economy-Wide Impact of Oil discoveries in Ghana: Investment Climate (World Bank, 2009).
[6] 2009 Global Competitiveness Report

It will be equally critical to consider how to better focus on the informal sector as the skills and technology interventions are designed. The informal sector dominates the labor market with 82% of Ghana's labor force employed in the informal sector (of which two thirds are in agriculture), accounting for most of the new jobs created since the mid-1990s.[7] High inflation, which still hovers above 9%, and high labor wages, further contribute to informal sector dominance. While the labor force has become more informal over time, a net destruction of jobs has been witnessed in the formal sector, with a decrease in formal sector jobs from 16% to 13% of the total employment in the past 15 years. Moreover, the formal enterprise structure is dominated by micro and small enterprises whose share has increased in the last ten years. The small size of firms in the formal sector also contributes to the concentration of jobs in the informal sector.[8]

The Government recognizes in its GPRS II and in the Medium Term Development Framework (MTDF 2010-2013), that diversification, productivity, and competitiveness cannot be achieved without building human capital. The proposed project aims to support government's vision of skills development by addressing skill gaps at both formal and informal levels. Here skills are defined as the individual's ability and capacity to carry out complex activities in a job, typically developed through education, training or non-formal learning, measured in qualifications, competencies or occupational progression.[9] The focus is not on the supply of training nor does it distinguish between school and non-school based training, but instead focuses on business/enterprise needs to improve productivity. Within the formal labor pool, the project aims to improve quality and industry-readiness of skills among graduates at universities, polytechnics, and TVET schools, candidates in the labor pool, as well as that of employees in jobs. At the informal level, the project will target workers and firms, with the added support from industry and business associations where capacity is limited (e.g., construction and agro-business).

A closer look at Ghana's labor force suggests that the problem is both of quality and quantity, however, the proposed project chooses to focus on quality and industry-readiness of the workforce. The quantity problem is acute to be sure: less than 10% of the active labor force has a secondary school leaving certificate or higher, only 28.6% of the employed labor force held a primary or junior school certificate, 26.7% had attended school but did not hold a primary or junior high certificate, and 35.3% never went to school.[10] But Ghana is making good progress in addressing these issues as evidenced by the EFA goals, with 86% of school age population at primary and junior secondary levels having attended school in 2008. Over time, the percentage of the uneducated in the workforce is expected to decrease.

The problem of poor quality and relevance of education needs immediate attention because of several reasons. At the macro level, the quality of education and skills hampers Ghana's competitiveness.[11] At the firm-level, shortage of skilled workers has been cited as a problem

[7] Ghana Jobs Creation and Skills Development Report, 2008, World Bank
[8] Ghana Investment Climate Assessment, 2005
[9] Michael Campbell; Learn to Succeed. The Case for a Skills Revolution, The Policy Press (2002)
[10] Alignment of Higher Professional Education with the needs of local labor market, NUFFIC, 2010
[11] In Global Competitiveness Index (2009), Ghana ranked 111 out of 134 countries on higher education and training pillar.

by employers. In a survey conducted by Ghana's Employers Association, for example,[12] 50% of surveyed employers reported hard-to-fill vacancies in their firms, and 80% of these employers noted that the vacancies had been unfilled for the past twelve months. The top three causes cited for hard-to-fill vacancies were: lack of technical or practical skills, not enough suitably qualified people, and lack of practical work experience.

A sector-level assessment done for high-potential verticals (ICT, horticulture, livestock, construction) also suggests that these sectors cannot grow to full potential without expansion of the skills pool. In the ICT sector for example, software and IT companies spend 5000-10,000 US dollars per employee to train them to productive levels, and provide them with internationally recognized industry certification. This constitutes a huge financial burden, discourages intake of new talent, and shrinks the demand for labor and skills. Furthermore, because the pool of well-trained IT professionals is small (900-1000 graduates per year with IT related higher education degree), small IT firms lose their trained employees to larger corporations such as banks and telecoms, which further discourages them to hire and train more talent. In the construction sector, jobs are expected to grow by 10-12% annually, predominantly in the informal market, and there is an unmet demand for specialized technical skills.

Evidence also shows that the demand for skills goes beyond technical skills. Employers need the labor pool to furnish a mix of core technical skills, managerial skills, foundational (or generic skills such as computer literacy, communication, and analytical skills), and a variety of non-cognitive skills such as team work, commitment, and work ethic. In addition, going beyond employability skills, what is also needed are job-creating skills – those pertaining to entrepreneurship and business development. The proposed project, therefore, treats "skills" as competencies within the broad spectrum of i) technical, ii) foundational, iii) non-cognitive, and iv) entrepreneurship and business development skills.

Sectoral and Institutional Context

Services providing skills and technology to the economy in Ghana have generally low impact, because institutions are underfinanced and their management fragmented. Most formal TVET institutions are disconnected from the demands of employers either in the formal or informal sectors, their curriculum, tools and equipment outdated, and their staff usually has no industry experience. The formal TVET providers largely fail to connect with either the imperative of growth, competitiveness or that of social inclusion. The skills training sector includes about 200 public formal training institutions, and about twice as many private and mostly church-owned centers. Out of the 200 public institutions, 26 are technical institutes (TIs) under the auspices of the Ministry of Education with about half of the approximately 35 thousand students, while the other half are in over 170 institutions under various governmental agencies, including Ministries of Employment, Trade, Local Government and Agriculture. Over 430 registered and un-registered private institutions have over 70 thousand students. All told, public training of different types consumes about 1

[12] Ghana Employers' Association, Current Skills Gaps Rapid Survey, 2006

percent of Ministry of Education budget and 2 to 3 percent of the full government budget.[13] In the meantime, about 4-5 times as many youth acquire vocational skills through apprenticeships. These are mostly private and largely self-financed and most have low quality and effectiveness.

A review of the supply and demand for skills has shown that the present TVET system is too fragmented, inefficient and inadequately financed to be able to respond to demand or to effectively improve the employability of the trainees. So far, the Government has acted acted as a provider through its numerous agencies and failed to stimulate improvements in skills development policies through targeted financing, coordination across public and private providers and through quality assurance. It is recognized that the role of the Government will have to change Rather than acting as a provider or regulator of all (public and private) TVET programs, the Government needs to (i) provide overall vision, plans, budgeting, financing guidelines, policies, incentives to stimulate demand and to improve cost-effective responses by public and private providers to this demand; (ii) be a provider of on-time information for decisions, training providers, beneficiaries and stakeholders; and (iii) assure quality across sectors (public and private) and types as well as levels of training through standards, articulation and through qualification/certification guidelines and services.

A key constraint for overall skills development is the lack of a harmonized and sector neutral qualification and certification system. These characteristics would make the system applicable for the formal and informal sectors or for private and public providers, and allow horizontal and vertical mobility within the TVET system. The certification system for the apprenticeships is not standardized and prior learning is not recognized.[14] Competency-based training in various vocational fields has now been introduced on a pilot basis through various donor-funded programs.

The STI system is much too supply-driven, owing to its overreliance on the public budget and external sources of funding including donor-sponsored projects based on donor agendas.[15] Funding allocations are determined by the government and often do not relate to the priorities of the providers of science and technology services – that is the research institutes and universities – much less the end users of technology and research, as represented by the private sector, farmers, and informal enterprises. The result is a system not subject to competitive pressures to ensure quality and relevance to the economy. Such new technologies as information and communication technologies (ICTs) and biotechnology are not being adequately tapped. Yet the private sector makes few investments in technology

[13] Costs and funding also vary; whereas formal TIs receive most of their recurrent funding through incremental budget support (covering mostly staff salaries), private institutions charge fees but often get church support while apprenticeships are mostly private and largely self-financed.

[14] Apprentices in the informal sector are able to get NVTI certification if they choose to sit for the test. Relatively few apprentices do this test (perhaps 1 in 40) and the majority of those that do, take the non-written proficiency test which has limited currency in the labor market.

[15] See Ghana: Science, Technology, and Innovation Policy Review (2010), World Bank and UNCTAD

and innovation.[16] It is estimated that the private sector accounts for only 2 percent of the total funding for R&D in Ghana.[17]

The science and technology sector received 1.1% of Ghana's budget in 2008 with most of the funding going to public research institutes. Ghana's expenditure on STI is about 0.3 percent of its GDP, nearly all of this coming from government outlays equivalent to around USD $49 million. There is no specific instrument dedicated to funding of industrial technology upgrading, research, and innovation. Government investments into science and technology have yielded limited payoff as the vast majority of research institute budgets go to salaries and facilities with little (under 15%) left over for research activities or equipment.

Government strategic programs

Since 2002 the government has followed a 'dual-track' policy-making process. In 2006, the Council for Technical Vocational Education and Training was established. In parallel to the existing educational policy framework, a revised 2010-2020 Education Strategic Plan (ESP) is being drafted and the Science Technology and Innovation (STI) Policy was introduced. These documents are expected to harmonize TVET and STI policies with the objectives of the New Education Reform (NER) which shifts the national policy focus towards post-basic education. The new administration identified skills development and science and technology as key focus areas where reforms, new policies, investments and partnerships need to be pursued towards economic competitiveness, employment and poverty reduction. The Ministry of Environment, Science, and Technology (MEST) was re-established in 2009. A national science, technology, and innovation policy (STIP) review was finalized in 2010.

II. Project Development Objective

The project's development objective is to improve demand-driven skills development and increase adoption of new technologies in selected economic sectors.

III. Project Description

The proposed project has three components that will: (i) target demand-driven skills investments in economic priority areas; (ii) provide institutional strengthening to key agencies and ministries; and (iii) support an innovative mechanism (competitive fund) to enhance the market for relevant training and provide a platform for other donors (i.e., DANIDA, AfDB, Germany, JICA) to support skills and technology development in Ghana.

Project components

The project's development objective is to improve demand-driven skills development and increase adoption of new technologies in selected economic sectors. The proposed operation is a five-year investment complementing ongoing government reforms and programs. The

[16] CEM, World Bank 2007

[17] UNESCO (2007) *The Science and Technology profile of the Republic of Ghana.* United Nations Educational, Scientific and Cultural Organization, Paris.

proposed GSTDP will combine interventions to improve the institutional framework and overall capacities of the TVET and STI systems while promoting demand-driven training and technology development opportunities and improved linkages between private sector employers and training and technology institutions through a competitive fund. The project will target programs to provide skills and technology to selected industries. These industry-focused programs would be designed so that they could be replicated in other industries as needs and priorities evolve over the medium and long term, including beyond the duration of the project.

Component 1: Institutional Strengthening of Skills Development The objective of the component is to strengthen the Government institutional capacities in planning, coordination, quality assurance and service delivery towards improved quality, relevance, accountability and effectiveness in skills development.

Sub-component 1.1: Development of COTVET technical capacity, strategic systems, and policies. This sub-component will support the institutional development and the capacity building of the Council of Technical and Vocational Education and Training (COTVET). Technical assistance will be provided for (i) the development and adoption of a national skills strategy to better align TVET with the Government strategy and linked to specific economic (i.e. productivity) and social (i.e. employment) outcomes; (ii)development of sector-specific skills development strategies including assessments of supply and demand for skills, market failures and opportunities for public interventions, sector specific economic and social objectives and outcomes; (iii) the development of a TVET management information system, processes and organization to coordinate, monitor and evaluate services across sectors and agencies to provide policy makers with up to date information; and (iv) the development of guidelines for standards and qualification/certification and other services to assure quality for training both in terms of inputs and outcomes as well as stronger linkages with the private sector.

Sub-component 1.2: Support to TVET providers. This sub-component will help improve accountability and institutional effectiveness of formal public and private non-profit TVET providers in priority economic sectors to deliver demand-driven training. It will strengthen a select number (5-10, but to be decided by COTVET) of Ghana's formal TVET providers to deliver relevant training content for priority economic sectors. Technical assistance will be provided to support the development of institutional development plans, capacity to access the skills and technology development fund, and support for key partnerships with private training providers. The criteria for selection of formal TVET institutions would include the necessary autonomy and flexibility to respond to market conditions.

Component 2 Institutional Strengthening of Science and Technology Development. The objectives of this component are to (i) strengthen the planning, management, and coordination of national science, technology and innovation (STI) policies and programs in order to make efficient use of resources and complement the national economic development plan; and (ii) support technology development and diffusion that is more responsive to the needs of the economy by enhancing interactions between selected research institutes, university departments, and their external clients (e.g., private sector), thereby encouraging domestic innovation.

Sub-component 2.1: Strengthening national STI planning, management, and coordination. The objective of this sub-component is to improve the planning, management, and coordination of STI policies by supporting the establishment of a well-functioning STI Directorate within MEST capable of making evidence-based STI policies and implementing priority activities in the national STI Development Plan. In support of this objective, sub-component 2.1 is expected to produce the following intermediate outcomes:

- Develop the technical capacity of the STI Directorate staff necessary to make evidence-based STI policies, coordinate implementation of the national STI policy with other government agencies and the private sector, and monitor STI programs and policies.
- Develop information systems and data gathering mechanisms that can be used to provide policy makers with up to date information on the financing, performance, and impact of technology providers and the wider STI system.
- Ensure that the STI Directorate successfully implements selected activities under the STI Development Plan (2011-2015).

Sub-component 2.2: Strengthening science and technology providers. The objective of this sub-component is to improve the capacities and incentives of selected research institutes, universities, and technology providers to develop, adapt and diffuse technologies to private sector enterprises on a demand-driven basis. Specifically, the sub-component will strengthen the capacity of at least 4 selected research institutes and university departments to carry out technology development activities in partnership with private firms. In order to participate, the selected institutions must agree to governance and incentive reforms designed to encourage outreach and interaction between the institution and the private sector. Incentives are expected to include performance bonuses and accelerated promotion for staff working with and generating revenue from the private sector, additional funding for technology development activities undertaken in partnership with the private sector, and opportunities for international exposure and collaboration for staff working to diffuse international technologies to local enterprises. The participating institutions must also have a research and technology adaptation focus within the economic sectors prioritized by the GSTDP, committed and outreach-minded management, staff interested in testing new approaches to collaboration with external clients, and an adequate level of research and technology adaptation activity. The research institutes and university departments to receive support under the sub-component will be selected in collaboration with MEST and other key stakeholders. It is expected that the lessons learned from these selected institutions will serve as a model for other research institutes and university departments.

Component 3: Financing of Skills and Technology Development Programs through the Skills Development Fund. The objective of this component is to finance skills and technology development programs in prioritized economic sectors through a demand-driven skills development fund (SDF) managed by COTVET. The SDF is an established mechanism with funding from DANIDA and the Ghana Education Trust Fund (GETFund). Disbursement percentages by financier will be determined yearly in discussion with contributing agencies (e.g., year one, DANIDA-20%, IDA 80%).

The SDF represents the main project instrument to achieve the government's long term objectives of supporting both demand-driven skills and technology development which requires productive and strategic partnerships between firms, service providers and industry associations. By focusing on enterprise development, stimulating demand and encouraging cost-sharing in selected sectors, the SDF will assure that activities are focused on Ghana's strategic economic development and private sector development agenda and that the demand for skills and technology increases in the private sector. This in turn would also lead to more relevant supply of skills and technology services as well as cost-sharing between employers and training and technology providers. Furthermore, the competitive and transparent financing process would enable the Government to focus on coordination and quality assurance instead of being a provider of such services itself. The SDF also sets up a framework for harmonized donor support while ensuring that technology development is well integrated with skills development.

Several prioritized economic sectors for IDA financing have been identified based on the Government's overall economic and private sector development strategy. The focus was on those economic sub-sectors that demonstrate that skills and technology are a bottleneck to growth, offer potential for employment or productivity growth, and offer the opportunity to demonstrate clear results from skills and technology interventions within 3-5 years. Initial sectors may include ICT, Construction and Housing, Tourism and Hospitality, Livestock and Horticulture as well as the Oil and Gas sectors. However, the latter is already being supported under a separate IDA technical assistance credit. New priority sectors will be included upon the completion of economic sector strategies (funded under Component 1.1 of the project, and validated by the Project Steering Committee) that identify skills and technology demand and supply factors, market failures and opportunities.

The SDF will target approximately four calls for proposals each year of project effectiveness. Proposals will be submitted in response to a call, for the targeted economic sectors listed above. Applications will be made on a self-selection basis, by enterprises, association of enterprises, or training providers. These applicants will have to present a tangible collaboration with private enterprises, a strategic agenda focusing on planned outcomes related to economic growth or improved productivity, and a sound financial

framework. Evaluation of applications will be based on internationally recognized best practice from peer reviewers' inputs.

The SDF will support the following types of training needs and activities:

- Upgrading the skills of employees for productivity improvement and to enable employees to adopt emerging new technologies;
- Supporting industrial attachment for students in training;
- Apprenticeships;
- Enabling current employees to acquire higher technical and vocational skills, qualifications and incomes;
- Introduction of new technologies or innovations at firms (Research and Development, consulting services, equipment); and
- Transfer of off-the shelf technologies

The project will build public awareness and capacities for the potential beneficiaries, for the Government and also for the communities, since demand-driven financing of skills and technology development is more of an exception than a practice in Ghana. For each of the priority sub-sectors, the project will finance public awareness, community outreach and training programs to inform employers, training and technology providers and industry associations about the potential benefits, good practices, and application procedures. Funds of approximately US$5 million will support the cost of management, administration and coordination for the SDF including the extensive outreach activities, training and technology needs assessments, partnerships with intermediaries, and SDF consultant costs.

Funding windows: The SDF already established by COTVET has three existing funding windows aimed at skills development. The first window focuses on larger scale skills development for medium and large enterprises operating in the formal sector. The second window focuses on smaller scale skills development, mostly for micro and small enterprises in the informal sector. The third window focuses on innovative training approaches. For the GSTDP, the fund will open a fourth window to support technology upgrading by enterprises and linkages between industry and technology providers. An SDF manual provides the guidelines and details for accessing, managing and reporting on SDF grants. For IDA funds provided for all windows, the expenditure that will be eligible for financing will be the eventual end-use of these funds for the approved activities by the beneficiaries who receive these funds as grants. Reporting arrangements for this purpose have been described elsewhere in this document.

Window 1 (Formal Sector) will have a contribution of US$10 Million from the GSTDP. Funding will focus on skills development in the formal sector and is expected to focus on higher level skills to be provided by public or private training institutions in collaboration either with larger size employers or associations of a group of smaller size employers. In some cases, the unit-costs of training will be higher, i.e. in ICT related training. While in other cases, though the unit costs of these training activities are not necessarily higher, the scale of training activities are expected to be higher, responding to larger demand, and the

duration of programs may be longer. The employers and/or employer associations are expected to be in the lead position to define the content and duration of the training and provide a minimum of 20% of matching funding to the costs. This commitment for providing matching grant will be documented in the Sub-Grant Agreement between COTVET and these entities and actual funding so provided reported in project financial reports. With training leading to certification and employment and capacity building costing about US$2,500 for one to two years (e.g. ICT shorter, construction or agric. longer), applications would be expected to have a ceiling of $350,000 and the window could train about 4,000 certified and skilled employees for the targeted sectors, for example about 200 skilled ICT professionals through five calls and six awards in each call.

Window 2 (Informal Sector) will have a contribution of US$10 Million from the GSTDP. Funding will focus on the SMEs in the informal sector and the upper ceiling is expected to be US$60,000 per grant, equaling the costs of building the capacities of the SMEs and the approximate annual unit costs of 30-40 trainees with the expectation that the duration of training is one year or less. Matching funding for these proposals by SME owners and master crafts-people will be limited to in-kind support, internships and work opportunities to be provided to the trainees during the training period. With about US$1,000 unit costs of trained employees, the component could cover as many as 10,000 people through 5 calls and about 10 awards.

Window 3 (Training Innovations) will have a contribution of US$10 million from the GSTDP. Funding will focus on innovative proposals from training providers that respond to economic demand. This window may provide financing to training or technology institutes such as public or private training institutes, research institutes, higher education institutes, incubators, pre-incubators, technology centers, or business advisory centers -- that may not have an explicit linkage with a firm -- for expenditure on training innovations. The nature of such expenditures would be documented in sub-grant agreements with these entities. Given the innovative characteristics, the SDF would have a higher ceiling of US$500,000. This window would require a matching grant of 25 percent co-financing for private training institutions and in-kind support for public institutions (for instance through the use of staff-time or the use of existing facilities for additional training programs). Criteria for selecting proposals will focus on governance of formal training institutions, their mandate to carry out institutional reform, existing links with industry, particularly in priority economic sectors and their ability to introduce innovations such as new short courses, or set up partnerships with industry as well as the financial or in-kind contribution of the training providers to the new activities. In five calls, each with four awards, about 20 awards may be granted.

Window 4 (Science and Technology) will have a contribution of US$15 million from the GSTDP. The objective of Window 4 is private sector growth and productivity improvements through support to firms to introduce new technologies and innovations into their business practices. This window will use a broad definition of innovation and technology adoption to include not only the introduction of new or improved products or processes but also new organizational or marketing innovations. These technologies or innovations must be new to the participating firms but not necessarily new to Ghana. Window 4 will provide two forms of support: (i) matching grants available to firms or firm-provider partnerships to support the introduction of new technologies or innovations at these

firms; and (ii) institutional "technology center" grants available to institutions whose mission it is to transfer technology to firms. Grant recipients under this Window will be formal or informal enterprises in the case of matching grants. In the case of technology centers, grant recipients will be research institutes, universities, technical schools, or other organizations offering technology and related training to the private sector. Funds provided from this window can be used by grant recipients for expenditures such as goods, works and services that are documented in a sub-grant agreement in each case.

Matching grants will provide support to firms that want to incorporate new technologies or innovations into their business in order to improve productivity. Beneficiary firms will receive matching grants requiring 25% co-financing[18] from the firm. There is no minimum grant size but no firm or group of firms under common control may receive more than $200,000 in grants, total. Window 4 will also finance institutionally-based "technology centers" whose declared mission is to transfer existing technology and related training to the private sector. Technology centers must have an objective of supporting productivity improvements across a sector (e.g. building and construction, horticulture, or other economic sectors) through technology transfer, diffusion of innovations, quality improvements, or related training. The activities of technology centers might include: facilitating the transfer of existing technologies (off-the-shelf) and related training to Ghanaian enterprises, addressing sectoral quality issues including through providing quality certifications (e.g. ISO certifications), identifying bottlenecks and opportunities for further innovation of products and processes at the sectoral level, facilitating R&D to develop new products and processes for firms, and acting as a hub to connect firms with investors and business service providers that can support the adoption of innovations and new technologies. There is no minimum grant size, but no single technology center may receive more than $1,000,000 in grants, total.

Component 4: Project Management and Monitoring and Evaluation The objective of this component is to provide effective implementation of the project by establishing a project support unit embedded within COTVET and reporting to the Project Steering Committee. The PSU will be a small group of dedicated staff assisting COTVET and all participating ministries for effective coordination and monitoring and evaluation, as well as the implementation of an information and communications strategy. The PSU will also be responsible for overseeing and managing all skills development donor support managed by COTVET. This would ensure harmonization among development partner activities. For the monitoring and evaluation, COTVET will continue to update data to facilitate accurate reporting on the key progress indicators identified in the results framework. Most of the data for monitoring project outcomes will come from regular project reports, key surveys and a labor market observatory. This data will be supplemented by project preparatory studies in key economic sectors and a baseline survey undertaken prior to effectiveness. The project will also contract with an Independent Monitoring Firm to support M&E activities, including an impact evaluation.

IV. Financing

($m)

Source:

[18] The beneficiary must co-finance the actual expenses of the project.

Borrower/Recipient	10
IBRD	n/a
IDA	70
	Total 80

V. Implementation

The coordinating body overseeing the strategic and financial implementation of the project is the Council for Technical, Vocational Education and Training (COTVET) legally established in 2006 and operating as an intergovernmental agency reporting to the ministry responsible for TVET. A group of high level policy makers from the Ministries of Trade, Education, Environment, Science and Technology, Agriculture, Communication and Finance referred to as the Singapore Plus + group has taken a key role during the preparation of the project. Upon effectiveness, the Project Steering Committee (PSC) will provide cross-sectoral strategic oversight of project implementation. Given the cross-sectoral nature of the project, the PSC will include the Chief Directors of the affected ministries (as listed above) and it will also include representatives from the private sector/industry associations. The PSC will also include a representative from the PSDS II Board to ensure linkages with PSD national strategy. The PSC would be supported by a project support unit (PSU) located within COTVET and responsible for coordination and administration of the project. This PSU would work closely with the Skills Development Fund (SDF) division housed in COTVET as well as the STI Directorate of the Ministry of Environment and Science and Technology (MEST).

VI. Safeguard Policies (including public consultation)

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP 4.01)	X	
Natural Habitats (OP/BP 4.04)		X
Pest Management (OP 4.09)		X
Physical Cultural Resources (OP/BP 4.11)		X
Involuntary Resettlement (OP/BP 4.12)		X
Indigenous Peoples (OP/BP 4.10)		X
Forests (OP/BP 4.36)		X
Safety of Dams (OP/BP 4.37)		X
Projects in Disputed Areas (OP/BP 7.60)*		X
Projects on International Waterways (OP/BP 7.50)		X

VII. Contact point at World Bank and Borrower

* *By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*

World Bank

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Borrower/Client/Recipient

Contact: REPUBLIC OF GHANA – Ministry of Education
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Implementing Agencies

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