

JICA Position Paper in Education Cooperation

October 2015

Japan International Cooperation Agency (JICA)

Preface

2015 opened a new page for international development cooperation. The United Nations Sustainable Development Summit held from 25 to 27 September 2015 adopted the *2030 Agenda for Sustainable Development*, highlighting seventeen Sustainable Development Goals including education. In Japan, the Development Cooperation Charter was launched in February 2015, stating that the Japan's Official Development Assistance activities "should further evolve so as to strengthen further its roles as an equal partner of developing countries in the joint efforts to address challenges facing the international community".

Recognizing the catalytic role of education in promoting human security, the Japan International Cooperation Agency (JICA) has been providing support to the education sector for many years. While major progress has been made by the international community since 2000, challenges remain, such as quality of learning, inequalities in education and growing youth unemployment. In recent years, diverse stakeholders have been actively engaged in discussions and efforts to support countries in developing and implementing effective policies towards achieving the Sustainable Development Goal 4: *Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*, also known as Education 2030. Reflecting its commitment to the achievement of the renewed education agenda by 2030, JICA has set out a new vision for education cooperation: Learning Continuity. This vision aims to ensure learning continuity for all in our operations, regardless of the level of education or country circumstances. Based on the concept of human security, it also proposes to place the development of the individual at the centre of our education support. Cross-sector approach is another major pillar. Furthermore, this paper outlines our three guiding principles for strengthening our project implementation in education: (1) trust, (2) mutual learning for knowledge creation, and (3) equity and inclusion.

Guided by the Learning Strategy for Peace and Growth, education policy of the Government of Japan launched at the Sustainable Development Summit in September 2015, this position paper presents JICA's operational strategies in education cooperation for the next five years, updating the previous paper "JICA's operation in Education Sector – Present and Future" published in September 2010. It includes JICA's understanding of education in today's world, as well as visions, guiding principles, approaches and focus areas in education cooperation. With this position paper, JICA remains committed to strengthening its efforts to achieve the Education 2030 in close cooperation with partners.

October 2015

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Recognizing the vital role of education in realizing Human Security, the Japan International Cooperation Agency (JICA) has been providing support to the education sector. Quality education is a fundamental human right that everyone must enjoy, and it is also an enabler for realizing all the other Sustainable Development Goals (SDGs). Education is a basis for acquiring knowledge and skills to address global challenges such as poverty reduction and environmental issues. Furthermore, education lays foundations for a peaceful and inclusive society by fostering understanding of diverse cultures and values.

2015 is a landmark year for global education. The international community assessed the progress and challenges towards attainment of the Education for All (EFA) goals and the Millennium Development Goals (MDGs) by the end of 2015, and set a new goal for education to be achieved by 2030 (SDG4: *Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*). This renewed education agenda aims to achieve more ambitious and challenging goals, placing more emphasis on quality of education and covering all levels from early childhood care and education (ECCE) to higher education. JICA has launched this position paper to strengthen our support for partner countries in developing and implementing effective policies and strategies towards achieving the SDG4. Analysing issues and changes in global education, JICA remains committed to contributing to the attainment of the internationally agreed education goals in close cooperation with our partners.

1. Education in Today's World

1.1 Achievements and Remaining Challenges

Since the World Education Forum in Dakar in 2000, the number of out-of-school children and adolescents has fallen by almost half. Progress has been also made in gender parity in access to primary education. With the expansion of primary education, the secondary gross enrolment ratio is on the increase. Pre-primary education enrolment has also substantially increased. The Global Partnership for Education (GPE) was established as an international multi-stakeholder partnership, and civil society organizations (CSOs) have been increasingly involved in activities for educational development.

Although the international community has made positive changes through its efforts towards achieving the internationally agreed education goals, the EFA and MDG education agenda will remain unfinished by 2015. JICA has identified the following four key challenges that require our further efforts to achieve the renewed education commitment for 2030.

(1) Quality of Learning

One of the critical issues identified in these past ten years is quality of learning. Around the world, 250 million children, or nearly 40% of primary school-age children, are not learning basic literacy

and numeracy skills. Of these, 130 million were estimated to have been in school for at least four years.¹ Rapid expansion of primary education without enough resources (school construction, teacher training and deployment, provision of teaching and learning materials) has been adversely impacting the quality of education. In addition, to increase competitiveness in the global economy, an increasing number of countries have been applying a competency-based curriculum that enables students not only to acquire knowledge and skills but also to apply them to address complex problems. In higher education, demand for establishing an international framework for quality assurance and accreditation across countries has been increasing with the progress of globalization.

(2) Disparities in Education

Reducing disparities in education continues to be one of the key issues that the international community needs to tackle in the post-2015 framework. Despite substantial improvement in access to primary education, 58 million children worldwide are still out of school. More than half of them (31 million) are girls, and 36 percent of them are in conflict-affected countries.² Prioritizing support for the most disadvantaged populations is increasingly important. In addition, there are disparities in enrolment and learning outcomes due to the factors associated with poverty, gender, disability, ethnicity, language and residential areas. Although enrolment in secondary education has increased, gender and other disparities still exist. In higher education, despite a rapid increase in the enrolment rate, disparities still remain within countries and regions as well as between rural and urban areas, the rich and the poor, and boys and girls.

(3) Youth Employment and Skills Development

Growing youth unemployment poses a serious problem. The global youth unemployment rate (aged 15 to 24) rose from 11.6 percent in 2007 to 13.1 percent in 2013; that is almost three times as high as the rate of adult unemployment (aged 25 and above).³ In addition, the number of young people who are not in education, employment or training (NEET), has been on an upward trend.⁴ It is therefore necessary to improve the relevance of education and training through close collaboration between industry and the Technical and Vocational Education and Training (TVET) sector, and through the development and use of information systems on the labour market. Similarly, it is also necessary to reduce skills mismatches by providing TVET courses with flexible curriculum to meet the fast-changing demands of society, as well as follow-up services including career guidance.⁵ Furthermore, youth should be offered skills development opportunities to acquire transferable skills such as work ethics and teamwork, in addition to work specific skills.

¹ UNESCO (2014) EFA Global Monitoring Report 2013/14

² UNESCO (2015) EFA Global Monitoring Report 2015

³ ILO (2014) Global Employment Trends 2014: Risk of a jobless recovery?

⁴ Ibid

⁵ Ibid

(4) Human Resources Development for Fostering Innovation

Human resources development for fostering innovation to address global issues is critically important with globalization and the transition to a knowledge-based society. In addition, Science, Technology and Innovation (STI) is essential as a catalyst for realizing a sustainable economy and society through economic growth, job creation, public service delivery and renewable energy development. Higher education institutions in developing countries need to enhance their capacities to conduct world-class research through improved access to advanced knowledge networks.

1.2 Emerging Trends in Education Cooperation and JICA's Role

Since the launch of the EFA goals and the MDGs in 2000, significant changes have occurred with emerging trends in the education sector. While many countries have made progress in setting clear education policies and strategies with credible education sector plans, standardized education plans and policies resulted in a lack of diversity and uniqueness. Increased international learning assessments have enabled us to compare student learning outcomes across countries. On the other hand, difficulties in defining and measuring multidimensional aspects of “quality of education” and “learning outcomes” have accelerated active discussions for research in this area. The increased number of private schools and universities as well as enhanced private sector and NGO involvement in the education sector are posing a new challenge: how we ensure both access and quality of education simultaneously. In addition, the increasing use of information and communications technology (ICT) has the potential to enhance learning outcomes, but the digital divide is growing due to a delay in ICT infrastructure development. In 2014, approximately 60 million people were forcibly displaced due to conflicts,⁶ and it is estimated that over 170 million young people are affected by disasters each year.⁷ Furthermore, schools and universities are continuously targeted for attacks.

Influenced by these diverse challenges and emerging trends, the architecture of education cooperation has been shifting from vertical to horizontal relationships: a shift from donors providing assistance to developing countries vertically to all stakeholders working together horizontally to tackle common issues. Today, effective collaboration is indispensable among various partners including emerging donors, the private sector, NGOs and universities. Responding to the remaining challenges and changes in the global education sector, JICA proactively acts as a Knowledge Catalyst to accumulate and analyse knowledge and experience, and to bring about innovative solutions collaboratively by linking diverse stakeholders.

⁶ UNHCR (2015) Global Trends Forced Displacement in 2014: World at War

⁷ UN Office for Disaster Risk Reduction (2012) Assessing School Safety from Disasters: a Global Baseline Report.

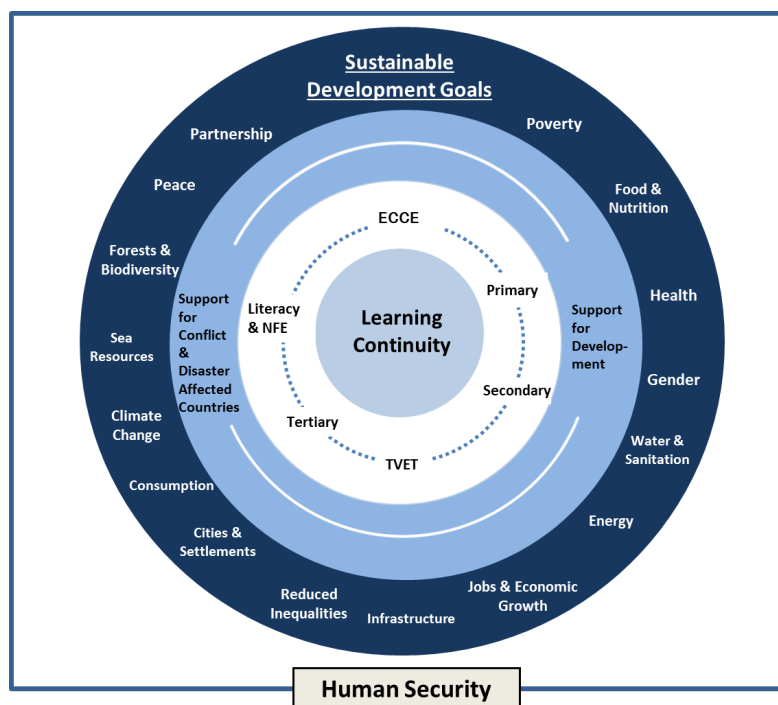
2. JICA's Vision, Principles and Approaches

Improving both access to and the quality of education has been central to JICA's work, while the international community has been focusing on expanding access to primary education since 2000. JICA has also been providing comprehensive assistance including post-basic education to respond to the internationally set goals as well as the diverse needs of our partner countries. In the area of basic education, JICA has been focusing on improving access, quality and management. Our major achievements include: (1) school construction in 46 countries; (2) training over 870,000 teachers in 42 countries; and (3) School-Based Management programme over 62,000 schools in 16 countries. In post-basic education, JICA established 11 core TVET institutions in six countries and has provided technical support to improve curriculum and management in 27 countries. In post-conflict countries, ex-combatants were provided with basic skills training to enhance their livelihoods. In addition, in the higher education sector, JICA has been facilitating network-building among major engineering universities in Asia and Africa through our support to 30 core engineering universities in 17 countries. (See Attachment for JICA's major achievements).

2.1 JICA's New Vision for Education Cooperation

JICA's new vision for our cooperation in the education sector is to realize 'Learning Continuity' for sustainable development, reflecting our commitment to the achievement of the SDGs by 2030.

Figure 1: Conceptual Diagram of 'Learning Continuity'



- 1) JICA aims to ensure Learning Continuity by responding to learning needs of each and every individual through our comprehensive and coherent support covering from pre-primary, primary, secondary, TVET and higher education to literacy and non-formal education.
- 2) JICA aims to ensure Learning Continuity in our education support ranging from emergency responses in conflict and disaster-affected countries to medium- and long-term development support.
- 3) JICA aims to maximize cross-sector synergies in our education policy implementation, placing Learning Continuity at the center of the sustainable development framework. JICA recognizes education as an enabler to deliver other SDGs.

The underlying concept of this new vision is 'Human Security' which focuses on each and every individual to fulfil their own potential. JICA provides support to education in order to ensure learning continuity for all, putting development of the individual at the forefront. JICA aims to ensure provision of quality learning regardless of education level (sub-sector interventions) or country situations (emergency or development spheres), while adopting cross-sector approaches.

2.2 Guiding Principles

JICA implements cooperation in education with the following guiding principles:

(1) Trust

JICA's experience in education indicates that trust is the key to improving the quality of education. For instance, trust between communities and schools is critical in our School-Based Management programmes where local communities and schools work together to resolve educational issues so as to provide their children with quality education. In the area of TVET, a strong trust partnership between TVET institutions and the private sector has enabled the institutions to offer training programmes designed to meet the needs of society. This partnership has also promoted a cooperative environment to jointly support students. In the area of engineering education, the social capital network among researchers in Japan and developing countries has facilitated trust-based collaboration in research and student supervision. JICA, therefore, believes that cooperation that only focuses on technical solutions is not sufficient to bring about transformative changes in education. Our cooperation in education is underpinned by this principle of trust building that allows all stakeholders to openly express their ideas with mutual respect.

(2) Knowledge Creation through Mutual Learning

JICA's comparative advantage in its education cooperation lies in knowledge creation for problem-solving, based on analysis and sharing of the experience and expertise gained from our

support in more than 150 countries. In planning and implementing all future projects, JICA will strongly engage in mutual learning activities. JICA has established a mutual learning approach called Lesson Study, which is a collaborative practice among teachers, schools and regional and global actors, to promote professional communities for providing solutions for educational challenges. Building on good practices gained from our implementation experience, JICA will widely disseminate our outcomes at international conferences and through publications. In the field of engineering education in which Japan has a comparative advantage, JICA will lead knowledge creation for addressing regional challenges, along with sharing Japan's experience.

(3) Equity and Inclusion

Equity and inclusion will be central to JICA's guiding principles to realize SDG4 ("Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all"). JICA will strengthen our support to reach disadvantaged and marginalized groups such as the poor, women, people with disabilities, ethnic minorities and people affected by conflicts and disasters. Attention will be paid to the fact that inequalities are worsened by multiple disadvantages that reinforce each other. In conflict and disaster situations, for instance, disadvantaged groups such as the poor, women and people with disabilities suffer disproportionately. JICA promotes gender- and disability-sensitive approaches to prevent education from reproducing existing inequalities.

2.3 Approaches for Effective Implementation

(1) Strengthening a Linkage between Policy and Practice

JICA's strength lies in our expertise in establishing methods and approaches that can provide solutions to country-specific issues by working together with our partners through trial and error on the ground. JICA will further strengthen the linkage between policy and practice by feeding outcomes acquired through our project implementation into education policies and plans. At the country level, within global frameworks such as GPE, JICA will proactively participate in developing and implementing education sector plans as a member of the Local Education Group (LEG). At the global level, JICA will actively engage in policy dialogue for effective investment in education sector, sharing our outcomes obtained from our country operations. In investing in the education sector, JICA will strategically apply different aid modalities (technical cooperation, grant aid and loans) and dispatch advisors to deliver greater results.

(2) Strengthening Evidence-based Policy Recommendations and Implementation

JICA strengthens the evidence-base for policy recommendations and dialogues as well as the effective implementation of projects. Working closely with partners including universities and academics in Japan and abroad, JICA will identify evidence and research gaps so as to enable us to respond to issues at the country, regional and global levels. Both quantitative and

qualitative methods are applied for project evaluation. Timely impact evaluations will be conducted for our programmes implemented at the regional scale. In addition, visualization of processes and outcomes will be reinforced through enhanced periodic monitoring and evaluations of outcomes. Project related information will be also made public to facilitate academic research and studies. We will contribute to accumulating evidence in the education sector around the world by sharing our findings from research and studies both at international and national meetings and academic conferences.

(3) Strengthening Partnerships with Various Actors

Partnerships with various actors having their own comparative advantages to offer are central to JICA's effective implementation at the country, regional and global levels. We will work closely with partners such as the UN organizations, regional organizations, traditional and emerging donors, governments, CSOs, the private sector and research institutions. In particular, in partnership with the private sector, JICA will: (1) make the best use of the expertise of the Japanese education industry in our project implementation; (2) strengthen linkages between local companies (including Japanese companies) and TVET training institutes to enhance employability; and (3) promote industry-academia joint research.

(4) Creating a Synergistic Effect through a Cross-sector Approach

Education plays an important role in accelerating progress towards achieving the other SDGs. Education is essential in achieving the goals in such areas as disaster risk reduction (DRR), environment, peace and infrastructure in addition to the areas where coordination has already been promoted: health, as well as water, sanitation and hygiene. Integrating education into our support for other sustainable development goals, JICA will strengthen linkages with other sectors and provide assistance in comprehensive and effective manners.

3. JICA's Focus Areas

Guided by the Development Cooperation Charter of the Government of Japan, which respects partner countries' ownership and self-help efforts, and in light of our comparative advantages in education cooperation, JICA will provide assistance in the following four focus areas.

3.1 Quality Education for Learning Improvement

JICA commits to:

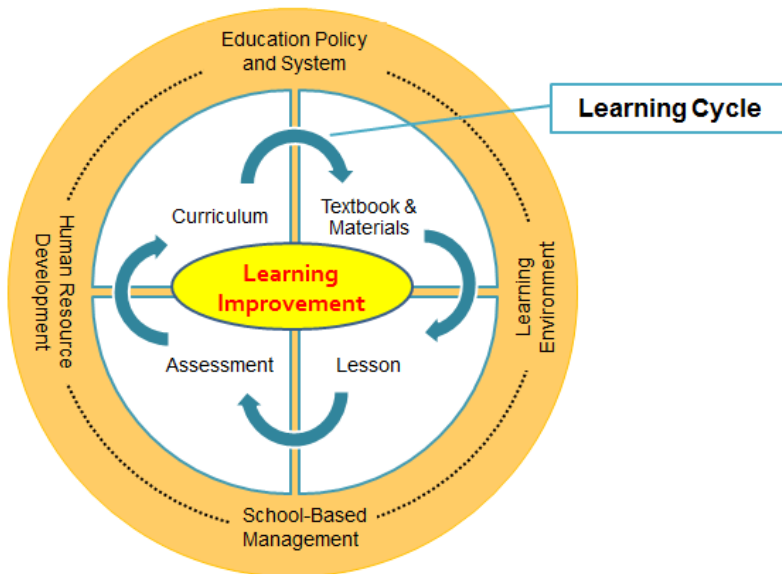
- Providing comprehensive solutions to improve learning of children;
- Promoting global and regional mutual learning in mathematics and science education, School-Based Management and the Lesson Study programmes;
- Providing education to equip learners with knowledge and understanding to respond to global issues as global citizens;
- Participating actively in international and regional assessment frameworks for ensuring quality education; and
- Providing assistance to quality improvement and quality assurance in higher education, with a focus on engineering.

(1) **Comprehensive Approach for Learning Improvement**

- Aiming to equip children with basic skills and the capacity to learn independently, JICA will shift from a traditional approach for improving teacher capacity to new approach for improving learning comprehensively by strengthening the Learning Cycle as shown in Figure 2 below. This approach enables us to provide comprehensive solutions with consistent interventions throughout (1) curriculum, (2) textbooks and teaching and learning materials, (3) lessons and (4) assessment, so that the Learning Cycle is strengthened.
- Specifically, JICA's support to provide comprehensive solutions will be in the following areas: (1) development and revision of systematic and consistent curriculum, (2) development of textbooks which are consistent with the curriculum and learning materials for children's basic skills acquisition, (3) teacher professional development through pre-service and in-service teacher training and development/revision of teachers' guides and 4) improvement of assessment which is consistent with other areas of the learning cycle.
- For the teacher professional development mentioned above, a peer-to-peer learning approach for teachers called Lesson Study will be continuously promoted to facilitate teachers' mutual learning.
- Furthermore, JICA aims to deliver comprehensive solutions based on education sector diagnosis by effectively combining the following areas of assistance: education policy development and sector reform, human resource development, School-Based Management (SBM) and provision of a quality learning environment including school construction.
- Mathematics and science education as a part of basic skills, for which we have a comparative advantage, will remain as our core area of support. Partnerships with the Japanese education industry which has strong expertise in such areas as ICT

(Information and Communication Technology) in education will be promoted in order to meet diverse learning needs.

Figure 2: Comprehensive Approach for Learning Improvement



(2) Promoting Mutual Learning at the Global and Regional Levels

1) Mathematics and Science Education

JICA will continue to promote cross-national learning in the field of mathematics and science education through our third-country training programmes, technical workshops and international conferences. Our collaboration with the Association for Development of Education in Africa (ADEA), the Southeast Asian Ministers of Education Organization Regional Centre for Education in Science and Mathematics (SEAMEO RECSAM) in Malaysia and universities of education in Indonesia will reinforce inter- and intra-regional learning in Asia and Africa in this area. JICA will also support the development and revision of textbooks in secondary mathematics in El Salvador, Guatemala, Honduras and Nicaragua by sharing good practices among the countries. JICA will leverage our experience in these four countries to contribute to the entire Latin American region through collaboration with the Central American Integration System (SICA) and other regional networks in mathematics.

2) Lesson Study

JICA will globally promote mutual learning opportunities for practitioners, applying expertise and networks accumulated as a result of the Lesson Study projects, which have been implemented in 27 countries to date. We will also collaborate with academic societies including the World Association of Lesson Studies (WALS) to promote the creation of global

Lesson Study professional communities. In addition, our partnership with the International Task Force on Teachers Education for All, an organization to coordinate international efforts for well-qualified teachers, will be strengthened to widely disseminate JICA's expertise and experience in teacher education.

3) School-Based Management

In implementing the School-Based Management (SBM) programmes in Africa named School for All projects,⁸ JICA has been promoting mutual learning by organizing regional workshops for knowledge sharing. This initiative will be expanded to other countries beyond the region to facilitate discussions and collaboration in SBM among educators in Asia and Africa. Furthermore, we will closely work with the World Bank, UNESCO, GPE and UNICEF to achieve greater results in the area of SBM programmes.

(3) Education to Address Social and Global Issues

In order to promote education that enables people to draw on their academic knowledge and skills to respond to current and future global challenges, JICA will strengthen our support in the following areas.

- More learning opportunities will be provided for young people to be equipped with knowledge and understanding to become active global citizens, in such topics as the environment, human rights, democracy, peace and understanding for cultural diversity. JICA will also promote the global agenda of the Education for Sustainable Development (ESD) and Global Citizenship Education (GCED).
- Introduction of extra-curricular activities (classroom discussion, cleaning and school events), physical education, art, music, and dietary education will help learners develop non-cognitive and transferable skills such as communication, problem-solving, teamwork and self-motivation skills so as to enable them to play active roles in their society.
- Support for early childhood care and education (ECCE) will be strengthened as a foundation for holistic child development and enhanced school readiness.

(4) Global and Regional Efforts in Assessment for Quality Education

As part of our strengthened support for global and regional efforts to ensure the quality of education, JICA will work more closely with the Systems Approach for Better Education Results (SABER) of the World Bank, the OECD's PISA for Development, the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ), the CONFEMEN Programme

⁸ Communities, local governments and schools participate in school governance through school management committees to take collective action for common educational challenges in order to provide students with a quality learning environment. The programme has been implemented in Republic of Niger, Republic of Senegal, Burkina Faso, Republic of Mali and Republic of Cote d'Ivoire. These projects have enhanced trust among stakeholders and also contributed to reducing teacher absenteeism and student dropout, and have thus improved the quality of education.

for the Analysis of Education Systems (PASEC)⁹ and the Latin American Laboratory for Assessment of the Quality of Education (LLECE)¹⁰.

(5) Quality Improvement and Quality Assurance in Higher Education

- In engineering education, JICA will continue our support for the capacity development of core universities in partner countries for quality improvement and quality assurance. JICA has been providing Indonesia with technical assistance to establish an accreditation body so that the country can join the Washington Accord, which is an international agreement among bodies responsible for accrediting engineering degree programmes. JICA intends to expand such technical assistance to other countries.
- In areas other than engineering, an increasing number of universities are seeking accreditation by external organizations such as the ASEAN University Network (AUN). For instance, JICA will support education improvement at Can Tho University in Vietnam in the areas of agriculture, aquaculture and environment, with the goal of the institution being accredited by an external organization. Furthermore, JICA will strengthen partnership with the Southeast Asian Ministers of Education Organization Regional Center for Higher Education and Development (SEAMEO RIHED), which is promoting harmonization of quality assurance and the higher education system in the region.

3.2 Education for Fostering Equitable and Sustainable Growth

JICA commits to:

- Supporting skills development necessary for decent work by providing assistance to technical education and vocational training (TVET) institutions and to TVET framework development;
- Supporting industrial human resource development by promoting cooperation between industry and academia in universities' educational activities, research and international student admission; and
- Supporting human resource development that contributes to enhanced functions of public administration, a stronger foundation for socio-economic development and a harmonious relationship between Japan and partner countries.

(1) Skills Development Necessary for Decent Work

- JICA aims to enable TVET institutions to provide skills development that helps young people make a smooth transition from education and training to decent work. To achieve this aim, we will support (1) the development of curriculum and teaching materials to meet industry needs, (2) capacity development of TVET institutions' instructors, (3) the

⁹ Programme d'Analyse des Systèmes Educatifs de la CONFEMEN

¹⁰ Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación

acquisition of transferable skills such as work ethics and teamwork and (4) advocacy on worker's rights, safety and welfare.

- JICA will promote collaboration between TVET institutions and public employment security offices to provide career guidance including counselling services on employment and entrepreneurship.
- JICA will assist countries to introduce a trade skill testing and certification system to enhance the employability of individuals and increase their chances for promotion in companies as such external certifications officially qualify the technical skills acquired through vocational trainings.
- JICA will provide comprehensive support ranging from the introduction of unemployment benefits system to the development of labour market information systems, in collaboration with relevant sectors.

(2) Industry Human Resource Development through Industry-Academia Collaboration

- JICA will support improving the education and research capacities of leading engineering universities in partner countries for developing a skilled and educated workforce by promoting capacity development of lecturers, facility construction, research equipment improvement and Industry-Academia collaboration. Industry-Academia collaboration will be also promoted in the form of internships, seminars for companies and company-funded courses at universities, for cultivating skilled workers who meet social needs.
- For Africa's robust and sustainable growth, JICA will continue to support international students to study at universities in Japan who are expected to lead industrial development in the region.
- The African Business Education Initiative for Youth (the ABE Initiative) which provides internship opportunities in Japanese companies will be continued, with an aim to accept a total of 900 interns by the end of the 2017 fiscal year.

(3) Developing Capacity of Government Officials for Nation Building

- Achieving sustainable growth requires stronger administrative functions for the delivery of quality development plans and industrial policies as well as capacity development of TVET institutions and universities. JICA will continue a scholarship programme entitled the Japanese Grant Aid for Human Resource Development Scholarship (JDS) for building civil service capacity in areas of social science including public administration, public policy, economics and law.
- JICA will launch the Pacific Leaders Educational Assistance for Development of State (Pacific LEADS) programme in the 2016 fiscal year to support capacity building for approximately 100 leaders among government officials who will contribute to addressing development issues in the Pacific region.

3.3 Education for Knowledge Co-creation in Society

JICA commits to:

- Strengthening our contribution to science, technology, engineering and mathematics (STEM) development to foster personnel who lead creative efforts in Science, Technology and Innovation (STI) through our seamless support from primary and secondary mathematics and science education to engineering at the tertiary level; and
- Promoting knowledge co-creation by networking of higher education institutions in developing countries and strengthening their partnerships with Japanese universities, in order to advance STI to address local, regional and global issues.

(1) Human Resource Development for Science, Technology and Innovation (STI)

1) **Strengthening Basic Mathematics and Science as a Foundation for STI**

- JICA will remain focused on primary and secondary mathematics and science education, as basic science and mathematics skills provide a foundation for advancing STI.

2) **Human Resource Development in Higher Education Institutions for STI**

- Building on Japan's strengths in engineering education including Laboratory-Based Education (LBE), JICA will support the development of a workforce with management skills in addition to advanced technical and research skills to meet the needs of a changing society. Examples of our support in this area include the Egypt-Japan University of Science and Technology (E-JUST) and Malaysia-Japan International Institute of Technology (MJIT).
- In Asia, in light of Japan's competitive advantage in science and technology, JICA will continue our support to develop human resources for leading STI through facilitating joint research and networking among leading engineering universities. In Africa, JICA will help Africa develop human resources through assistance to the Jomo-Kenyatta University of Agriculture and Technology (JKUAT), which is our long-term partner and a hub for STI in the region.
- Mainly in Africa, JICA will support increasing children's engagement, especially girls, in science and mathematics at the primary and secondary levels. In higher education, particular attention will be given to providing female scientists and engineers with more opportunities to study within Africa and in Japan by setting a quota for the number of female international students.
- JICA will continue to support joint research conducted by researchers in Japan and developing countries in the Science and Technology Research Partnership for

Sustainable Development (SATREPS)¹¹ programme to address socio-economic issues through the practical application of research finding.

(2) Knowledge Networking

- JICA will continue to support the ASEAN University Network / the Southeast Asia Engineering Education Development Network (AUN/SEED-Net) in Asia and the Pan African University Institute (PAU) in Africa, as platforms for brain circulation within the respective regions. JICA will collaborate with these institutions in promoting international student exchanges within the region, inter-university networking and joint research so as to help establish a regional knowledge network to address issues common to the regions, redress intra-regional disparities in knowledge capital and develop human resources for increasing international competitiveness.
- Knowledge co-creation requires horizontal knowledge networking across nations and regions, rather than the traditional vertical transfer of knowledge. Noting this, JICA's support will be focused on facilitating a win-win relationship among universities in developing countries and Japan, which in turn leads to the internationalization of Japanese universities.
- JICA will continue our student exchange programme as part of the 300,000 Exchange Students Plan launched by the Government of Japan in 2008. Furthermore, JICA will explore possible new mechanisms to respond to a growing number of international students, including cost-sharing with private companies.

3.4 Education for Building Inclusive and Peaceful Societies

JICA commits to:

- Supporting education for socially and culturally vulnerable and disadvantaged populations;
- Strengthening our support to provide people affected by conflicts and disasters with educational opportunities and skills in order to earn their livelihood; and
- Supporting countries to develop their nation- and peace-building capacities from a long-term perspective.

(1) Education for the Vulnerable and Disadvantaged Populations

JICA will increase our efforts to reach vulnerable and disadvantaged populations including the poor, girls and women, people with disabilities and ethnic minorities, placing a focus on non-formal education for girls and women and people with disabilities.

¹¹ Website for SATREPS: <http://www.jst.go.jp/global/>

- In countries and regions where girls are more disadvantaged, JICA will cooperate with schools and local governments/communities to promote a gender-sensitive learning environment through gender advocacy campaigns and gender-segregated toilets.
- JICA will help increase the number of female scientists and engineers to be role models for younger generations, by empowering girls and women who pursue their careers in these two areas. Girls will also be encouraged to learn science and mathematics at the primary and secondary education levels.
- JICA will conduct assessments to identify the educational needs of children with disabilities before and after their primary school enrolment in order to provide better support to address individual learning needs.
- JICA will provide support for developing curriculum and textbooks towards establishing a pre-service teacher training course specialized in special needs education and children with disabilities.
- Our considerations for special needs education will include school construction with ramps, slopes and accessible toilets.
- JICA will provide non-formal education opportunities including literacy, life skills and alternative education programmes in countries facing such education challenges as a high proportion of out-of-school children and adult illiteracy, in South Asian countries and others.

(2) Education for Conflict and Disaster Affected Populations

- Building on Japan's rich experience in disaster risk reduction (DRR), JICA provides assistance in psychosocial support for children, DRR education, earthquake-resilient school rehabilitation and construction during and/or after natural disasters.
- JICA will support building a quality learning environment through School-Based Management (SBM) programmes in countries and regions affected by conflicts for many years including refugee-hosting countries.
- JICA will provide skills development support for vulnerable populations in countries and regions affected by conflict for many years, such as refugees, women, people with disabilities and ex-combatants, to enhance their livelihoods.

(3) Human Resources Development for Nation and Peace-building

In countries facing a brain drain due to a long-lasting conflict, JICA will provide support for capacity development for nation- and peace-building from a long-term perspective. For reconstruction and development in Afghanistan, leading Japanese universities have been accepting government officials and university faculty members in their master's courses in agriculture, rural development and infrastructure under the Promotion and Enhancement of the

Afghan Capacity for Effective Development (PEACE) project. This long-term initiative for human resource development will be continued, with a total of 500 participants to be received by the end of the 2016 fiscal year.¹²

¹² Achievement for FY2011–2014: 342 people.

BOX: Key Achievements of JICA's Education Support (2000–2015)

● **Basic Education**

- 1) Access: Built more than 5,500 primary and secondary schools in 46 countries.
- 2) Quality: Trained more than 870,000 teachers in 42 countries (including 850,000 teachers in 42 countries in the area of mathematics and science); provided support to a mathematics and science collaboration network which consists of 27 African countries.
- 3) School management: Implemented School-Based Management in approximately 62,000 schools in 16 countries.
- 4) Training in Japan: 8,042 people from 140 countries attended training courses.
- 5) Japan Overseas Cooperation Volunteer (JOCV): Dispatched 5,289 volunteers to 89 countries.

● **Technical and Vocational Education and Training (TVET)**

- 1) Human resources and skills development
 - Technical Cooperation: Provided a total of 50 technical cooperation projects in 27 countries in development/revision of curriculum and teaching materials and training of trainers, in collaboration with the industry sector.
 - Support for core TVET institutions: Provided facilities and equipment at 11 schools in six countries.
- 2) Skills development to improve the livelihoods of vulnerable populations: Conducted 12 skills development projects in eight countries targeting women, people with disabilities and ex-combatants.
- 3) Training in Japan: 3,695 people from 134 countries attended training courses.
- 4) JOCV: Dispatched 1,004 volunteers to 69 countries.

● **Higher Education**

- 1) Support for core universities: Supported 30 leading engineering universities in 17 countries.
- 2) Support for Networking
 - ASEAN: JICA supported 1,100 students in obtaining their master's degree and/or PhD, and also supported 700 joint research studies, 1,000 published papers and the establishment of a professional network with 600 members (ASEAN: 400 professionals; Japan: 200 professionals).
 - Africa: JICA supported sustainable development of the Pan African University (PAU) hosted at the Jomo Kenyatta University of Agriculture and Technology (JKUAT). Over 20 years of JICA support for the JKUAT, since its establishment in the 1970s, had supported the JKUAT

to autonomously become a leading university in agriculture and technology in East Africa, which currently has more than 30,000 students.

- 3) The Science and Technology Research Partnership for Sustainable Development (SATREPS) programme (2008–present): 41 Japanese universities and research institutes carried out 78 joint international research studies in 39 countries.
- 4) International students in Japan: More than 12,000 students enrolled in postgraduate courses during FY 2000–2014.
- 5) JOCV: Dispatched 2,050 volunteers to 78 countries.