

Prosperity Without Progress: A Contribution Towards Understanding Education Sector Development in Mongolia

Stephen J Duggan

Corresponding author email id: stephenduggan@live.com.au

Date of publication (dd/mm/yyyy): 17/05/2017

Abstract — Technical and vocational education and training has been enthusiastically adopted by bilateral agencies and multilateral development banks as a response to global skill shortages. In Mongolia, vocational training has become the cutting edge of education sector development. But the major bilateral agencies have not understood the function of education in Mongolia's developing economy. Consequently, doing education is going terribly wrong and the great promise of vocational education contributing to national development is being compromised by good intentions but poor practice. Vocational education and training in Mongolia is an example of doing education badly where the collective investment is contributing to excess capacity. This study examines education development through the lens of ethnographic history to explain why an investment in education within a narrow band is more beneficial than an over investment in all the wrong places.

Keywords — Development Assistance, Development Economics, Education System, Vocational Education and Training

I. INTRODUCTION

Wealth is hard to come by, but poverty is always at hand. Sumerian proverb.

Two recent publications on vocational education and training have covers telling interesting stories. One, from Mongolia, shows young men working on modern equipment for metal joinery. Alongside the photo there is another of girls involved with sewing and stitching. The other publication's cover from Laos, shows a young woman demonstrating a system of electrical circuitry drawing on a range of valves and dial indicators to a group of youths. The two covers could not be more striking: one showing a gender segregation typical of our image of education and the other reversing gender roles with a woman demonstrating how things work for a normally male dominated trade.

Modern technical and vocational education and training (TVET) in low to middle-income economies struggles with this type of stereo-typing. TVET is at once seen as a deficit form of education necessary to accommodate the 'less educated' and yet at the same time, a 'silver bullet' for overcoming skill gaps and chronic skill shortages in priority industries and sectors central to national economic growth.

As many overseas development agencies have been scaling down investments in basic education during the 21st century, TVET has been ramped up to meet the challenges of high-levels of unemployment in a context of staggering global skill shortages preventing important economic sectors from developing rapidly and evenly. For

instance, in 2017 Bangladesh, Punjab (Pakistan) and Egypt are aiming to employ millions of new entrants to the workforce by means of TVET courses and qualifications. This training-to-employment transition of such magnitude is a tall order. More so as governments have been led to believe that a TVET graduate is much more employable than a secondary school or even university graduate. This effort needs to be examined to explain if TVET is so responsive to the economic development of low-income economies, why does it take on so many different forms as an education sub-sector yet remain stubbornly undervalued, and more importantly, expendable as a human resource asset?

This paper is concerned with education sector development in Mongolia from the early 2000s to the present. It has been prepared in the context where the author has been involved in TVET sector development in Mongolia, sometimes as a practitioner, other times as an observer. As this study covers 2-decades, I will draw on ethnography and historiography as a lens for explaining how TVET is being done in Mongolia since the early 2000s. This has been a troubling period for Mongolia in its progress towards becoming a robust Asian economy, that unfortunately has gone astray.

II. EDUCATION DEVELOPMENT AND ECONOMIC DEVELOPMENT: A CONFLICT OF MEANING?

Education systems are historically ordered; differently so in different societies. In Mongolia, formal education can be considered as an historical object not so much of its own making but rather of an education order transported by other nations. Seeking an understanding of education development throughout Mongolia during the 21st century is like trying to strike a balance between Mongolia's town of Bayan-Olgii in the far western region and Choibalsan in the far eastern region. The geographical, climatic, economic and population differences could not be more striking. It is a contrast of a wild mountainous and freezing Arctic terrain to the west with the sweeping temperate plains of the steppe populated by large herds of deer and other wildlife. Yet, owing to Mongolia's long historical ties with the former Soviet Union, there are strong similarities in culture, architecture, institutions, aspirations, and world view linking the remote and hard-to-reach western province to its furthest eastern province.

The national education system of Mongolia is characterized by an irony captured by these geographical and climatic extremes. Formal education is highly valued by the state formalities.

¹Enrolment, participation and retention rates of students at all levels of education is extremely high. Indeed, access to pre-schooling, is almost a lens for predicting a child's future. Yet, the national education system has evolved slowly. A nationwide organizational K-12 school structure became a reality for the first time in 2014. Higher education remains an enigma. It remains outdated, poorly financed, under-resourced and stubbornly resistant to change. Yet university enrolments are as strong as those in South Korea and Singapore; a situation made even more remarkable by the over-representation of girls and young women in senior secondary schools and universities and senior academic and teaching positions.

Vocational Education and Training (VET or TVET) was formally incorporated into the national education system as recently as 2006. Today it attracts a heavy investment by multilateral development banks and bilateral agencies. Yet, the number of students exiting TVET with a valid credential in a trade is as low as 2,000 per annum. The irony in this is that Mongolia continues to experience chronic skill shortages with the construction sector alone requiring some 30,000 unskilled, semi-skilled and skilled labor every year which cannot be met by means of a local supply. And yet, the shadow economy, continues to absorb many secondary school and TVET graduates the formal economy cannot seem to attract and hold.

The backdrop to this current situation is a short period of extraordinary economic growth from 2007-2013 followed by a sudden, and perhaps, enduring economic slump. During this time, the nation's capital, Ulaanbaatar, experienced a *construction boom* owing to unprecedented growth in high-rise property development at levels equivalent to other countries throughout the region including PR China and South Korea. Now, the economy is struggling and the short period of prosperity is witnessing increasing poverty and a loss in decent work for those citizens seeking meaningful employment.

III. UNDERSTANDING THE EDUCATION SECTOR OF MONGOLIA

Gita Steiner-Khamsi is a recognized and celebrated international expert on Mongolia's history of education development. Her pivotal study, *Educational Import. Local Encounters of Global Forces in Mongolia* (2006) is a highly-regarded study and a key reference. The study examines how global forces and influences have shaped domestic developments in Mongolia's education system.

Published a decade ago, her observations and conclusions remain relevant today. Indeed, her analysis of the role of multilateral development banks and bilateral donors in

education development resonates a reasonably consistent theme of banks and donors believing that they understand education better than Mongolians themselves.

Steiner-Khamsi's comprehensive studies can be added to that of Professors John Weidman and Regsuren Bat-Erdene who have closely followed education development throughout Mongolia since the start of the 21st century. The numerous studies tell a tale of Mongolia's struggle to forge its own identity through the national education system and cultural endowments amidst the facilitating forces made available by generous investments in the sector through development assistance. This struggle continues today as the education system seeks to become more responsive to the employment demands of Mongolia and the region despite a low financial and human resource base.

Historically, education development in Mongolia and the nature of its educational institutions cannot be separated from lengthy historical ties with the former Soviet Union. Until the collapse of the Soviet Union in the late 1980s, Mongolia's education and employment situation was locked into a northern hemisphere system captured by the term Soviet Empire. Formal education replicated the school organization of Russia and many Mongolian school and university graduates were educated and employed in Russia and other Soviet republics.²

Steiner-Khamsi observed that 'culturally an outlier with Central Asia, Mongolia's educational reforms both before 1990 and after have been entirely in line with what other socialist or post-socialist countries have been experiencing'.³ The ties to the former Soviet Union remain obvious today in the public Universities and secondary vocational schools (also known as Vocational Training and Production Centers or VPTC). However, when the Soviet Union lost relevance to Moscow, the numerous State-owned VPTCs were no longer meaningful for a Mongolia seeking stronger ties with Brussels, Canberra, Seoul, Tokyo, and Washington DC. It is at this point that understanding education and education development in Mongolia in the 21st century comes into sharp focus.

IV. THE ENTRY OF BANK AND DONOR LED DEVELOPMENT ASSISTANCE

The Asian Development Bank (ADB) entered Mongolia soon after it became fully autonomous from the Soviet Union. Its entry was understandable. Mongolia had ties with both South Korea and North Korea. It remains the case today. To this end, the ADB funded several sector reviews leading to loan programs in support of education sector development. From early 2000 to 2012, ADB funded 3-major investments in education sector growth. The aim was

¹J. Weidman, John C. & Brian Yoder, Policy and Practice in Education Reform in Mongolia and Uzbekistan during the First Two Decades of the Post-Soviet Era. *Excellence in Higher Education*, 1, 2010 pp. 57-68. <http://ehe.pitt.edu>, and J. Weidman, John C., Regsuren Bat-Erdene & Erika Bat-Erdene, Schooling in Mongolia, in Gerard A. Postiglione & Jason Tan (Eds.), *Going to School in East Asia*, Westport, CT: Greenwood Press, 2007.

²J. Weidman, Regsuren Bat-Erdene, Ochir Gerel, & Dendev Badarch, Mongolia, in Gerard Postiglione & Grace C.L.

Mak (Eds.), *Higher Education in Asia: An International Handbook and Reference Guide*. Westport, CT: Greenwood Press, 1997, pp.199-202.

³G. Steiner-Khamsi & I. Stolpe, *Educational Import. Local encounters with global forces in Mongolia*, Palgrave Macmillan, New York, 2006, pp.13-16.

to draw on education and training as a driver of economic development rather than reflecting that development.

The literature on *processes* of educational change in developing countries earned strong currency during the 1970s when the International Bureau of Education initiated analytical studies on deliberate attempts to improve or change the educational landscape of developing countries and their low-income economies. The initiative aimed to improve the capacity of educational leaders and planners in developing countries to better plan and conduct their own programs as a mean to solving inconsistencies between aspirations for the education development cum economic development nexus, and the actual results.⁴

The focus on process over product was interesting as until then, as seems to be the case now, international investors in education were more concerned with products (as outcomes) than improved and sustainable processes or systems. Since then, the literature on educational change, continuity, and stability, has burgeoned as increasing numbers of scholars try to figure out if education systems are precursors for change or a symptom of change or continuity.

The contribution of an education sector's stimulus on economic progress continues to invite controversy as it is often recognized that when economies expand rapidly, they need a robust education sector. But during economic crisis, or corrections, or structural re-adjustments situations, the education sector can take a back seat to accommodate a reduction in public spending on the sector.⁵ Indeed, my own research on Cambodia (1990-1996) and Viet Nam (1997-1999), at the time both transitional economies, grappled with the fact that education systems charged to lead economic recovery, are too often left behind as other imperatives, such as geo-political realignments, of which education has no place, take hold. In terms of macro-economics, education is a micro-level domain whose influence on economic growth is seriously over-estimated.

In Mongolia, the literature on education, although not wide ranging, wrestles with change processes as the title of works by Steiner-Khamsi and Weidman often suggest. The situation in Mongolia is somewhat unique, given the level of donor involvement. With a population of just under 3 million, there has been literally a plethora of donor contributions to education development. Steiner-Khamsi observed that in relation to donor logic:

Thirty percent of all loans and grants that the Mongolian government has received have been spent on "technical assistance", that is, on international experts sent to Mongolia for short-term missions. The lack of any serious attempt to reduce dependency on these consultants is ironical given the rhetoric of national ownership, cost-

effectiveness, program efficiency, and local capacity building among international donors ...

Whereas the donor logic of the Asian Development Bank and the World Bank is finance driven, the logic of bilateral aid agencies is self-referential in a different way. The bilateral agencies ... selectively export "best practices" from their own educational systems that are supposedly missing or under-represented in Mongolia.⁶

The approach Steiner-Khamsi observed a decade has hardly shifted. Yet in the decade since, the economy of Mongolia has risen from a state of relative inertia to a possible Asian Tiger, only to slump back into recession. So, it is time to examine what has occurred since 2005 from an analytical and critical perspective.

V. STORY AS METHOD: DESCRIBING EDUCATION DEVELOPMENT

In relation to development economics and the role of education sector, educational research has experienced many twists and turns. For instance, when critical theory (of education) began to stretch its legs in the late 1980s and early 1990s, dependency theory, then the Trojan Horse that had entered the realm of modernization theory, world system theory and human capital theory - historically the terrain of investors and donors - was on the wane.

Beginning in early 2005, my own work in Mongolia followed the traditional pattern of a multilateral development bank's new loan program. A situational analysis of the education sector was developed drawing on a needs assessment, gap analysis and a wide range of metrics to assess sector performance over 1990-2004. This was followed by a comprehensive and detailed sector review and analysis (*Mongolia Education Sector Review*) and the preparation of a 5-year sector development strategy appraising the quality of entry, affordability, and cost (for a loan under the Third Education Development Program or TEDP). The sector review and analysis was the most comprehensive to have been developed for Mongolia and proved to be of great value to plans by the World Bank to enable Mongolia's access to the Fast Track Initiative-Catalytic Fund.

The sector analysis and design for the loan, proved to be a catalyst for several educational innovations. It argued for the full introduction of the K-12 model for school education. In 2005, many schools completed secondary education in Grade 11 whilst students in VTPC's exited at the end of Grade 9 or Grade 10. As noted, by the start of the 2014/2015 school year all secondary schools throughout

⁴ R.G. Havelock & A.M. Huberman, Solving Educational Problems. The theory and reality of innovation in developing countries, IBE Studies and Surveys in Comparative Education, UNESCO, France, 1977, pp.118-128.

⁵ Most economic analysis for long-term economic growth, shows a strong correlation between senior secondary education and higher education and economic development. This is particularly so when robust foreign direct investment (FDI) attracts technology and skills from abroad to promote the development of new industries

and services. Investment in education combined with imports of knowledge, management skills and technology through FDI have been the key elements of growth in PR China, Thailand, South Korea, Taiwan, and Singapore. In the case of Mongolia, robust FDI has been recent and short lived. Personal communication with Jens Claussen, May 2017.

⁶ G. Steiner-Khamsi & I. Stolpe, Educational Import. Local encounters with global forces in Mongolia, Palgrave Macmillan, New York, 2006, pp.74-76.



Mongolia had converted to the Grade 7-12 school organizational structure.

To accompany this change, major reforms in curriculum development were required to ensure that curriculum programs were in harmony with curricula in North Asia. This was important as many Grade 12 exit students continued higher education in South Korea and PR China. Vocational Education and Training was formalized as another approach to secondary school education. Many rural secondary schools had vocational education streams owing to policy drives in this area during the 1960s and 70s when the Soviet Union constructed new cities in Mongolia's numerous largely rural *aimag*. But at the turn of the century, many of these schools faced closure owing to an antiquated Grade 6-10 organizational structure and expensive school campuses requiring long-term student residency and school generated electricity supply.⁷

The TEDP saw secondary school vocational education formalized as a distinct sub-sector. This was ratified and stipulated in the project-led *Master Plan of Education Development 2006-2015*, and further consolidated in 2014 when VTPCs introduced Grade 12. For some observers, these comprehensive education reforms driven by the ADB from the mid-1990s to 2012, have seen the process of education development effectively 'captured' and 'regulated' by investment banks. This though was not the case in Mongolia as officers within the Ministry of Education viewed donor activity with a discriminating 'eye'. This involved a commitment to their own development as educational leaders and planners to plan and conduct programs with the aim of transitioning any group of imported educational processes and products to a fully operational and modern Mongolian system. This was certainly the case with secondary school vocational education.

Vocational Education and Training in Mongolia, as with most former Soviet systems, had long been housed within the Ministry of Labour. The TEDP and Master Plan enabled secondary school vocational education to be re-settled into the Ministry of Education. It was a timely move as momentum was growing nationally for the acceptance of a globally led investment in Mongolia's enormous reserve of minerals including coal, copper, uranium, and gold. Up to this time, most mining operations were held in the hands of the State and the mining interests from PR China and Russia. However, by the mid-2000s, the government was prepared to relax restrictions on mining investors from North America and Australia and other major multinational corporations with mining operations across the globe. It was described as follows:

The OyuTolgoi Project is the largest resource development undertaking in Mongolia's history. Recognized as one of the world's largest undeveloped porphyry copper-gold deposits, OyuTolgoi (Turquoise Hill) is in Mongolia's South Gobi region, approximately

550 kilometers due south of Ulaanbaatar and 80 km north of the Mongolia-China border. An exploration program begun in 2000 discovered a chain of significant copper and gold deposits. Ivanhoe Mines and its strategic development partner Rio Tinto are in an advanced stage of planning for an open-pit mine and a large underground mine on the OyuTolgoi licenses.⁸

In anticipation of this development, numerous international firms had set up operations throughout Mongolia in what was planned to be the mining supply chain and value chain of services. A major supplier of heavy vehicles and equipment had already installed education and training programs from the United States to develop a pool of skilled workers and service technicians to meet the expected demand from new large-scale open cut and underground mines, in the furthest southern parts of Mongolia. The Ministry of Education, mindful of the need for new graduates suitable for the many mining trades, and aware of the limits of the national education system to meet that demand, looked towards new funding options beyond the Asian Development Bank and others, who may be sympathetic to financing TVET.

To this end, late in 2006, the government invited me to return to Ulaanbaatar to prepare a proposal for the funding of TVET. The government had been assessed by the Millennium Challenge Corporation (MCC) within the State Department of the government of the USA to be eligible for MCC funding. The Ministry of Finance of Mongolia had prepared a proposal for this but it was rejected by the MCC. Under the influence of education specialists from the World Bank, the MCC was not convinced about the merit of public spending on TVET believing that this education sector was most efficiently handled by the private sector.

The Ministry of Education in Ulaanbaatar was offended by this position so at its own expense, brought me back to prepare a second draft. Working with 4-teams working on submissions for the MCC Compact, I prepared a fully costed proposal based on a narrow-band investment. Titled the *Technical Education and Vocational Training Proposal for the Millennium Challenge Account-Mongolia*, the modest scope included:

- (i) An agreed national vocational education sector strategy and policy framework;
- (ii) Development of a National Qualifications Framework relevant to Mongolia;
- (iii) Development, writing and piloting of training modules (and units of competency);
- (iv) 6-Vocational Training Colleges rehabilitated and upgraded (operated by the Ministry of Education, Culture, and Science); and
- (v) Selected instructional laboratories modernized, re-equipped and made operational.

⁷Ibid., pp.99-108.

⁸Gobi Region Technical and Vocational Skills, Labour and Training Survey, Millennium Challenge Account-Mongolia, RFP No: CA/MCA-M/MCC/TVET/ QCBS /CS/XX/2009.

In terms of project components this translated into:

- Implementation of a legislative and regulatory environment and framework in support of TVET reform;
- Progressing policy priorities and recommendations into action including the installation of the relevant TVET instruments for training organization registration, course accreditation, standardization of courses and units of competency and assessment, moderation, and audit;
- Development of an industry-led skills training standards and curriculum;
- Development of core technology training materials including equipment for core technology training;
- Improved teacher and instructor professional development; and
- Implementation of a career guidance and student information system.

This scope was based on 3-key objectives for secondary school vocational education and training set out in the Master Plan, namely (a) increased enrolment in technical education and vocational training by 56%; (b) improved quality and relevance of technical education and vocational training to create supplies of human resources to ensure that labor market demands are met; and (c) renewal of management in support of technical education and vocational training.

The proposal to the MCC focused on ensuring that key actions were taken *swiftly in discrete but critical areas*. For instance, only 8-VTPCs⁹ would benefit out of 65 State-owned secondary vocational schools. This included those housing a regional training center for the in-service training of VTPC teachers. Funding aimed to (i) meet re-training imperatives of VTPC school administrators and teachers, and, (ii) put in place for the government, strategies for creating the legal and regulatory environment to support systemic and institutional reforms in support of a modern TVET system.¹⁰

The first imperative was necessary as most teachers in VTPCs were graduates from the State University for

Pedagogy (now the Mongolian National University of Education). These were fully trained and qualified secondary school teachers. Most had limited exposure to industry. Accordingly, formal TVET in Grades 9-11 was largely academic and theoretical in nature. Indeed, those students who completed Grade 11 were eligible to sit university entrance examinations. Many did so and successfully entered university.¹¹

Although the *Master Plan for Education Development 2006-2015*, which was an off-spring of the TEDP, in relation to formally ratified secondary school vocational education, the necessary institutions, instruments, and legal environment in support of this, did not exist. As I have argued elsewhere¹², although investors in TVET saw ample scope for scaling up secondary vocational education and training to meet new employment demand in priority economic sectors, a formal TVET system did not exist. This led to the second imperative.

Regulations concerning the registration and licensing of TVET providers, the legislative framework to conduct reviews and audits of TVET institutions and staff (teachers, instructors, trainers) and provisions for the safety, well-being and support of students were absent. Certainly, the VPTC's provided basic education in vocationally oriented disciplines, but there were no formal or regulated provisions for apprenticeships and apprentice training. Nor were there school-based provisions for industry engagement. The curriculum programs underpinning trade disciplines were not actually applied

training. Accordingly, the TVET proposal and the Master Plan were about:

Developing and improving the governance of the Mongolian education system to put in place a rational streamlined governance for the emerging vocational education sector.

Enhancing the relevance and quality of secondary school vocational education and training to respond to labor market need, starting with curriculum development and training products pilots focusing on selected key economic sectors such as mining, construction, and road engineering.

⁹These were: Clangor College, Uvsaimag (western region); Technical and technological multi-step school, Choibalsan City, Dornodaimag (eastern region); Technical School, Arvaaher City, Uvurkhangaiaimag (Khangai region); Sainashand City VTPC, Dornogovaiimag (Gobi region); Darkhan-Urgoo School, Darkhan City; Vocational School Orkhon City (Erdenet); Nalaikh VTPC (outer district of Ulaanbaatar); and the Mongolia-Korea Vocational College, Ulaanbaatar.

¹⁰*Policy Advice and Recommendations. Skills training and entrepreneurship development for the unemployed and poor*, Social Security Sector Development Program, October 2004; *Technical Education and Vocational Training Subsector Report*, Third Education Development Project, July 2005; *Interim Report - Vocational Education and Training Policy Framework*, Third Education Development Project, October 2006; *Recommendations relating to a political framework for reformed vocational education and training in Mongolia*, Urban Development, Construction Sector and VET Promotion Program, GTZ, December 2006. The 2006 GTZ (now GIZ) policy study argued for revitalization of the National Advisory Board for

Vocational Education and Training. It recommended renaming it as the National Council for formal and nonformal VET. The report argued that a *'labor market oriented VET system needs the active participation of all major stakeholders. A collaboration can only function when all partners are equally involved in decision-making processes. It is strongly recommended that all actions of line ministries and the private sector concerning VET, should be or even have to be based on recommendations from NABVET'*.

¹¹S. Duggan, *Pre-feasibility Study on Vocational Training, and Production Centers throughout Mongolia likely to benefit from the upgrading and modernization of learning environments*, Millennium Challenge Corporation, Ulaanbaatar, 2009, and S. Duggan, The expanding boundaries of industry-based training and online learning in Mongolia, *Journal of the IVETA*, December 2013.

¹²S. Duggan, The expanding boundaries of industry-based training and online learning in Mongolia, *Journal of the IVETA*, December 2013 and S. Duggan, Approaches to the quality improvement of TVET teachers in Mongolia: A lost opportunity, *TVET online*, Issue 5, 2015 www.tvet-online.asia

Supporting the transition to employment to increase the employability of Mongolian school graduates, unemployed youth, jobseekers, and workers populating Mongolia's significant shadow economy.

In 2007, secondary school vocational education was provided in the VTTCs in Grades 9 and 10. Technical training occurred in Grade 11 and ran for 18-months for the few remaining students not exiting on completion of Grade 10. This was what the VET Proposal was seeking to assist and improve.

Education is by no means an exact science. As far as social science disciplines are concerned, education sits uncomfortably among the many bodies of theory that populate the social science spectrum. Education does not have its own theory to ground thinking. It borrows liberally from other social sciences principally sociology and psychology. Accordingly, too many education specialists tend to apply education without figuring out how education is socially constructed and historically ordered. Doing TVET in a developing country as Mongolia, can highlight how a simple investment can go astray when new imported processes, products, outlooks, and aspirations are applied without the required theoretical and practical tools relevant to that country.

The design phase of a development assistance project is about constructing a hypothesis to bridge the gap between an actual situation to a desired outcome (within 3 or 5-years). As a hypothesis, the design outlines how a national education system is finding expression and where that expression falls short of what the system requires. It is during the development and implementation period where the design is grounded.

Owing to the nature of a donor getting the design into a contractible set of components, component activity and outcomes, and because of the competitive tendering process, the original hypothesis is often compromised as both donors and companies try to figure out how a 3 or 5-year plan of action can be broken down into affordable pieces, how those pieces can be sequenced, and at what point the separate pieces will intersect to meet the expected project outcomes. By its very nature, this becomes a process and putting together a 10,000-piece jig-saw puzzle by different players who occupy a different space and time. Five years is hardly long enough for the various pieces to come together.

With the approval of the program by the MCC, the landscape altered. TVET arrived and so it seems, did a global wardrobe of new TVET fashions. Through funding from the MCC, MCA-Mongolia's TVET program was based on:

- Reforms to TVET Policy and Operational Framework Activity.
- Creation of Skills Standards and Competencies System Activity.
- Competency-Based Training System Activity and
- Career Guidance System Activity.

The component structure of the Compact differed to the design, and so did the aspirations. In 5-years, the project was expected to almost double the enrollment of long-term students in approximately 65- training centers from the 2008 enrollment of under 20,000 students to more than 40,000. Enrollment in short-term training courses was going to significantly increase. Further, the project aimed to improve the quality of, and to expand access to, TVET by re-training several thousand teachers and trainers already in service. In aggregate, the project expected to improve the wage and employment prospects of approximately 170,000-TVET graduates.

This intervention demonstrates the gap between the aspiration the original design. The VET Project had a narrow focus on a few VTTCs and several hundred teachers but also, a significant effort to move secondary vocational education and training as a sub-sector in the Master Plan to the development of a stand-alone TVET system with the necessary agencies, instruments, and compliance measures to ensure the system not only grew legs, but could stretch those legs. But since the design, there had been another significant development

In early 2009, a private sector multinational investment group, Oyu Tolgoi made a significant commitment to invest heavily into the Mongolian vocational education sector. This involved: (i) establishing world class Technical and Vocational Education and Training centers, (ii) investing in improvements to existing TVET centers, and (iii) supporting efforts by the Government of Mongolia to reform and develop a world class vocational education system. The investment was set at Mongolian Tugrik 168 billion. Key program activity included:

- Implementing a 5-year strategic plan to develop a skilled workforce.
- Building mining schools of excellence in Dalanzadgad and Nalaikh.
- Building a Technical Training Centre in Khanbogd and upgrading school buildings and construction of sports halls and student dormitories of Polytechnic colleges in Darkhan-Uul and Govisumber provinces.
- Investment in upgrading and improving training equipment and curriculum of vocational schools in Erdenet, Ulaanbaatar, Darkhan, and Choir, and
- Creating a scholarship program to support 200-students at Mongolian universities and 30- students in universities abroad.¹³

In a press release in 2010, Oyu Tolgoi advised that on June 2010, Oyu Tolgoi and the Ministry of Education, Culture and Science had signed a Memorandum of Understanding on collaboration development of the vocational education and training sector. Under the memorandum, Oyu Tolgoi committed to invest US\$126 million for implementation of a program focused on

¹³Ivanhoe Mines Ltd, Oyu Tolgoi Project Technical Report, June 2010.

development of Mongolia's workforce and improvement of the technical and vocational education system¹⁴.

With the international TVET community aware of these significant developments - the MCC and OyuTolgoi contribution to education sector development was the biggest investment in Mongolia's history - additional players aimed to be involved with this major workforce development exercise. The governments of Germany, Switzerland, Singapore, and Australia embraced the emerging situation in Mongolia. The European Union, Asian Development Bank and various international NGOs turned their attention to an investment in education that was linked to mining. With growing global skepticism that large mining exercises in Mongolia's environmentally fragile southern provinces would lead to increasing poverty at the expense of economic growth, this interest was likely to move beyond the frontier of the emerging TVET sector.

When Technical and Vocational Education and Training is condensed into a single word, TVET, it takes on the form of an old name that is still on everyone's lips that has acquired connotations far removed from the original meaning. This was certainly the case in Mongolia. TVET was a new term. Vocational Education and Technical Training were part of the existing education landscape. And so, it happened in Mongolia that as the development phase moved into implementation, it saw international experts from many donors and private sector speculators, carrying in their own luggage to describe Mongolia's TVET system and the issues, gaps, and constraints that system faced for executing successfully education reform.

The issue here, was that there was no system. At the time, it seemed that TVET was everyone's lips and the connotations included a dual system well known in European education and training systems, technical and further education, Further Education and Training, vocational and technical schools, community colleges and soon. These connotations however, frequently covered secondary school vocational education with Grade 10 or its equivalent being the common entry point.

In Mongolia, most VPTC students exited after Grade 9 or 10. Few qualified as semi-skilled labor. They entered VTPCs as unskilled and exited unskilled. The few students entering Grade 11 continued their training for 1.5 years and did graduate as qualified labor but their TVET Diploma would not find a place in terms of equivalence in say the Scottish Qualifications Framework. On average, around 2,000 Grade 11 students graduated annually from a Grade 9 and 10 baseline of 30,000 to 40,000.

To illustrate, under a typical apprenticeship system the training structure, including entry and exit points, consists of: (i) intermediate level apprenticeship (Level 2); (ii) advanced level apprenticeship (Level 3); and (iii) higher

level apprenticeship (Level 4). Did this structure exist in Mongolia? Was the TVET sector close to installing this structure linked to international norms in employment classification and standards? These questions remain relevant today.

VI. EDUCATION SECTOR DEVELOPMENT AS AN UNFINISHED AGENDA

The absence of a TVET system did not discourage the export of TVET into Mongolia. Various donor agencies sought to invest into TVET sector development by means of 'capturing' specific geographical areas (such as the Swiss focusing on Mongolia's western *aimag*, the Germans paying attention to the southern and central *aimag*, the Americans, where possible, the entire nation, whilst the EU saw value in investing in key TVET features such as the development of a National Vocational Qualifications Framework). As VPTCs *appeared* to be technical and vocational schools, they quickly became beneficiaries of generous grants and technical assistance.

Without heeding to the fact that key TVET instruments did not exist, the TVET vernacular was drawn upon and the VPTCs and the general secondary school teachers who staffed them, became involved with (i) competency-based training (CBT) and competency-based training systems, (ii) the piloting of Training Packages in priority sectors including mining and mine operations, food processing, trades central to construction and urban development, (iii) the use of state-of-the-art instructional technology including modern simulators for welding, heavy vehicle driving, electrical circuitry, and systems for water supply and sanitation, and (iv) many workshops, seminars and conferences on how TVET was most suited to meet with and engage with Mongolia's need to maximize the education-to-employment transition.¹⁵

Still, the international players concerned with educational export, worried about the absence of a peak national TVET agency and the necessary regulatory instruments for the registration and annual compliance audit of TVET schools and colleges. Development of a vocational qualifications framework became the domain of bitter argument over which international model of a national qualifications was most suitable: Australia, the European Commission, Australia, Germany, Australia, Scotland, Australia, or a market garden variety specific to Mongolia.

Most donors decided that secondary school teachers and university lecturers needed training as TVET trainers. These were already qualified secondary school teachers and academics often from peak national universities. Over 40-VTPCs received significant injections of funds to train students in trades that were not in demand. Several in the

¹⁴<http://ot.mn/reports/>; <http://ot.mn/tvet-school-builds-and-upgrades/>; <http://ot.mn/vocational-education-and-training-projects/>; Austrade, Mongolian Mining Projects Report 2011, Commonwealth of Australia, Canberra, 2012, and Central Queensland Institute of TAFE, Mongolian Mining Sector Training Recommendations, 2012.

¹⁵Howard J. Shatz, Louay Constant, Francisco Perez-Arce, Eric Robinson, Robin Beckman, Haijing Huang, Peter Glick, & Bonnie Ghosh-Dastidar, *Improving the Mongolian Economy and Enhancing Opportunities for Youth*, RAND Corporation, Santa Monica California, 2015; S. Duggan, *Approaches to the quality improvement of TVET teachers in Mongolia: A lost opportunity*, *TVET online*, Issue 5, 2015 www.tvet-online.asia.

western provinces of Mongolia received very expensive equipment for courses where they had no students. Others received state-of-the-art technology that could not be operated by teachers and trainers. The major investment in equipment escaped the need to have curriculum reforms in place so that the use of equipment matched an instructional program.

During this period of donor and private sector expansion in TVET, traditional education sector partners for Mongolia were ignored. This included South Korea whose TVET system was the most logically suited to Mongolia. Other TVET players from Singapore, Italy, and Denmark, entered the TVET landscape and highlighted their niche in TVET sector development. In the meantime, the essential legislative and regulatory environment for building a TVET system, was relegated to the long-term carpark as international players busily populated the sector by means of advancing their own approach to TVET communicated by their own experts.

The TVET carried into Mongolia by outside experts was meant to be pitched at Grades 9 and 10 and involved school education. Instead, they served *ana la cartemenu* more suitable for that level of vocational and technical education at Grades 11 and above. Yet, as noted, at the time, most students in the VPTC left after Grade 9 or 10. In an odd twist, the Germans, normally wary of Australian TVET, imported Australia's TAFE courses and qualifications, and recruited Australian TAFE staff. Despite this significant investment in TVET sector development was however, short-lived. The romance with global import unraveled.

In 2013, the government froze the expansion of OyuTolgoi. Within months, the mining supply chain and all accompanied training had collapsed. Proposed plans for the employment of thousands of mine workers disappeared. In June 2015, I was asked by a despairing OyuTolgoi executive, why had MCC invested deeply in so many VTPCs which OyuTolgoi tried to match? I explained that the plan was to invest in 8-VTPC only. That was all the economy could afford, and it was all that was necessary. There was no need to invest in TVET in many VTPCs which at the end of the day, were secondary schools. The maxim of investing in the manageable few rather than the unaffordable many, had been the driving principle.

When projections on TVET enrolment were conducted in mid-2014, it was recognized that the rapid expansion in VTPC enrolments was unsustainable and would begin to decline dramatically by the end of 2016 and continue to slide until 2020. The ADB recognized that Mongolia's unemployment situation had not been addressed by investments in school-based TVET. Many unskilled new entrants to the labour market each year, were not being absorbed as workers. Accordingly, the ADB spoke less of TVET and more of skills development and skills for employment.

In the meantime, the significant international interest in TVET sector development had led to serious inroads into formal senior secondary schooling and higher education. The government's expectations on a significant revenue stream from OyuTolgoi had not materialized and its own reserves had eroded owing to increased spending. The

situation moved towards a financial crisis in public expenditure resulting in the IMF entering the scene in late 2016 to engineer an economic structural adjustment program.

Predictions of ongoing 13% growth in annual GDP were seen to be wildly optimistic. The economy of Mongolia today now struggles to protect levels of economic development it enjoyed as recently as 2013. TVET has once again, become the bastard child of a national education system seeking a solid link between formal schooling and employment.

VII. CONCLUSION

Recent education development with a focus on TVET should provide an insight into the economic life of Mongolia given that TVET and the economy are meant to be tightly integrated. Indeed, in Mongolia, ideally, the robust investment in vocational education and training normally forms a base of the Mongolian socio-economic pyramid. Instead, what we have is a series of ambivalent conquests into educational innovation driven by donor geopolitical imperatives.

It is a story of serious conflicts of interest over the implementation of educational reform and the exercise of multilateral and bilateral aspirations for their own in-country and regional presence. Each contributing foreign agency has emphasized strategies and tactics available for education development that have created conditions for contributing to failure. A robust examination of education development in Mongolia since Steiner-Khamsi's watershed study should normally be clinical, precise and accurate. As I have been a participant, observer and contributor to action taking place over 2005-2015, this clinical precision is unlikely.

ACKNOWLEDGMENT

Stephen J Duggan, the Author, thanks Jens Claussen (www.ncg.no) for his valuable contribution and insights into the preparation of this study.

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AUTHOR’S PROFILE

Stephen Duggan is currently a Senior Consultant for the World Bank funded Education Quality Reform Project in Mongolia. He specializes in the area of development economics concerned with the relationship between education sector development and economic growth in developing countries. Stephen has published widely on this relationship in Cambodia, Viet Nam, Mongolia, and the Pacific.