

## Keynote Paper: **A Capstone Project of Education for Sustainable Development**

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### **ABSTRACT**

In 2013, two global development frameworks were proposed: United Nations' Sustainable Development Goals (SDGs) and China's "One Belt, One Road" (OBOR) Initiative. SDGs require a revolution in economic planning, political cooperation, business leadership, and technological advancement. Simultaneously achieving economic growth, social inclusion, and environmental sustainability—the three pillars of sustainable development—run counter to recent development history in most parts of the world.

The ambition and scale of OBOR is precisely what is needed for the SDGs. Although OBOR is not explicitly an SDG initiative, it embodies many of the same principles that are needed for SDG implementation: long term planning, cooperation between states, and the development of public-private partnerships.

The SDGs and OBOR are mutually supportive developmental agendas. In fact, OBOR has been transformed into the world's first transregional attempt to implement the SDGs. Nowadays, we are learning the largest lesson in the world. Gradually, we have learnt a lesson that Education for Sustainable Development (ESD) is key factors of these development agendas.

To advocate SDGs, Hong Kong Institute of Education for Sustainable Development (HiESD, a Category 2 institute of United Nations Educational, Scientific and Cultural Organization (UNESCO)) has initiated various ESD projects and programs in the last decade. In 2018, HiESD designed a new training program of ESD which could be regarded as a capstone project. Sustainability is an interdisciplinary subject which fascinates us and demonstrates significant impact upon different aspects of our life. In reality, our world needs new curriculum of ESD. In such circumstances, this exploratory study commenced.

**Keywords:** Action Learning; Blended Learning; Education for Sustainable Development; Sustainable Development; United Nations Sustainable Development Goals.

### **1. Introduction**

In 2017, World Institute of Sustainable Development Planners (WiSDP) was established. WiSDP is an international training organization as well as a global certification body. It is a strategic partner of the United Nations Educational, Scientific and Cultural Organization (UNESCO) Hong Kong Association, a registered charity under the national authority of UNESCO in the People's Republic of China.



Both organizations advocate the United Nations Sustainable Development Goals (UNSDGs). In September 2015, the leaders of all 193 member states of the UN adopted Agenda 2030, a universal agenda that contains

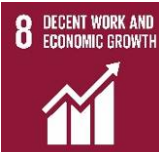









17 Sustainable Development Goals which in turn hold 169 targets and 230 indicators. In practice, 17 UNSDGs are interchangeably called the Global Goals for Sustainable Development.



The Global Goals are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including those related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice. The Goals interconnect and in order to leave no one behind, it is important that we achieve each Goal and target by 2030.

Figure 1: United Nations Sustainable Development Goals towards 2030

SDG	Descriptor
<p><b>1</b> NO POVERTY</p> 	End poverty in all its forms everywhere
<p><b>2</b> ZERO HUNGER</p> 	Zero Hunger
<p><b>3</b> GOOD HEALTH AND WELL-BEING</p> 	Ensure healthy lives and promote well-being for all at all ages
<p><b>4</b> QUALITY EDUCATION</p> 	Obtaining a quality education is the foundation to creating sustainable development. In addition to improving quality of life, access to inclusive education can help equip locals with the tools required to develop innovative solutions to the world's greatest problems.
<p><b>5</b> GENDER EQUALITY</p> 	Achieve gender equality and empower all women and girls
<p><b>6</b> CLEAN WATER AND SANITATION</p> 	Ensure access to water and sanitation for all
<p><b>7</b> AFFORDABLE AND CLEAN ENERGY</p> 	Ensure access to affordable, reliable, sustainable and modern energy

SDG	Descriptor
 <p>8 DECENT WORK AND ECONOMIC GROWTH</p>	Promote inclusive and sustainable economic growth, employment and decent work for all
 <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	Build resilient infrastructure, promote sustainable industrialization and foster innovation
 <p>10 REDUCED INEQUALITIES</p>	Reduce inequality within and among countries
 <p>11 SUSTAINABLE CITIES AND COMMUNITIES</p>	Make cities inclusive, safe, resilient and sustainable
 <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>	Ensure sustainable consumption and production patterns
 <p>13 CLIMATE ACTION</p>	Take urgent action to combat climate change and its impacts
 <p>14 LIFE BELOW WATER</p>	Conserve and sustainably use the oceans, seas and marine resources
 <p>15 LIFE ON LAND</p>	Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss
 <p>16 PEACE, JUSTICE AND STRONG INSTITUTIONS</p>	Promote just, peaceful and inclusive societies
 <p>17 PARTNERSHIPS FOR THE GOALS</p>	Revitalize the global partnership for sustainable development

## 1.1 Education for Sustainable Development

On top of WiSDP & UNESCO HK Association, there is a UNESCO Category 2 institute, namely Hong Kong Institute of Education for Sustainable Development (HiESD) working specifically on Education for Sustainable Development (ESD). ESD empowers people to change the way they think and work towards a sustainable future.



UNESCO aims to improve access to quality education on sustainable development at all levels and in all social contexts, to transform society by reorienting education and help people develop knowledge, skills, values and behaviors needed for sustainable development. It is about including sustainable development issues, such as climate change and biodiversity into teaching and learning.

ESD is recognized as a key element of quality education and a crucial enabler for sustainable development. The Global Goals adopted by the global community recognize the importance of education in achieving their targets by 2030. Target 4.7 of SDG 4 (Figure 1) on Education specifically addresses ESD and related approaches.

## 1.2 Global Action Program

The Global Action Program (GAP) on ESD seeks to generate and scale-up ESD and to accelerate progress towards sustainable development. The GAP aims to contribute substantially to the 2030 agenda, through two objectives:

1. Reorienting education and learning so that everyone has the opportunity to acquire the knowledge, skills, values and attitudes that empower them to contribute to a sustainable future.
2. Strengthening education and learning in all agendas, programs and activities that promote sustainable development.



HiESD is a part of the global ESD. In 2016, it developed a Post-Graduate Diploma Program in Sustainable Development Planning. This Program became the first certification program for professionals. Professionals and executives who wish to enroll in this Program are normally senior managers or experienced individuals from the business sectors, civil servants in the relevant sectors, educators and academics who are interested in sustainable development.

Individuals are encouraged to be responsible actors who resolve challenges, respect cultural diversity and contribute to creating a more sustainable world. With the establishment of WiSDP, individuals could seek the award of Certified Sustainable Development Planner (CSDP) through the training program of HiESD.



Certified Sustainable Development Planner (CSDP) is awarded by the WiSDP to professionals who have met the standards in training and have accumulated work experiences in Sustainable Development Planning. These include professional standards in knowledge, competency, skills and culture.

A CSDP demonstrates his/her professionalism and capabilities in integrating sustainable development into their career positions as well as their industries. Certified Members of WiSDP may use the designation and logo of CSDP to identify his/her professionalism in sustainable development planning. Afterall, the designation of CSDP also represents the holders' commitments to sustainable development of our world.

## 2. Exploratory Study

### 2.1 Pilot Study

A mix of qualitative and quantitative research methods have been used in this exploratory study. A pilot study ( $n=300$ ) was conducted through 10 learned societies and professional organizations in the course of curriculum design. With due consideration of the respondents' expected learning outcomes, the Course designers adopted contemporary theories of higher education to determine the course contents. To determine the target learners, we deduced and induced that professionals in the society should be instilled a sense of sustainability when they were practicing in their professions.

### 2.2 Curriculum Design

Along this line of thinking, the educational level of the new training program had been set at Post-Graduate Level. Training Needs Surveys (TNS) were also conducted on undergraduate/post-graduate students and business/industrial practitioners. With reference to the theoretical assumptions and quantitative surveys, the best pedagogy was chosen with the application of the most appropriate training and assessment strategies.

### 2.3 Trial Run

Blended-Mode of Responsible Management Education is adopted with the aid of e-Learning, Action Learning and Action Research. A qualitative but critical review of the subject program shed light to the application of some relevant best practices. For instance, the Corporate Social Responsibility and Knowledge Management protocols promoted by the ISO have been consulted. Since 2018, two classes of Sustainable Development Practitioners have been organized with Hong Kong Federation of Trade Unions. Currently, a Post-Graduate Diploma program in Sustainable Development Planning is offered to the SD practitioners and management professionals who have prior learning or experiences in SD ([www.hiesd.cn](http://www.hiesd.cn)).

### 2.4 Key Findings

#### 2.4.1 Definition of Sustainable Development

Sustainable development has been defined in many ways, but the most frequently quoted definition is from Our Common Future, also known as the Brundtland Report (Brundtland, 1987):

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

With a world population of 7.7 (2019 figure) billion people and limited natural resources, we, as individuals and societies need to learn to live together sustainably. We need to take action responsibly based on the understanding that what we do today can have implications on the lives of people and the planet in future. Along such line of thinking, we should go ahead with Sustainable Development Planning.

#### 2.4.2 Sustainable Development Planning

Exploratory Study reveals that four frameworks can be used for the purpose of Substantiable Development Planning, namely

1. Theoretical Framework
2. Conceptual Framework
3. Analytical Framework
4. Procedural Framework

### Theoretical Framework

The three pillars of sustainability stem from the Theory of Sustainable Development, which was said to be founded by Dr. Gro Harlem Brundtland. Dr. Brundtland was the former Prime Minister of Norway, and during her time in leadership, the office's mandate was to:

1. Re-examine the critical issues of environment and development and to come up with innovative, concrete, and realistic action plans for resolution.
2. Strengthen international cooperation on environment and development, measure and propose new forms of cooperation that can break out of existing patterns and influence policies and events in the direction of the change that is needed within society.
3. Increase the level of understanding and commitment to the action plan on an individual basis, also through voluntary organizations, businesses, institutes, and governments.

### Conceptual Framework

Dr. Brundtland focused the main attention of the study on areas of population, food security, the loss of species and genetic resources, energy, industry, and human settlements. She realized that all of these areas were connected and could not be treated separately from one another. From this examination came the Brundtland report which focused on the change that was needed and how government and politics needed to guide the concepts listed below.

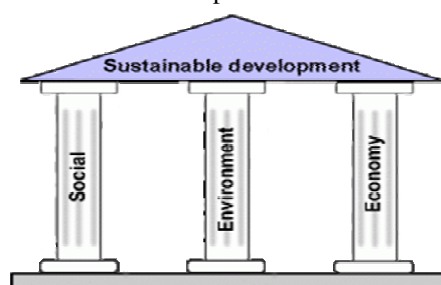
“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

- the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and
- The idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.”

#### 2.4.3 Three Pillars of Sustainable Development:

The three main pillars of sustainable development include economic growth, environmental protection and social equality.

- Economic Growth is the pillar that most groups focus on when attempting to obtain more sustainable efforts and development. In trying to build their economies, many countries focus their efforts on resource extraction, which leads to unsustainable efforts for environmental protection as well as economic growth sustainability.
- Environmental Protection has become more important to government and businesses over the last 20 years, leading to great improvements in the number of people willing to invest in green technologies.
- The Social Equality pillar of sustainable development focuses on the social well-being of people.



### 3. Results & Analysis

Further study reveals that In 1987, the World Commission on Environment and Development set out an aspirational goal of Sustainable Development – describing it as “development which meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987, p43).” Now readers should know that Sustainability is actually a conceptual theory that has over 31 years’ history.

When a Planner goes to the “Hall of Sustainable Development”, he or she would see Three Pillars at the forefront. Then, there are correlations between these 3 pillars to support sustainability. When three Pillars are three major systems sustaining development, a planner should consider the interrelationship of their three minor systems:

#### 3.1 Analytical Framework

Taking town or municipal planning as an example, the three minor systems are:

##### 3.1.1 *Socio-Economics Consideration*

A sustainable city or community should provide safe, accessible, efficient and clean transport systems and pedestrian facilities along with an efficient transport network for the movement of goods and facilitation of services for the people at large.

##### 3.1.2 *Socio-Environmental Consideration*

A sustainable city or community should provide a living and working environment and pursue policies which promote and protect the physical and mental health and safety of its population. The City should also maintain its biodiversity and minimize any threat which its consumption may have on biodiversity elsewhere.

##### 3.1.3 *Environmental-Economics Consideration*

A sustainable city or community should promote the sustainable use of natural resources to minimize its ecological footprint through improving consumption efficiency, minimizing the use of non-renewable resources and re-using, recycling waster and recovering energy from wastes.

#### 3.2 Procedural Framework

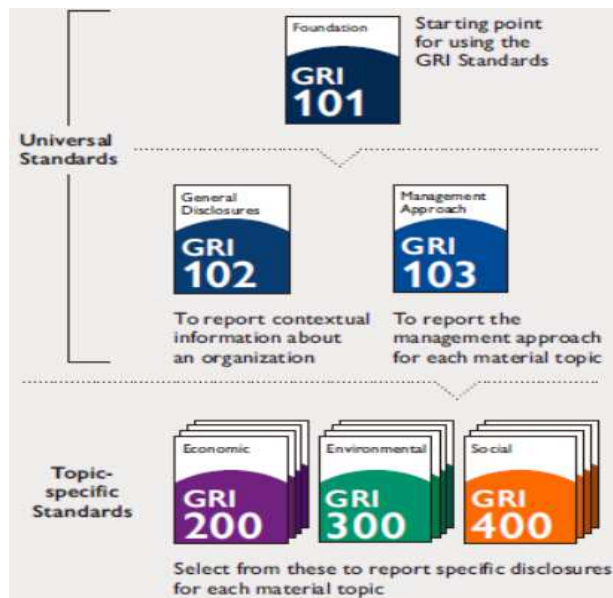
An Integrated Systems Approach is a good choice for the Analytical Framework which should be applied in parallel with a structural Procedural Framework. A world class procedural framework developed by the Global Reporting Initiative (GRI) is of referential value to sustainability reporting. Sustainability reporting, as promoted by the GRI Standards, is an organization’s practice of reporting publicly on its Economic, Social and Environmental (ESE) impacts, and hence its contributions – positive or negative – towards the sustainable development goals. Through this practice, an organization identifies its significant impacts on the ESE impacts and discloses them in accordance with a globally-accepted standard.

The GRI Standards create a common language for organizations and stakeholders, with which the ESE impacts of organizations can be communicated and understood. The Standards are designed to enhance the global comparability and quality of information on these impacts, thereby enabling greater transparency and accountability of organizations. Sustainability reporting based on the GRI Standards provide a balanced and reasonable representation of an organization’s positive and negative contributions towards the goal of sustainable development. The information made available through sustainability reporting allows internal and external stakeholders to form opinions and to make informed decisions about an organization’s contribution to the sustainable development goals.

In addition to developing the GRI Standards, GRI works to support their widespread use and implementation. GRI offers organizations the opportunity to join a collaborative, global multi-stakeholder network that works together to reach the common goal of a sustainable global economy through greater transparency. The GRI Support Suite offers tools and services to guide and equip those responsible for

developing their organization's sustainability report at every stage of the process. "Consolidated Set of GRI Sustainability Reporting Standards 2018" (542 pages in \*.pdf) can be downloaded at no cost at the official website of GRI:

<https://www.globalreporting.org/standards/gri-standards-download-center/?g=e6c00203-2197-4bd2-8cec-28d4d8a13bd7>



## 4. Conclusion

Sustainable Development Planning is to promote economic cooperation, social reform and environmental friendliness. From international to national level, from public to private sector, from corporate to individuals, each party can play a role in sustainable development though their participation and contribution might be different in nature. Is it possible to train individuals in the course of their career development first by means of a tailor-made program of ESD? If affirmative, individuals would have positive impact upon the society subsequently.

### 4.1 Originality of this Capstone Project

There is the first kind of training program with specialization in Sustainable Development Planning (SDP) that is compatible with different professionals. As mentioned, sustainability involves multi-disciplinary application. An effective ESD program needs a sound Knowledge Management System (KMS) to ensure its success. In 2018, International Organization of Standardization (ISO) introduced the first global KMS. Incidentally, KMS may be regarded as a driver in SDP.

Previously, ISO already has significant contribution to the global sustainability through its Quality Management System, Environmental Management System, and also Corporate Social Responsibility protocol. If the newly-introduced KMS could be effectively applied to the capstone project of HiESD, it is inspiring that international standards are integrated into the advocacy of Global Goals (the common name of SDGs) through an international certification program run by an international organization.

### 4.2 Value of this Capstone Project

SDGs and OBOR may be successfully integrated and evolved to be a new form of multilateralism. Countries concerned would have generic training needs of ESD that a UNESCO Cat 2 institute in the OBOR originating country may satisfy. A new model of ESD may combine the best of the United Nations, including global consensus around future direction, and the best of China's growing leadership in the OBOR Initiative. On top of it, ISO's protocol and other world class management tools may be contributory to the provision of quality ESD.



We believe that quality ESD is the key to shaping a better tomorrow. It can create better lives for individuals, greater equality within society, and a more prosperous, sustainable world. Now more than ever, the world needs everyone to be a lifelong learner. Today's learners are the architects of tomorrow. By enabling better learning for all and helping to remove barriers to ESD, we empower learners to be their best selves and, in turn, build a better life for themselves and those around them.

To recap, focus of this exploratory study is the development and implementation of a Post-Graduate Diploma Program in Sustainable Development Planning. In the long run, it shall touch on the possible application of the KMS and relevant protocols of ISO. The intended Student Learning Outcomes is solving the most pressing sustainable development challenges of the world through quality sustainability reporting.

Probably, findings of this study enable our world to have a blueprint of Education for Sustainable Development. Thus, the subject study may contribute to the sustainable practice of different professions and the wide body of knowledge in Sustainable Development Planning. To this end, our aspiration is: Sustainable Development Planning shaping Our Future.

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### [Author's Background](#)



**Prof. Gryphon Sou** earned two Australian doctoral degrees in Management (SCU) and Education (UTS). He is an International Professional Engineer and a Chartered Building Engineer (UK). He worked in the public/private sectors as well as international/non-government organizations over 37 years.

Since 2000, he has been a freelance educationist for seven higher institutions. In 2005, he was elected an “Elite Scholar” in the Center for Science & Technology Development, Ministry of Education, PRC. In recent years, he obtained a Certificate of Teaching: Higher Education Pedagogy from Harvard University. He once worked as a Project Manager in the World Customs Organization (WCO) and managed 18 international and regional operations/programs in a single year. He is a long-standing member of the World Organization of Building Officials (WOBO) in Special Consultative Status with the Economic and Social Council of the United Nations (ECOSOC) and in Consultative Status with the United Nations Industrial Development Organization (UNIDO).

In 2017, Dr. Sou also obtained a Certificate of Business Sustainability Management from University of Cambridge. Afterwards, he was honored as a Senior Founding Fellow & Deputy Registrar General of the World Institute of Sustainable Development Planners (WISDP) and appointed Associate Vice President of United Nations Educational, Scientific and Cultural Organization Hong Kong Association (UNESCO HK).

Since 2018, he has assumed the post of Provost in a UNESCO Cat. 2 institute, namely Hong Kong Institute of Education for Sustainable Development. It is under the academic auspice of Peking University. Prof Sou is now taking the helm of a Post-Graduate Program in Sustainable Development Planning. In 2019, he has co-authored two tool books for ESD and is now writing a Textbook on Sustainable Development Planning.