



# Annual Report

## 2018 - 2019

## 1. Introduction of EWB-HK

- a) Engineers Without Borders (Hong Kong) Limited (EWB-HK) is an engineering-based charitable organization in Hong Kong. We aim at bridging pro bono engineers who have passion to serve, with those organizational and individual partners in need. We value the professional uniqueness of our missions in Hong Kong and, the collective and expanding intentions of our volunteers.
- b) Engineers Without Borders was founded in 2008, is an approved charitable institution and exempt from tax under Section 88 of the Inland Revenue Ordinance (IRD File No. 91/9757) under the Laws of Hong Kong. EWB-HK is a volunteer-based organization and supported by members and volunteers from engineering and non-engineering backgrounds. We need volunteer input from diversified experience to develop and support the operation of EWB-HK. EWB-HK is an independent organization, a non-governmental organization (NGO), non-political and non-religious organization, as well as non-profit-making organization (NPO).
- c) Engineers Without Borders (Hong Kong) Limited is now a member organization of EWB-International.

## 2. Missions

- a) To accelerate betterment in life of disadvantaged communities and promote sustainable development through the empowerment of engineering means.
- b) To enhance the capacity of Hong Kong's professionals and the generations to come contributing to the communities in need.

## 3. Vision

A world of disadvantaged communities empowered by engineering solutions to achieve sustainable development

## 4. Objectives

- a) To pursue ways in bettering the life of disadvantaged communities by empowering them with engineering solutions on a non-profit making basis;
- b) To work partnership with developing communities both within and outside Hong Kong, assisting them to gain access to the knowledge, resources and appropriate technologies they need to improve their livelihood from poverty and after natural disaster;
- c) To pursue the promotion of sustainable development in daily life of any communities in need through the empowerment of engineering means;
- d) To provide engineering and technical supports to charitable and non-governmental organizations with similar objectives; and
- e) To build the capacity and increase the level of preparedness of Hong Kong professionals and the generations to come;

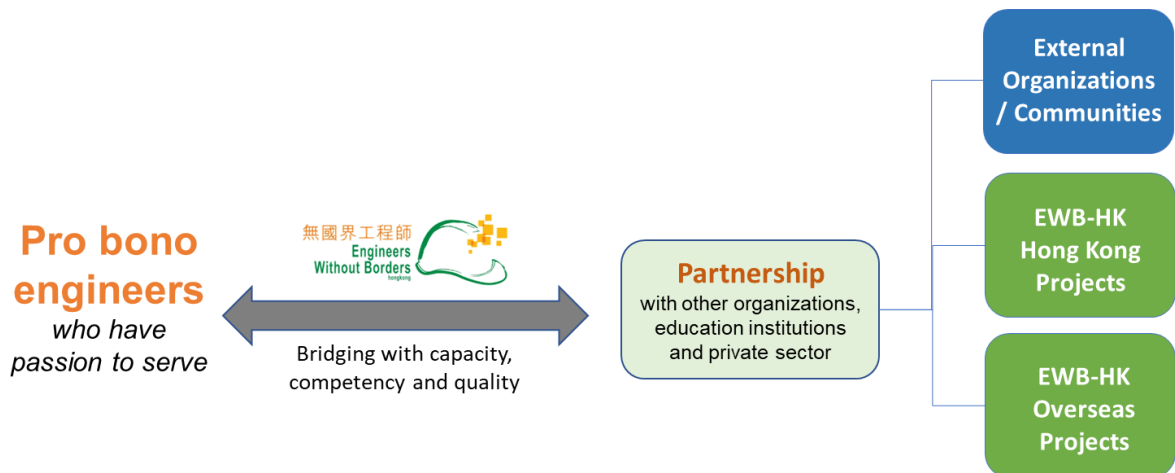


Figure 1: The role of EWB-HK as a platform between pro bono engineers and the disadvantaged communities in needs / humanitarian or charitable organizations for fulfilling our Mission no. 1

## 5. Organization Structure and Position

- a) Ever since July 2012 when EWB-HK reshaped its missions, EWB-HK has invariably set out its work in line with the new missions. We re-launch the missions of EWB-HK for the purposes of developing our organization to tackle the needs of disadvantaged communities, as well as fulfill the notions and directions of sustainable development. Hence, we have set out our first reformation and injected new energy into this organization by means of restructuring the organization and modifying the areas of focus.

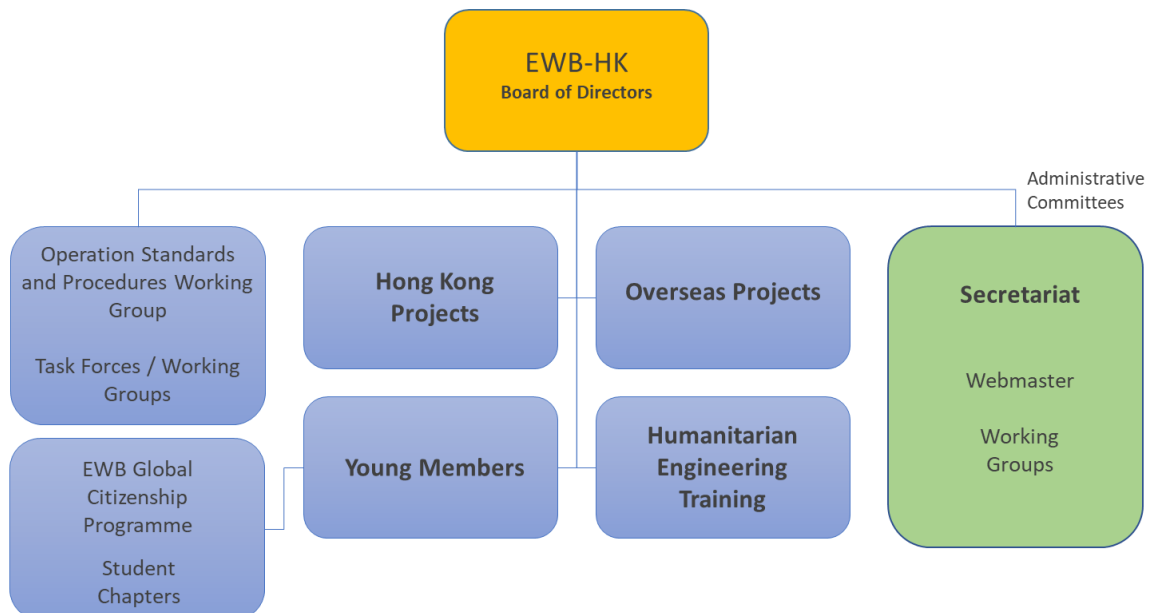


Figure 2: Organization Chart of EWB-HK

b) Number of Executive Committees and Working Groups have been set up in the past several years to align with the develop plan and to match with the needs of organizational development. Each Committee is led and operated by a group of volunteers, who are experienced in engineering and enthusiastic in social services and humanitarian engineering.

1. Young Members Group set up in 2013
2. Hong Kong Projects Committee set up in 2017
3. Humanitarian Engineering Training Committee set up in 2017
4. Overseas Projects Committee set up in 2018
5. EWB Global Citizenship Programme Office set up in 2018
6. Operation Standard and Procedure Working Group set up in 2019

**Board of Directors and Senior Management (2018-19)**

Ir Edward Chan	Director, Chairman
Mr. Lee Siu Hoi	Director, Secretary
Mr. Janos Choy	Director, Treasurer
Ms. Susanna Tam	Director
Ir Dr. Horace Mui	Director
Mr. Manuel Kwong	Hong Kong Projects Committee: Chairman
Mr. Sam Chan	Overseas Projects Committee: Chairman
Mr. Chester Chan	Young Members Group: Chairman
Mr. Raymond Lopinski	EWB Global Citizenship Programme Office: Programme Manager

**Honorary Advisors**

**Advisors  
(Volunteer Training)**

**Advisor  
(Legal)**

Prof. Ir Lee Chack-fan, GBS, JP	Ms Doris K.H. Wong	Ms. Kitty Ng
Prof. Stephen S.Y. Lau	Mr Raymond CW Yeung	

c) EWB-HK, as a platform to provide engineering-based support to the targeted groups. We shall continue to recruit volunteers to take up the project leader and coordinator roles, to provide technical backup, administrative support and relevant trainings to our volunteers. Many of our volunteers are interested in the frontline service opportunities. We would also encourage more volunteers to be voluntarily leaders and pro bono administrative staff for supporting the organization operation.

## 6. NGO Governance

The Board of Directors is the highest decision-making body of EWB-HK. The planning, management, execution and evaluation of our activities and projects, are the responsibility of our Committees. We aim to enhance the quality of organizational governance, as well as to strengthen the capacity of our volunteers through closer communication amongst our volunteers and pro bono staff of the Board of Directors and Committees. In the coming year, we are intending to further strengthen the capability of NGO governance, so as to improve the quality of services and collaboration with our stakeholders.

## 7. Organizational Management and Development

- a) Thanks to our volunteers' efforts and contributions over the past year, we have completed some pro bono engineering-based social services and started the planning and initial stages of some new projects in Hong Kong and Myanmar.
- b) To facilitate our projects in reaching a certain level of standard, all proposed projects are subject to the project feasibility review and project partner due diligence checking before submitting for internal approval. Such procedures have been stipulated in the draft EWB-HK Operation Manual. We added some major and important clauses in the draft Manual and tried them out, before formal implementation. The newly formed Operation Standard and Procedure Working Group will continue to draft of the remaining portions of the Manual and to finetune the drafted portions based on feedback from various Executive Committees.
- c) Thanks to the efforts of our team leaders, members and volunteers over the past one year. We have more volunteers from various technical and non-technical backgrounds. Volunteers with passion to manage existing service projects and plan for potential service projects, and to realize the missions for our long-term development.. The empowerment of EWB-HK with the determination to seek for more breakthroughs in capacity, competency and quality, EWB-HK shall further develop the networks between our volunteers and partners on project basis.
- d) Loosely structured volunteer development, difficulty in recruiting competent leaders and coordinators, as well as a lack of secretarial and administrative support, are the key challenges to EWB-HK. Hence, in the coming year, we are planning to organize some activities to foster mutual understanding and support amongst volunteers, have experienced volunteers helping new volunteers.
- e) EWB-HK is positioned as an engineering-based social service organization in Hong Kong, active interest in the social service field. Hence, we are expecting to have continuous and more connection with the local social service sector. EWB-HK has already submitted its application for the Agency Membership of The Hong Kong Council of Social Service (HKCSS).

### 7.1. Roundtable

- a) In May 2019, the Chairman convened a Roundtable involving the Board of Directors, Committee Heads and active volunteers. The Roundtable participants tried to shape the internal culture in line with the vision and missions of EWB-HK. Humanitarianism, is the core of our belief.



Figure 3: Humanitarianism

*EWB-HK reaches its Vision by achieving its mission of “Accelerating Betterment of Life of Disadvantaged Communities” and “Enhancing the Capacity of HK Professionals”*

*EWB-HK has the advantage that all its members and volunteers have **“Humanitarianism” as a core of their beliefs***

*Through all we do (projects, procedures, communications, etc.), big and small, we build on the above values to create a Humanitarian Engineering Organization*

b) EWB-HK is currently managed and operated by volunteers from different professions, experience and aspirations. Instead of a top-down management model as at many of our volunteers’ work places, we prefer to maintain a collaborative and participative atmosphere. To realize this atmosphere, we encourage our teams to carry out the following:

<b>Internal Alignment</b>	<ul style="list-style-type: none"> <li>• More formal &amp; informal communications</li> <li>• Roundtable / Salon for thematic discussions</li> <li>• Face “differences between individual”, no need hide away</li> </ul>
<b>Inter-Committee Collaborations</b>	<ul style="list-style-type: none"> <li>• Monthly Management Meeting for each Committee</li> <li>• Regular Committee internal meetings</li> <li>• Committee Heads are responsible for disseminating news from BoD and other working groups</li> </ul>
<b>With Hierarchy &amp; Without Hierarchy</b>	<ul style="list-style-type: none"> <li>• Level of responsibility and reporting defined</li> <li>• Job description for Office Bearers (BoD, Committee Heads, Project-in-Charge, Relationship Manager, Technical Champion)</li> <li>• Trust building</li> <li>• Teamwork like brothers and sisters</li> </ul>

Table 1



Figure 4: Inter-Committees Collaboration

- c) At the Roundtable, number of important topics have been discussed and volunteers, and conclusions as follows.

## **Become a Learning Organization**

### **Topic 1: Documentation of process, achievement and lesson learnt**

#### Suggestions obtained

- a) Each team leader shall assign the duty of recording to a dedicated team member(s).
- b) Create some commonly used template to facilitate easy record keeping.
- c) Knowledge Portal and other IT platforms can be developed for future knowledge management / transfer.

### **Topic 2: Roadmap of resuming structured training**

#### Suggestions obtained

Gather the volunteers who are interested in training and develop the annual training plan and themes for volunteers.

Table 2: Becoming a Learning Organization

## **Funding for Organization Development**

#### Suggestions obtained

- a) Recruit volunteers who are interested in fundraising, and aimed to form the “Promotion and Fundraising Working Group”
- b) Find out the opportunity and method for crowdfunding
- c) Seek for external institutional-level fund raising. EWB Global Citizenship Programme had been selected for the first EWB-HK programme to be submitted for such funding.

Table 3: Funding for Organization Development

## **Internal Communication & Process Streamlining**

### **Topic 1: Improve the effectiveness of internal communication**

#### Suggestions obtained

This is important and not an easy task to achieve the expected effectiveness. We are intending to improve the effectiveness of internal communication through two approaches, which are “**friendship building**” and “**organic connection amongst teams**”.

### **Topic 2: Census of volunteers, skill database**

#### Suggestions obtained

The original webmaster / IT team is converted to “Communication and IT Working Group”. The group is now recruiting members. The group launched the first Annual Survey to Volunteers so as to update the volunteer database. The responses to the survey enable us to tap into our volunteers' talents to execute our missions. The survey results are presented in another section of this Report.

Table 4: Internal Communication and Process Streamlining

## 7.2. Celebration of 10th Anniversary of EWB Hong Kong

On 7 December 2018, a group of current leaders, volunteers, representatives from our partner organizations and friends of EWB Hong Kong, gathered together for an enjoyable and memorable night. Apart from the celebration of the 10th Anniversary, this was an excellent occasion to get our volunteers and friends together at the harbor front of Central district, besides number of Christmas decorations on building façade and Hong Kong Observation Wheel. Meanwhile, the EWB-HK 10<sup>th</sup> Anniversary Exhibition, displayed the activities, projects and achievements over the past 10 years, was one of the highlights of the EWB Hong Kong Anniversary Night.



Figure 5



Figure 6



Figure 7



### 7.3. Challenges in Funding

- a) EWB-HK is currently managed and operated by volunteers only. Such volunteer-based operation is a limiting factor to enhance our capacity for providing training to volunteers and for expanding services to the target groups. Without paid staff, it is very difficult to break-through the current bottlenecks in both organization operation and development.
- b) Funding is still one of the biggest challenges we are encountering. The income from membership fee is neither adequate to acquire staffing and office, nor to fund our projects. Meanwhile, our projects in Hong Kong and overseas all operate on a self-financed basis. For partnered projects, we are offering support on technical aspects and the funds required for the projects are sought by the partners or other supporting parties.
- c) The essential operational cost and associated resources demands are still mainly supported by the directors and some members through monetary and in-kind donations. In the coming year, we will continue look for possible funding primarily to support the daily operation, administrative work and possible employment of paid staff for EWB-HK and, if possible, subsidize our projects / activities.

#### [a Space for EWB Development and Volunteer Engagement]

- d) EWB-HK is now stepping into its twelfth year. With the support and participation of volunteers and friends of EWB, our activities and projects are now running on track. To cope with the needs of organization development, we intend to provide a convenient place for meeting, gathering and training purposes. Since there is no external funding to EWB-HK at this moment, we are going to appeal for fundraising for renting an office preferably located in the central Kowloon, and for employing a staff to handle the administrative tasks.

### 7.4. Partnership with Social Services Organizations / Charitable Bodies

- a) EWB-HK, is the platform to line up pro bono engineers and disadvantaged communities directly or indirectly via social services organizations and charitable bodies in Hong Kong and overseas. We always look for relationship development with possible partners for the purpose of serving the communities in a wider extent.

### 7.5. Connection with the overseas

- a) We maintain the connection and communication with EWB-International and overseas EWBs, such as Australia, Malaysia, Singapore, Sri Lanka, UK, USA. When our members went overseas, they met EWB officials at places of visit on several occasions. In September, we had a meeting with the President of Engineers Without Borders (Sri Lanka), Prof. Ranjith Dissanayake, in Hong Kong, and discussed the topic of Asia region EWB collaborations.
- b) In September 2019, our GCP Programme Manager Raymond Lopinski participated the Asia-Pacific Housing Forum at Bangkok of Thailand, discussed about affordable housing topic with different NGO representatives, and shared the knowledge and information obtained from the forum to our committee

members.

- c) In August 2019, our Overseas Projects Committee Chairman Sam Chan attended the MES Young Engineers Forum at Mandalay of Myanmar. They shared experience in organizing young engineer activities and strengthened connections in the meantime.
- d) In June 2019, we had a meeting with the President - Engr. Aung Myintand, General Secretary - Engr. Tin Latt, of the Federation of Myanmar Engineering Societies, in Hong Kong, and discussed about knowledge exchange and young engineers activities.
- e) In June 2019, we organized a dialogue in Yangon of Myanmar amongst the green building leaders and experts from Hong Kong and Myanmar. These leaders include Ir Dr. Vincent Cheng, Director of the Hong Kong Green Building Council, and top management of the Green Building Committee of Building Engineering Institute (BEI) and Young Engineers Committee (YEC) of The Federation of Myanmar Engineering Societies.

## 8. Connection with the Humanitarian Leaders



Figure 8

- a) In May 2019, a team of three pro bono engineers from EWB-HK participated in the Asia Pacific Humanitarian Leadership Conference in Melbourne of Australia. Our Chairman Edward Chan and GCP Programme Manager Raymond Lopinski made a presentation in the Leadership Session, with an audience from Australia, South and South East Asia, Europe, Japan and Hong Kong.
- b) In May 2019, the Chairman of EWB-HK was appointed as one of the Editorial Advisory Board members of the Journal of Humanitarian Engineering, which is operated by the EWB Australia.
- c) In August 2019, our GCP 2019 trip leader Jenny Chan, made a presentation at IET's Woman Ambassador Programme, and shared her vision, experience and suggestion on Women's Humanitarian Engineering to young woman engineers. In October 2019, our Chairman Edward Chan, made another presentation at IET's Women in Science and Engineering Conference and shared the experience of applying engineering knowledge to those people in need.

## 9. On-going and Past Service Projects and Activities

a) Service projects, activities and training for volunteers and pro-bono engineers handled by EWB-HK (Aug 2018-Sept 2019) are:

Table 5

	Hong Kong Service Projects / Activities	Timeframe	Current Status
i.	Farmland and river flood mitigation works at Lei Chi Wo	5/2019 ~	On-going; site survey conducted Partner organization: Hong Kong Countryside Foundation
ii.	Stonewall restoration works at Lai Chi Wo	5/2019 ~	On-going; 1st site survey conducted
iii.	Household survey in sub-divided flats at Kwun Tong and Wong Tai Sin districts	10/2018 ~ 1/2019	Stage completed; Partner organization: Christian Family Services Center
iv.	Site investigations, engineering-based safety inspections and front-line technical supports to elderly homes in the squatter areas of Kwu Tung district, New Territories	9/2018 ~	Stage completed, on-going; Partner organization: Evangelical Lutheran Church Social Service – Hong Kong
v.	Engineering inspection and technical advisory service to two children hostel buildings at Wong Tai Sin	9/2018	Completed; Evangel Children's Home
vi.	Technical advisory service for the refurbishment works of an elderly center, Yau Ma Tei	12/2017 ~ 10/2019	On-going; Partner organization: The Hong Kong Society for the Aged
vii.	Advisory service to the Sustainable Lai Chi Wo heritage village revitalization project, that covering the civil, structure and building services aspects for the historical village houses	2017~2019	Stage completed; Partner organization: Hong Kong Countryside Foundation

Table 6

	Overseas Service Projects / Activities	Timeframe	Current Status
i.	Urban Sustainable Development: Caritas training center dormitory green building design, Yangon, Myanmar	8/2019 ~	On-going Now in the design stage.
ii.	Community Housing & Community Development: IDP Resettlement Project, Myanmar	5/2019 ~	8/2019 Site survey Now in survey and planning stage
iii.	WASH Programme: Water filtration and septic tank improvement project, Yangon, Myanmar	6/2019 ~	6/2019 Engineering survey 2020 water filtration installations
iv.	Youth Education: Technology education program for young persons, Yangon, Myanmar	6/2019 ~	On-going 6/2018 site survey conducted, now in planning stage
v.	"Build Better Children's Home, Gabion Wall construction for Dove Hostel", Taichilek, Myanmar	9/2018 ~ 3/2019	Completed; Partner organization – Sowers Action
vi.	School & Children Center Facility Enhancement: Flood mitigation and improvement works to children's home, Taichilek, Myanmar	8/2018 ~	Stage completed, on-going 8/2018 Site survey completed

vii.	School & Children Center Facility Enhancement: Fullmoon Children Center, School and Dormitory Improvement Works, Yangon, Myanmar	6/2018 ~	On-going 6/2018 Engineering survey 6/2019 Stage 1 Improvement Works completed – solar power, rain curtain, mosquito net
viii.	School & Children Center Facility Enhancement: iLEAD Community Center Facility Enhancement and Temple School Construction project, in Krangyow Commune, Kandal Province of Cambodia	2017 ~	Design completed, on-going Now in fundraising stage

Table 7

	<b>Training and Knowledge Sharing</b>	<b>Timeframe</b>	<b>Organizer / Partner</b>
i.	Myanmar Urban Slum Investigation Trip – Post-trip Sharing Workshop	30/10/2019	Organizer: EWB-HK
ii.	Women in Science and Engineering Conference – experience sharing	19/10/2019	Organizer: Institution of Engineering and Technology Hong Kong
iii.	Sharing Talk to IET Women Ambassador Programme “Women Humanitarian Engineers”	20/8/2019	Organizer: Institution of Engineering and Technology Hong Kong
iv.	Technical Talk to MES “Sustainable Building Development in Hong Kong: its evolution, now and future”	7/6/2019	Partner: Hong Kong Green Building Council
v.	Sharing Talk to EWB-HK “from Hong Kong to Rwanda: Work experience in a social enterprise in Africa”	9/4/2019	Organizer: EWB-HK
vi.	Sharing Talk to EWB-HK “EWB-HK Taichilek School Service Project”	6/12/2018	Organizer: EWB-HK
vii.	EWB Volunteer Empowerment Workshop: Project Management	18/11/2018	Organizer: EWB-HK
viii.	EWB Salon: “New Transformation of EWB-HK Community Services - Building, Service Types and Young Engineers”	28/10/2018	Organizer: EWB-HK
ix.	EWB-HK Overseas Project Planning Workshop	8/9/2018	Organizer: EWB-HK
x.	Sharing Talk to US National Academy of Engineering: Grand Challenges Scholars Program	16/8/2018	Organizer: CityU, US National Academy of Engineering

Table 8

	<b>Young Persons</b>	<b>Timeframe</b>	<b>Current Status</b>
i.	EWB Global Citizenship Programme 2019	1 ~ 9 / 2019	Completed; Award ceremony 9/2019
ii.	EWB-HK Technical Book Donation to Myanmar Programme	9/2018 ~ 6/2019	Completed; Books collected by universities students and donated to Myanmar in 6/2019
iii.	EWB-HK Exhibition in HKU Service 100 Fair	7~8/11/2018	Completed; Organized by HKU CEDARS
iv.	Young Member Groups’ meetings and gathering	-	On-going

## 10. Hong Kong Projects Committee (HKPC)

- a) The Hong Kong Projects Committee (HKPC) was officially formed in February 2017. The Committee aims to provide a service project platform in Hong Kong and to fill in the technical gaps in the local social services sector. Our partnerships ranges from local communities in need, social service organizations to disadvantaged people, whether individuals or communities.

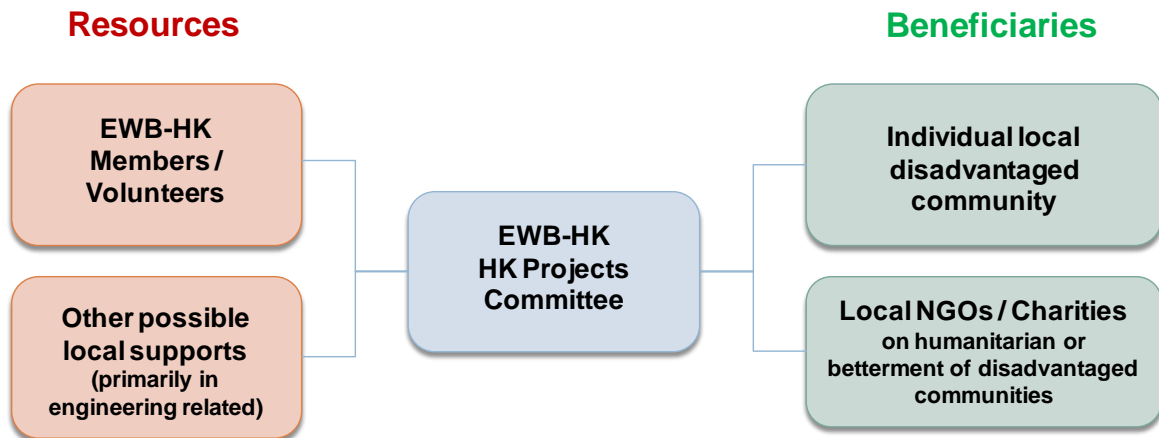


Figure 9

### 10.1 Objectives

- a) To set up a platform to bridge the partnership / beneficiaries and competent volunteers;
- b) To provide direct and indirect engineering support to the partners / beneficiaries; and
- c) To provide engineering support to the communities with emergency technical needs

### 10.2 Core Value

Quality, Teamwork, Social Bonding, Connecting with Stakeholders

### 10.3 Progress

- a) To facilitate the effective management of engineering-based services project, the Committee has been working with the newly established Operation Procedure and Standard Committee to develop a common internal operation procedure and system for project work flow and volunteer matching.
- b) Household Survey in sub-divided flats in Kwun Tong and Wong Tai Sin districts started in October 2018 and the first stage was completed in the first quarter of 2019. This is another collaborative project partnered with Christian Family Service Center. Stage 1 consists household visits and building relationship with local inhabitants. Our team explored the chance of establishing friendship with the communities, and then plan for providing community service.

- c) The technical advisory service for the refurbishment works of an elderly center of The Hong Kong Society for the Aged commenced in late 2017. The objective of the refurbishment works is to build the first career development and co-work space for young-old people, which is innovative in Hong Kong in tackling the aging issue. The design and tender were completed early this year, and now are in the final inspection and handover stage. Our team supported the partner's project team on the aspects of quality, cost and time management.
- d) Last year, to follow up our engineering advisory support to the Hong Kong Countryside Foundation (HKCF) for a village house revitalization project at Lai Chi Wo, EWB-HK was invited again to identify the causes of flooding on site and to propose possible engineering solutions to mitigate the river and farmland flooding problems. Flooding perpetuates the entire village and farmland in every rainy seasons and typhoon occasion.
- e) Apart from the previously proposed gabion wall to act as an embankment to prevent farmland damage from flooding, our team is looking for possible removal of silt accumulated on the riverbed so as to speed up rainwater discharge. Hence, our team together with the volunteers from our LiDAR technology sponsor, visited the site on 23 June 2019.
- f) In the visit, the Project Team conducted field surveys, adopted both LiDAR technology and manual measurement methods to create digital 2D and 3D maps to facilitate the feasibility study and planning of two preconceived projects, which are stonewall restoration works and HKCF's flood mitigation works, at Lai Chi Wo. The Project Team is now stepping in the analysis and design stage. The tentative riverbed clean-up works for flood mitigation is scheduled in the forthcoming dry season of late2019/early2020. We hope to bring a new farmland image to Lai Chi Wo before the next raining season.
- g) Our pro bono engineers have been continuing the support to the communities in Kwu Tung District, northern New Territories, and partnered with Evangelical Lutheran Church Social Service – Hong Kong. This year, HKPC project teams worked with the volunteers and participating students of the EWB Global Citizenship Programme. They carried out home visits, safety inspections and minor repairing works to some local families there.

#### 10.4 The Way Forward

- a) In the coming year, HKPC will follow up the on-going projects and work closely with partner organizations. We found inadequacy in volunteers, which may affect the quality of service to the partners and those people in need. Hence, we shall conduct appropriate training to bring our volunteers up to the required standard. Besides, we wish to recruit more experienced pro bono engineers for the project leadership, administrative and coordination tasks.

## 11. Overseas Projects Committee (OPC)

- a) Overseas Projects Committee (OPC) was officially formed on 6 January 2018. The Committee aims to provide engineering services to disadvantaged communities and social services organizations outside Hong Kong. The UN Sustainability Development Goals are the foundation of the engineering support to the overseas partners and disadvantaged communities, NGOs, academia or charities. The goal of the Committee is to work hand-in-hand with the local communities, and to enhance the overall livability in the developing regions.

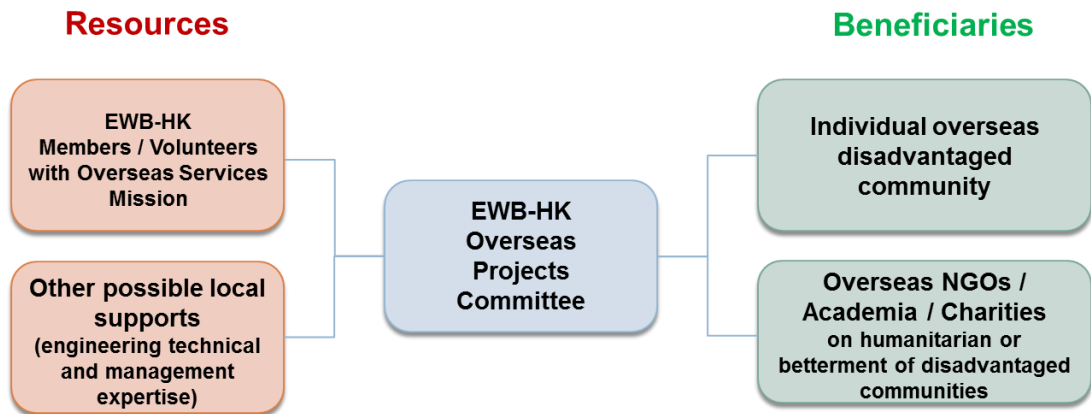


Figure 10

### 11.1 Objectives

- a) To provide engineering support to the partners and disadvantaged communities in oversea locations;
- b) To build up the capacity of the partners and disadvantaged communities leading to the improvement of livelihood.

### 11.2 Core Value

- a) Supportive and partnership;
- b) Skill and technology transfer oriented;
- c) Assist communities in attaining UN SDGs;
- d) Build up with the communities;
- e) Cultural Understanding

### 11.3 Structure

- a) The Overseas Projects Committee has gradually built up overseas service categories to provide specialty services and corresponding volunteer pools namely:
- i. Commune Housing and Community Development
  - ii. School & Children Centre Facilities Enhancement
  - iii. WASH (Water, Hygiene and Sanitation)

- iv. Sustainable Urbanization
  - v. Youth Education
- b) in order to address the need of community and NGO partner organizations for technical support to address the environmental and social impacts and risks.

#### 11.4 Commune Housing and Community Development

- a) Our pro bono engineers finished engineering (structural, building services) and interior design support to the iLEAD Community Centre Facility Enhancement and Temple School Construction project, in Krangyow Commune, Kandal Province of Cambodia. Our project team is supporting the project through fundraising tasks. The project partners are Aide et Action Hong Kong (NGO partner in Hong Kong) and Aide et Action Cambodia (NGO partner in Cambodia). This project is in fundraising stage and build up volunteers for fundraising.
- b) Our pro bono engineers provided engineering design to Mission Possible Cambodia School in Takeo Province, Cambodia. Our project team supported the project in technical details throughout the design. The needs of drainage in the school campus had been identified. The project partners are Mission Possible Hong Kong (NGO partner in Hong Kong). This project was finished on January and project completion report was finished in March.
- c) Our pro bono engineers are providing engineering (structural, civil, geotechnical, building services) design and quantity surveying support to the Tachileik Children Centre in Shan State, Myanmar. Our project team is supporting the project in technical details throughout the design and construction timelines. The project partners are Huge Business School (NGO partner in Hong Kong) and Tachileik Christian Testimony Church (NGO partner in Myanmar). The children centre has finished the new building for temporary children relocation and are waiting for further planning.
- d) Our pro bono engineers provided engineering (civil and geotechnical) design support and on-site construction works to the river embankment works adjacent to the Doves Student Hostel and School campus, in Akha Village, Taichilek, Shan State, Myanmar. The embankment works adopted gabion wall technology and has already accomplished in March 2019, by a group of around 40 volunteers from Hong Kong. Our project team is supporting the project in technical details throughout the design and construction timelines. Our team partnered with project partners Sowers Action (NGO partner in Hong Kong) and Doves Hostel (NGO partner in Myanmar), coordinated the construction of a gabion wall in 40m long to protect the river embankment along the hostel for flooding mitigation and landslide prevention, on 13-20 March 2019. The needs of flood mitigation and landslide prevention at the new hostel site had been identified. This project was finished and project completion report was prepared in April 2019.
- e) Follow the first project partnered with Sowers Action, we are now preparing the feasibility study for the potential Internally Displaced Person (IDP) project in Myanmar. Our pro bono engineers visited some remote regions in the northern part of Myanmar, as part of the preliminary investigation and feasibility study. The planning team has been formed with some pro bono engineers, who are more committing on this area.



## 11.5 School & Children Centre Facilities Enhancement

- a) Our pro bono engineers are providing various engineering design, budgeting and construction supports to the Fullmoon Children Development Centre, in Hmawbi township of Yangon Region, Myanmar. Our pro bono engineers and EWB Global Citizenship Programme participants finished project Phase 1 construction on 9-11 June 2019. Our project team completed the installation of mosquito net, rain curtain to a dormitory and canteen and two solar panel systems for lighting. The phase 2 feasibility study was also carried out with the centre on site. The needs of waste management education, construction of computer room, water pipe fixing in the school campus and the supply of electricity for students learning had been identified. EWB-HK has committed to a long term relationship with the Child Centre to improve the environment and support their expansion.
- b) After the visit to a urban slum in Hlaing Tharyar township of Yangon region in 2018, needs of WASH and waste education are clearly identified. Our pro bono engineers and EWB Global Citizenship Programme participants visited another urban slum in Hlaing Tharyar Township and conducted a field investigation to Aung Chan Thar Parahita Monastic Education School, serving students from urban slum families, on 7 June 2019. Our volunteers donated stationery and food to the school and had fun games with the students. The needs of facilities enhancement, WASH and waste education were identified. The formal project team is yet to be formed and will be aiming to provide innovative solutions for the urban slum school and to the surrounding community to address local environmental and social risks, in engineering and non-engineering basis.

## 11.6 WASH (Water, Hygiene and Sanitation)

- a) Our pro bono engineers and EWB Global Citizenship Programme participants conducted a WASH induction workshop with White Jasmine on 8 June 2019 in YMCA International House and carried out a field investigation to a nunnery boarding home, in Hlegiu township of Yangon Region, Myanmar, on 9 June 2019. The needs of clean drinking water and wastewater treatment from the toilet had been identified. The formal project team has yet to be formed and will be aiming to provide engineering support for WASH (Water, Hygiene and Sanitation) and will support EWB-HK on different projects through WASH technical support.

## 11.7 Sustainable Urbanization

- a) Our pro bono engineers are providing engineering (Green Building, electrical, structural and Drainage) design support to the Caritas Myanmar Integral Human Development Centre, in Yangon Region, Myanmar. Our pro bono engineers conducted a field investigation to know about the surrounding community. Our project team is now reviewing the preliminary design as prepared by the Myanmar counterpart and to advise the possible green building design strategy, to the project partner Caritas Myanmar. The project is aiming to be a Green Building pilot in Myanmar, and to integrate the proposed centre into surrounding community, reduce energy and water consumption, provision of quality indoor environment to improve health and performance of Caritas Myanmar service users.

## 11.8 Youth Education

- a) Our pro bono engineers conducted a field investigation to MyPlace boarding home in Hlegu township of Yangon Region, Myanmar, on 6 June 2019. The needs of youth education to improve their vocational skills and repair home facilities had been identified. The formal project team has yet to be formed and will be aiming to provide education to the children of boarding home, in engineering and non-engineering support. The team aims at providing various technical skill training and build up the capability for local young persons, such that they can better equip themselves with certain skill sets. The local young persons would be able to make use of the technical skills to look for suitable jobs, and in turn improve their livelihood. The team will explore capacity and build up volunteers interested in vocational training.

## 11.9 The Way Forward

- a) Follow up on the on-going projects and close cooperation with the partner organizations;
- b) Strengthen the volunteer teams and further execute the existing project workflow protocol and procedures;
- c) Setup vice chairman and 5 service team leader structure for improved management and more authority delegation to volunteers on volunteering, leadership and coordination tasks;
- d) Build up fundraising strategy
- e) Recruit more volunteers to share the administrative and planning tasks;
- f) Explore possibility and build up capacity of disaster preparedness
- g) Build up overseas volunteer pool to support overseas service
- h) OPC has already updated the 1, 3 and 5-years goals for the OPC development. Such plans to be further discussed with the Board of Directors and OPC team members;
- i) OPC will organize the knowledge sharing session among volunteers in 2019~2020, on the topic relating to overseas Internally Displaced Person (IDP) , project marketing and promotion, urban slum and sustainable urbanization, children centre improvement. This is expecting to build up an internal knowledge sharing culture.

## 12 Young Members Group (YMG)

- a) Young Members Group (YMG) is a platform to gather young persons and students to organize and participate into activities in line with our missions. YMG is responsible for linking the EWB-HK's activities with young persons, provide experiential learning opportunities, as well as for developing and mentoring student chapters.
- b) During the year, HKUST Student Chapter organized "EWB-HK Information Sessions" for HKUST students and participated into the promotion and exhibition of "HKUST Engineering Week". HKUST student chapter also completed the "Technical Book Donation to Myanmar Students" and donated technical books to the library of local engineering institution MES, for the local university students.
- c) Volunteers from EWB-HK also participated into the "HKU Service Fair" inside the HKU Main Campus for the exhibition of our recent activities and for volunteer recruitment. We also started to recruit students from HKU to join the "Myanmar Cultural Exchange Group", for those want to know more about Myanmar, want to have cultural exchange between Hong Kong and Myanmar students.

### 12.1 The Way Forward

- a) Inadequate succession plan is the long-lasting challenge in the existing YMG and student chapters. YMG shall spend effort in student member recruitment and maintenance, participation of activities and projects in Hong Kong and overseas, as well as to develop a chapter committee succession program.
- b) YMG shall also take up the mentor role to help the student chapters to plan and execute activities within single chapter or arranged as a joint student chapters program. YMG shall resume the workshops for young persons / student for team building and ideation purpose.

## 13 EWB Global Citizenship Programme

- a) The EWB Global Citizenship Programme (GCP) has been successfully completed its 2<sup>nd</sup> year. This year, in the nine-month programme period, there were 16 numbers of student participants from CityU, HKUST and PolyU. The dedicated supports from the volunteers and pro bono engineers are crucial to the success of GCP. Their involvement in planning, design and implementation stages is much appreciated. There are 10 organizing committee members, 7 mentors and student mentors, 9 speakers for orientation and workshops. In the Myanmar trip, we have 12 volunteers from Hong Kong together with 15 engineering students from Myanmar, working with the 16 student participants from Hong Kong, they finished several engineering-based survey and service projects for the disadvantaged communities in Myanmar.
- b) The GCP is a self-financed yearly holistic educational programme with practical experience which aims at young engineering and science students in Hong Kong. It offers them a real and transformative experience to commit themselves in building required soft skills in the context of humanitarian leadership by learning, planning and implementing solutions to engineering based projects both locally

and internationally. Exposing the students to the human, social, and technical elements of under privileged communities in developing countries helps them realize local and global challenges, solve problem through critical thinking and creativity, serve the society proactively, and contribute to the sustainable development goals as global citizens through multi-cultural and cross-disciplinary team work.

- c) We just commenced the application for GCP 2020. With supports from our volunteers and GCP alumni, we plan to expand the number of student participants. We shall also put more effort in training and build up the capacity of pro-bono engineers and volunteers.

### 13.1 Programme Vision

- a) Build up the capacity of communities in response to global challenges and contribute to sustainable development through innovative engineering.

### 13.2 Programme Goal

- a) To provide a platform for future engineering leaders to explore the global challenges, to serve the society proactively with global vision, and hence to contribute to the sustainable development goals as global citizens.

### 13.3 Inception of GCP

- a) To accomplish the Sustainable Development Goals (SDG), engineers, who possess technological solutions to global development problems and challenges, play an important role in promoting sustainable development and implementing innovative solutions. We can see how traditional engineering and science (energy, clean water, housings, agriculture, transport and other key infrastructures) relate to global development. However, the engineering sector is also vital in meeting the SDG targets in many other ways, for example, reducing hunger through smarter agricultural practices; improved healthcare through technology innovation; and quality education by encouraging more creativities and participation in experiential learning so we can meet skills gaps in the key sectors.
- b) Young persons are ideally placed to explore issues in global citizenship. The sustainable cities and communities are made possible through large-scale social and technological systems, such as the collaborations amongst leadership, communication, infrastructure, urban and building design, environmental protection, safety and environmental hygiene, education programme, community capacity building, and so on.
- c) Engineering and science education programmes in Hong Kong nowadays prepare students for careers in the local culture, practices and regulatory framework. At the same time, virtually all engineers and scientists agree that engineering in the 21st century is global. Engineering and science students graduating today will work locally and globally through physical and virtual platforms. Hence, it is important to prepare students graduating today for global engagement and the mindset of Global Engineer, and ready to new challenges in the world in the 21st Century.
- d) Through the EWB Global Citizenship Programme (GCP), Engineers Without

Borders Hong Kong (EWB Hong Kong) envisages engineering and science students as well as young engineers would commit themselves in building a sustainable world with engineering solutions, and thereby becoming our future global leaders in sustainable development. The Programme offers a real and transformative experience for the GCP participants to plan and implement solutions to engineering-based projects for achieving the SDGs.

### 13.4 Programme Approaches

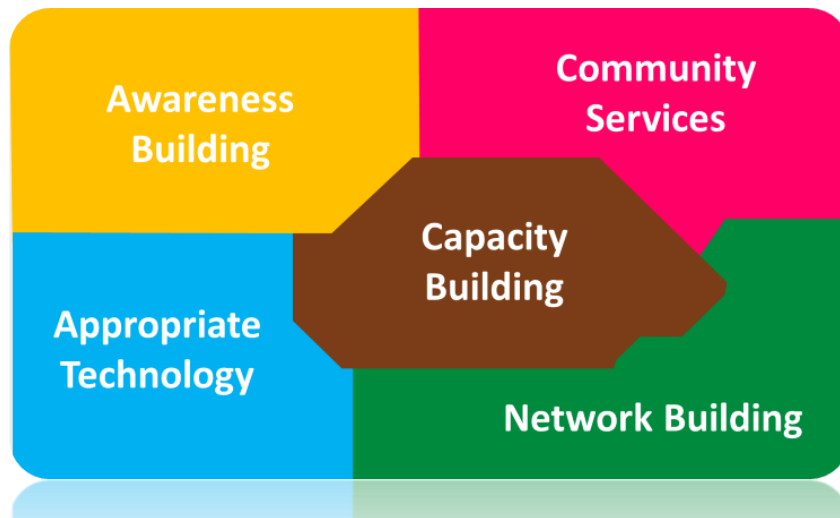


Figure 11

### 13.5 Programme Objectives:

- a) Enrich participants' understanding and awareness of the global challenges through exploration activities;
- b) Equip participants with the ability to identify the root causes of global challenges as well as the sustainable and innovative solutions;
- c) Provide a platform for the participants to obtain the experience of service project planning, implementation and evaluation, in addition to the conventional participation as part of front-line service activity;
- d) Provide a platform for the participants to engage in technical and non-technical collaborations to develop solutions for the real world;
- e) Strengthen the participants' leadership and communication capability through multiple cultural and cross-discipline team works.

## 14 Webmaster

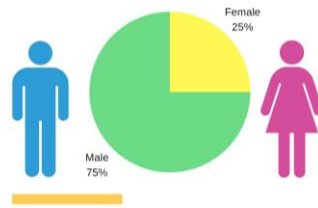
- a) The working group has been looking for more possible tools to enhance the effectiveness of internal communication and project operation. Facebook remains as the core platform for updating our news and activity progress, and for acknowledging our members, volunteers and the general public. Further recruitment of volunteer is essential so as to cope with the increasing workload of various IT related tasks, and the updating of information on our official website.

## 15 Volunteers Management

- a) EWB-HK is positioned as an engineering-based charitable organization in Hong Kong. Our operation is currently run by volunteers with different knowledge and skill competency. We are aiming at creating a platform between pro bono engineers and the beneficiaries. In view of this, the recruitment and development of volunteer pool is one of the key factors to make EWB-HK sustainable.
- b) Volunteer Registration system remains unchanged. Applicant should fill in the basic information required to complete the registration. There is no fee required for volunteer registration. Annual renewal of volunteer registration is not required.
- c) Volunteers are encouraged to participate in various stages of our activities and projects. When volunteers have taken up administrative work and project operations to a certain level, the Committee Heads will put them up as Office Bearers. Office Bearers need to be EWB-HK formal members in the first place. Once admitted, a member of EWB-HK has to pay an annual fee.
- d) To understand more about our volunteers, we initiated the 1st Volunteer Survey in mid of the year, so as to update the information of our volunteers, such as proficiency and skill set, interests and preference. We are intending to send out the survey to all our volunteers in yearly-basis. The Volunteer Survey 2019's preliminary findings are summarized as below. We shall further study the survey results and aiming to match our volunteers with suitable or their preferred tasks.



Figure 12



### MOST REPRESENTED ENGINEERING PROFILES (ALL LEVELS):

1. BUILDING AND CONSTRUCTION TECHNOLOGY (20)
2. CIVIL ENGINEERING (19)
3. BUILDING SERVICES (13)
4. ENVIRONMENTAL SCIENCE (11)
5. ELECTRICAL ENGINEERING (11)



### OTHER ENGINEERING SKILLS POSSESSED BY OUR VOLUNTEERS:

- AGRICULTURAL SCIENCE
- ARCHITECTURE
- BUILDING/SURVEYING
- CHEMISTRY/CHEMICAL ENGINEERING
- WATER INFRASTRUCTURE
- ENERGY/RENEWABLE ENERGY
- GEO-TECHNICAL ENGINEERING
- MECHANICAL ENGINEERING
- OCCUPATIONAL HEALTH & SAFETY
- INFORMATION TECHNOLOGY



### MOST REPRESENTED NON-ENGINEERING SKILLS (ALL LEVELS):

1. PROJECT MANAGEMENT (34)
2. EDUCATION (10)
3. TRAINING & COACHING (8)
4. BUSINESS & FINANCE (7)



### VOLUNTEERS EXPRESSING AN INTEREST IN THE FOLLOWING GROUPS:

1. OVERSEAS PROJECTS (42, 86%)
2. HONG KONG PROJECTS (36, 74%)
3. YOUTH MEMBERS GROUP (17, 35%)
4. HUMANITARIAN ENGINEERING TRAINING (15, 30%)
5. PROMOTION AND FUNDRAISING (14, 29%)
6. OPERATION STANDARDS AND PROCEDURES (13, 27%)

Figure 13



## VOLUNTEERS' INTEREST IN THE FOLLOWING ROLES:

1. PROJECT/SERVICE TRIP PARTICIPANT (35, 71%)
2. PROJECT/SERVICE TRIP COORDINATOR (19, 39%)
3. GENERAL ADMIN/VOLUNTEER COORDINATOR (16, 33%)
4. STUDENT MENTOR (12, 25%)
5. SOCIAL MEDIA/PROMOTION/FUNDRAISING COORDINATOR (6, 12%)



**MANY VOLUNTEERS ARE ABLE TO DEVOTE 3-7 DAYS TO OVERSEAS SERVICE TRIPS, BUT ABOUT 1/5 PREFER TO FOCUS HK ACTIVITIES & PROJECTS.**



## VOLUNTEERS' IMPRESSIONS OF EWB HK:

"A GOOD PLATFORM FOR TRAINING FUTURE LEADERS ."

"NEEDS STRONGER LEADERSHIP TO DEVELOP ITS ORGANIZATIONAL CULTURE THROUGH LEARNING AND PROCESSES."

"INSPIRATIONAL AND PROVIDES CHALLENGES."

"CROSS-DISCIPLINARY, PRACTICAL AND POSITIVE."

"A GROUP AND DEDICATED AND PASSIONATE PEOPLE TO HELP THE SOCIETY BETTER USING LIMITED RESOURCES."

"A YOUNG AND ENERGETIC TEAM. STILL DEVELOPING ITS CULTURE."

"A MEANINGFUL ORGANIZATION THAT PROVIDES VOLUNTEERS WITH A PLATFORM TO HELP OTHERS."

"TRULY DOING PROJECTS THAT HAVE AN IMPACT IN THE WORLD."

"I'VE BEEN FOLLOWING EWB AND REGULARLY RECEIVING EMAILS FOR SOME TIME. UNFORTUNATELY, THE REQUIRED SKILL SETS DID NOT MATCH MY EXPERIENCE, SO I HAVEN'T JOINED ANY ACTIVITIES SO FAR. IT SEEMS TO ME THAT EWB IS PURELY FOCUSED ON ENGINEERING."

"THERE ARE A LOT OF PEOPLE WITH GOOD HEARTS AND GREAT SKILLS BUT OFTEN THESE GREAT TALENTS AND GOOD INTENTIONS DO NOT PRODUCE GREAT RESULTS BECAUSE OF MANY BUREAUCRATIC/MANAGEMENT ISSUES. EWB COULD PRODUCE VERY TANGIBLE RESULTS IF ASSETS WERE UTILIZED AT THEIR FULL POTENTIAL."

"AN ORGANIZATION THAT IS PASSIONATE, HARD-WORKING AND DRIVEN TO ACHIEVE ITS GOALS."

Figure 14



## 16 Acknowledgement

EWB-HK wishes to express its grateful thanks to the following whose assistance and support have made its work possible:

1. Aide et Action Hong Kong
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8. Evangelical Lutheran Church Social Service – Hong Kong
9. First Myanmar Investment Co. Ltd.
10. Gehry Technologies / Trimble
11. Green Action Charity Foundation
12. Federation of Myanmar Engineering Society, Young Engineer Committee and Building Engineering Institute
13. Hong Kong Countryside Foundation
14. Hong Kong Green Building Council
15. Hong Kong Macau and Myanmar Chamber of Commerce & Industry
16. Hong Kong Playground Association
17. Huge Business School
18. Mission Possible HK
19. Philip Leung & Co. Limited
20. Sowers Action
21. The Hong Kong Polytechnic University, Department of Building Services Engineering and Department of Civil and Environmental Engineering
22. The Hong Kong Society for the Aged
23. The Hong Kong University of Science and Technology, Center for Global & Community Engagement, School of Engineering
24. The University of Hong Kong, Centre of Development and Resources for Students
25. Tourism Myanmar Co-op Ltd.
26. White Jasmine, Myanmar
27. Wing Lam Garden Limited
28. Y K Li & Company
29. YMCA Yangon

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