1. Background of developing GBO in China

The idea of Green Business Options (GBO) Training was conceived in 2008 as part of the MDG Achievement Fund Programme on Climate Change in China. The programme became the first opportunity for the ILO in China to introduce the concept of green jobs in the context of transition to a low carbon economy. Many entrepreneurs understand there are various environmental problems in China. But not many of them consider the problems as business opportunities.

From the viewpoint of job creation, SMEs contribute 80% of urban employment in China. The economic and social stability of China largely depends on the capacity of SMEs, in particular small enterprises, in absorbing labour force and make the economic growth inclusive for the people. It is of strategic importance for the government to support small enterprises to explore emerging business opportunities in transition to a low carbon economy.

What is GBO?

The GBO is a training tool for sustainable enterprise development, embodying triple bottoms of business development, job creation and environment protection. It aims to enable potential entrepreneurs, particularly youth, to develop sustainable business ideas and micro- and small-scale start-ups, highlighting the green business opportunities emerged from defining solutions to unprecedented environmental challenges such as climate change.

As entrepreneurship is an important leverage to self-employment and jobs creation, the GBO bridges the connection between environmental challenges and green business opportunities to help learners understand the features of green businesses, analyze the potential businesses opportunities in their local context, and develop green business ideas following the methods and resources provided in the GBO training kit. The GBO pilot projects in China demonstrate how the targeted employment sensitive group has benefited from this unique training programme.

GBO in Green Jobs Programme

To contribute to the transition to the green economy, GBO should be recognized as a key instrument in the larger framework of the Green Jobs Programme in China. From the human resource development and labour protection perspectives, the ILO in China considers four technical areas that would contribute to the China’s transition to the green economy, including (1) Supply of skilled human resources required in starting green businesses, (2) Building additional/new skills of workers to facilitate the enterprises’ transition to a cleaner and low carbon production system, (3) Protection of workers in green economy to maintain occupational safety and health standards, and (4) Help workers in closing enterprises due to the environment protection reasons to find new jobs in other sectors. In this picture, GBO and Skills for Green Jobs are the two pillars of the programme with the Ministry of Human Resources and Social Security.
### Table: GBO in the ILO Green Jobs Programme in China

<table>
<thead>
<tr>
<th>Year</th>
<th>Advocacy &amp; Knowledge development</th>
<th>Green products &amp; service development</th>
<th>Greening production &amp; service processes</th>
<th>Improving green but not decent jobs</th>
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<tr>
<td>2009-2011</td>
<td>Study on GJ projection of employment by sectors (MOHRSS)</td>
<td><strong>GBO development</strong> (MOHRSS)</td>
<td>SCORE, Cleaner Production Module (CEC)</td>
<td>Study on e-waste management (BCRC, CASST)</td>
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<td></td>
<td>National GJ Workshops (2009, 2010) (Tripartite)</td>
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<td>Study on green skills for energy efficiency in building (MOHRSS)</td>
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<td>GJ Event in Shanghai Expo (Tripartite)</td>
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<td>GJ Monitoring (MOHRSS)</td>
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<td>2012-2013</td>
<td><strong>GBO expansion</strong> (MOHRSS)</td>
<td><strong>Pilot on skills for green jobs</strong> (MOHRSS)</td>
<td>E-waste management (OSH &amp; formalization) (BCRC, CASST)</td>
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<td><strong>GBO4EE</strong> (MOHRSS)</td>
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National partners in brackets:
MOHRSS: Ministry of Human Resources and Social Security
CEC: China Employers’ Confederation
Tripartite: MOHRSS, CEC and ACFTU (All-China Federation of Trade Unions)
BCRC: Basel Convention Coordination Center (for Asia and the Pacific)
CASST: China Academy of Safety Science and Technology
FAC: Forestry Academy of China

### 2. Development of GBO training materials

In 2009, ILO through its Green Jobs Initiative in China developed the GBO, adding “green” components to the “Generate Your Business Idea”, known as GYB, which is part of the “Start and Improve Your Business (SIYB)” programme. To do so, the ILO invited the China Office of World Resource Institute (WRI) to develop the new contents on the part of environmental issues and integrated them into GYB training materials. The ILO Green Jobs team in Beijing pre-tested the newly developed GBO in 11 institutions, including colleges and universities in China in 2009. The result of the pre-test was reflected in revising the training materials by having questionnaires to leaners and trainers.

In 2010, the ILO Beijing Office and the Chinese Ministry of Human Resources and Social Security (MOHRSS) organized the first phase of GBO pilot training in four cities chosen from Jiangsu province and Chongqing municipality. As a result, some 80 SIYB trainers participated in the GBO training workshops.

The ILO evaluated the result of the phase 1 of GBO pilot training, and extended the GBO pilot into a second phase. In 2011, a GBO core team consist of 12 trainers was established with the support of MOHRSS. Six cities in Yunnan, Shanxi and Ningxia province organized GBO training workshops with ILO’s support. Some 150 SIYB trainers participated in the GBO workshops, and over 1,330 potential entrepreneurs received the GBO training. During this time, the ILO started upgrading the GBO training materials to better serve for the needs of trainers and potential entrepreneurs.

Following the evaluation and monitoring of the GBO training activities in China, the GBO training kit targeted the potential entrepreneurs is updated into a 2012 edition. At this time, six sector-specific Resource Books were also developed to meet the specific training needs of localities as well as individual
learners. All the training materials were translated into English for the purpose of knowledge sharing in the global community and prepare for the replication of GBO in other countries.

3. **Main features of GBO**

**Contents of GBO Training manual**

The GBO training programme focuses on how to transform environmental awareness and motivations of potential entrepreneurs into environmentally friendly, economically viable, and socially just business ideas. It consists of seven chapters as follows:

- Chapter 1: Environmental challenges
- Chapter 2: Green business opportunities
- Chapter 3: What is a green business?
- Chapter 4: Are you ready to start a business?
- Chapter 5: Generate your business idea
- Chapter 6: Analyse your business ideas
- Chapter 7: Your own business idea

The GBO follows the participatory training approach of the SIYB training, using tools like brainstorming, case studies, lifecycle analysis, role play, field survey, mind maps, SWOT analysis, environmental impact analysis and action plan, to enable a learner-centered approach in the training. It allows the learners to create their own business ideas and analyze them to see the potential of these business ideas in the real life context. One training course could accommodate up to twenty learners, which is the size manageable by a trainer using participatory training approach.

The GBO is intended primarily for micro- and small-scale start-ups. The testing and piloting of the GBO training confirmed that the potential of micro and small enterprises to take the business opportunities in the emerging green economy. They can find the economic niches to be created by the changes in the consumers’ practices and by the introduction of environment-sensitive government policies. The GBO showed its potential to make the transition to the green economy more inclusive for the people by providing them with proper understanding of the environmental protection and climate change issues.

**GBO Training kits**

During the initial stage of testing the GBO training, the ILO in China gradually recognized the learners’ need not only for general knowledge of environmental issues and tools to analyze business ideas but also for the sector-specific information. For this reason, the sector-specific resource books have been developed and added to the training programme. The combined use of training book and resource books enables flexible adaptation of the GBO training into different local contexts. For example, the piloting of GBO found local training needs in creating more enterprises in water pollution management, eco-tourism development and ecological agriculture.

Training Manual: as the main body of the training kit, the manual is used in training workshops, study-groups, and self-learning targeting at the potential entrepreneurs. Trainer’s Manual: as a “how-to” book, this manual provides guidance to experienced trainers on how to organize a GBO training section and interact with the learners and respond to their needs in the local context.
Resource Books: six resource books are developed covering a wide range of high green jobs potential sectors, including: eco-tourism, eco-forestry and forest products, distributed renewable energy, recycling and waste management, energy efficiency and circular economy. The resource books are part of a continued learning process of the GBO that can be used flexibility to provide the trainers and learners extended information on particularly sectors. These booklets introduce the recent policies related to green business creation and operation in a given sector, outline the trend and business opportunities for start-ups, and present relevant business models and case studies with a list of supporting sources. The resource books intend to cover the most important information needed to inspire learners without requiring specific background of the readers. As the development in some sectors is fast changing, and various from country to country, the contents of the resource books introduced in the 2012 edition are time-bound and country specific.

4. Implementation of GBO training

Target groups

GBO was initially designed for youths, particularly university and college students and young graduates who are thinking of doing business as a career option. It was anticipated that those students and graduates who already have scientific knowledge and skills might have better prospects for entering to environment-related businesses. But the GBO pilot programme found not only graduates but also other groups, including retired servicemen, laid-off workers, and rural workers could be targeted. At present, GBO is still most suitable for potential entrepreneurs who are thinking of starting businesses in climate change adaptation and environmental protection in the future. However, existing entrepreneurs are not excluded in the training.

GBO training management

The GBO training programme is currently offered in China as part of the ILO Green Jobs Programme for Asia and the Pacific. The operation of the GBO in China relies on a national network of some 20,000 trainers developed through the SIYB programme, following a “two-pass-approach.” The first pass is to organize “training of trainers (TOT)” workshops to build up the capacity for carrying out GBO training at local level, followed by a second pass of “training of the potential entrepreneurs (TOE)” workshops.

In each of the pass, there is a standardized life-cycle of GBO including: marketing and sensitization; selection of trainees; training needs assessment; training workshop; and follow-up service. This cycle helps the local organizers better harness the GBO as a tool to promote employment and job creation following the ILO guideline.

Having an extensive network of training institutions and trainers of SIYB as the platform for rolling out the GBO training in China, the ILO has been focusing on Training of Trainers (TOTs) to retrain SIYB trainers as GBO trainers. Typically, TOT takes five days for the trainers to understand the technical contents as well as micro-teaching sessions that could allow the trainers to demonstrate their ability to organize GBO sessions with the guidance provided by the Master GBO trainers. Currently, the ILO Beijing Office has two GBO Master Trainers, who have been involved in the development of the GBO training.
Start and Improve Your Business (SIYB) Training Platform in China:
The Ministry of Human Resources and Social Security (MOHRSS) was first adopted the SIYB training programme in China in 2001 as a way to facilitate alternative employment opportunities in self-employment and small enterprise development, particularly for the people having difficulties in finding jobs, including laid-off workers, migrant workers, graduates, people with disability and retired military personnel. So far, the SIYB programme has been expanding through the national network of vocational training institutions and certified SIYB trainers nationwide. The SIYB programme has been institutionalized through the establishment of Employment Promotion Law in 2008. The SIYB network has been administered by the China Employment Training Technical Instruction Center (CETTIC) under MOHRSS, having 142 Master Trainers and 18,900 Trainers around the country.

5. Initial achievements from the GBO pilot training

So far, the GBO has been operational in five Provinces in China, implemented through the platform provided by the SIYB Network and gradually integrating to the National Entrepreneurship Training Programme of the MOHRSS. A national network of 170 GBO trainers has been developed and 2,000 potential entrepreneurs have been trained by them.

Some of the learners who participated in the GBO pilot training in 2010 have started their own businesses in various areas of green economy. Here are two business cases, which show the examples of how the GBO training can facilitate micro entrepreneurs to create green businesses.

Chengdu Vocational and Technical College

The Chengdu Vocational and Technical College is one of the eleven training institutions the ILO tested the GBO in April 2010. The college has 41 majors with ten thousand students. The students from different majors have participated in the GBO pilot training, allowing them to apply their own skills and experiences in creating green business ideas.

Among twenty participants, some students came up with practical green business ideas and now developing new businesses at a small scale. For example, these ideas include:

- Energy efficiency in school lighting
- A/C adapter for multiple purposes
- Stuff toys produced from used children’s clothes
- Rental bicycle
- Eco-tour

The college, through its Entrepreneurship Department, encourages students to consider business start-up as a career option. Students can apply for financial support for testing their business ideas and have small space as their business incubator. The college also works closely with the local enterprise association, linking students’ activities with the network of local enterprises.

Case study 1: Energy efficiency through LED and electricity control device

Mr. Yang Shunbo is a third year student of the Chengdu Vocational and Technical College majoring in electronic science. He participated in the GBO pilot training in April 2010. The business idea he
developed is to provide services in replacing electric bulbs with LEDs and install a small controller that he developed to further reducing the electricity consumptions. He said his business intended to contribute to lighting of buildings with low costs, no pollution and longer lifecycle.

He found so many electric bulbs were used in the college, average of 13 bulbs in one lecture room. He thought it would reduce huge amount of energy if these are to be replaced by LEDs. In addition, he had an idea of adding a small electricity control device minimizing the supply of electricity to be consumed. Studying electronic science, he was confident that he could develop such a device by himself. Participating in the GBO training, he confirmed that his idea was in conformity with the government policy of energy reduction in the maintenance of school buildings.

Obviously, his idea could be applied beyond school lightings. But he decided to test it in his school first. He established the Yu Chen Cheng Electronic Technology Company with two other students to install LEDs. The Chengdu Vocational and Technical College has supported his business plan and provided 5,000 yuan for his project. With this, he had a contract from the college to install 100 LEDs. The contract allows him to share the profit to be made from the reduction of the electricity use with the college. At present, he has already developed the electricity controlling device. With his colleagues, he is now producing 1,000 pieces of the controller, which will add more profit to his business and further reduce the energy consumptions in school lighting.

He is expecting graduation next year. Given the good business prospect in energy saving in lighting, he is thinking of continuing and expanding his business to other areas. In his business plan, his primary target is colleges and universities, which have similar needs for energy reduction. He also thinks of expanding his business gradually to the areas of interior illumination, pedestrian lights and street advertisement equipment in large cities. Also, he is looking into the similar needs in the rural areas. He expect to consolidate his business model in the first five years, develop and improve technology and expand his business in the south-west China in the next ten years.

**Case study 2: Recycling and selling of second hand books in universities in Nanjing**

Often called China’s third city of science and education after Beijing and Shanghai, Nanjing, with over 700,000 college students on campus, boasts various schools of higher education and research institutes. The Xianlin University Town in Nanjing, a key point in Jiangsu Province’s development of its higher education, is home to many universities, with a total of 180,000 students. According to the 2009 Report on the Work of the Nanjing Municipal Government, the city will be built into a low-carbon, green and intellectual Nanjing. All people are encouraged to actively engage themselves in low-carbon consumption in the process of the transformation and adjustment of the industrial structure. Then, what should be done to foster a green and eco-friendly concept and low-carbon consumer behavior in the younger generation in the Xianlin University Town?

In April, 2010, Mr. Fan Songwei attended the GBO training course. Afterwards, he found in a consumer behavior survey of college students that they consume enormous amounts of books each year. As 18,000,000 plus twenty- to forty-year-old trees are annually consumed for textbook used in China, how many trees does China still have for the purpose? China is the world’s largest pulp importer with its college students consuming over 35 kg of paper each for educational use. As more than 6 million college students graduate each year, they throw away used textbooks worth 720 million yuan. And if 20 used books were recycled, a 15-year-old tree would be saved from being felled. Therefore, Mr. Fan came up
with the idea of recycling and selling of second-hand books and then registered Jiangsu NUC Renewable Resources Co., Ltd.

Every year when they leave school, college graduates will be troubled as to whether have the used books sold for scrap or have them consigned to their place of work. 80% of them choose the former, gradually forming a simple second-hand book market. As the buyers are mostly scrap collectors, the books are treated as scrap whose real value is completed wasted. For a university town with over 180,000 registered students, this annual waste of knowledge wealth is huge. For the undergraduates, the books they have are not enough to satisfy their needs. Although some may choose to buy books, borrow from the library, or download from the Internet, it either adds their economic burden, or is not convenient enough. Therefore, Jiangsu NUC is to open up a market for the purchase and sales of second-hand books and at the same time to promote the academic and cultural exchanges between college students.

The NUC entrepreneurial team aims to build a large-scale, professional platform of second-hand book exchange for college students themselves. By establishing inter-collegiate alliances and a network of second-hand book distributors, market segmentation supplemented with excellent cultural exchange services can be achieved, and then second-hand books can be recycled and reused to achieve green business.

Based on an analysis of the relevant information gathered, the NUC team comes to the conclusion that 2,000 to 3,000 tons of books are sold for scrap each year by graduates inside the Xianlin University Town, among which 30% to 50% can be sold as second-hand books, and that if half of them can be recycled, over 3 million copies can be circulated among colleges, enough to satisfy the entire University Town’s annual demand for second-hand books.

After recycling scores of tons of used books in June, 2010, Jiangsu NUC then had them classified into: top-quality, average, partially defective, and then priced them (except those completely defective books) for sale as second hand books. There is not much difference between a new book and a “top-quality” second hand book while the price of the former is several times higher than the latter. So, for college students with rational buying behavior, the latter has a much higher cost-performance ratio. “Average” second-hand books refer to those specialized books and books used for the preparation of examinations to get various certificates. Commonly used second-hand textbooks are labeled as “partially defective”, which can be offered to various majors for reference. “Completely defective” ones are put together and sold as waste paper regularly. What Jiangsu NUC is doing has evoked a huge repercussion in colleges. As there is a huge demand for second-hand books among college students, the young company has achieved profits dozens of times higher than they would with traditional second-hand book recycling.

Currently, Jiangsu NUC has successfully entered and opened office at the practice center for entrepreneurship of the Nanjing College and Information Technology, and to ensure the stability and continuous growth of the project. NUC will further develop the B2C interactive platform. In the second half of 2010, the company will invest 100,000 Yuan to build the office at the University Town into an exemplar platform and the largest second hand bookstore in the Town with storage of 50,000 copies of top-quality second-hand books. In the second half of 2011, the company will continue to build up its storage and expand its services to all the colleges in Nanjing. On this basis, NUC will invest further to expand its business and carry out a nationwide growth strategy.
Operating for half a year Jiangsu NUC Renewable Resources Co., Ltd. has won substantial support for the significant project. Meanwhile, the company has also encountered some problems, such as its conflict with the textbook purchase and management system of each college, and competition from the traditional recycling companies. These problems put higher demands on college students’ entrepreneurial teams in the innovation of business model.

6. Lessons learnt

Green sectors suitable for micro and small enterprise development

The GBO training intends to create an enabling environment for micro and small businesses to participate in green businesses. The case of Mr. Yang in energy saving showed the potential of individuals to use their own technical skills and develop new green businesses. Obviously they are disadvantaged as compare to large enterprises, which have high R&D capacity and strong financial capacity. However, there are niche markets exist for micro entrepreneurs to explore green markets, including 3R (reduce, reuse, recycle), eco-tourism and organic agriculture and building, which are less capital intensive. But it doesn’t necessarily mean to exclude other areas of green businesses. What is important for the GBO is allowing the participants to think flexibly in creating unique business ideas.

Make products and services available for the poor

In the business case of A/C adapter for multiple purposes, the student who produced it sold 160 pieces in ten days through the Taobao, which is a popular auction service on internet in China. This case implies the high potential of using internet as a platform for small businesses to access to the markets of the poor without substantial investment. More than four hundred million people have access to internet and more than eight hundred million mobile phones are used in China.

In case of Mr. Fan Songwei in Nanjing, such a small business indicated a huge potential to benefit consumers, students in this case, to be provided with a new service to spend less, at the same time contributing to the reduction of paper consumptions. Also, he is thinking of using internet as the B2C platform to expand his business nationwide.

Needs for knowledge development

The missing link of green business development by micro and small enterprises is in the lack of information for them to understand the markets created by climate change and environmental issues. Individuals tend to think climate change is something beyond their control and nothing to do with the life of ordinary people. There has been no such opportunity like the GBO to provide them with the information on of climate change and environmental protection issues in a systematic and understandable way.

In some cases, participants in pilot training wanted to have more specific information about the sectors that they are interested in exploring their businesses. The GBO recently developed six sector-specific Resource Books to supply sector information in the training and follow-up services by providing additional informational materials and link them to the government and private agencies involved in the specific sector development. For example, water pollution of Taihe Lake is a major environmental concern of the City of Wuxi. The city government of Wuxi has been supporting the GBO strongly, expecting the contribution of private sector in solving the water pollution problems.
Training needs of existing entrepreneurs

The primary target group of the GBO training is the students and graduates of universities and colleges. Given the low employment of graduates from tertiary education, at the level of 67% after graduation in 2009, the GBO was expected to serve for dual purposes; helping the young unemployed by facilitating the use of their skills and knowledge in creating green businesses. But once the GBO pilot training was launched, the local training institutions found high training needs of existing entrepreneurs, who are thinking of expanding their businesses into green businesses, capitalizing on their technological advantages and adding new value to their products and services to explore new markets.

From the view point of making a just transition to a low-carbon economy, it is very important that the existing enterprises will explore new green markets, at the same time internalize their production process and services greener to make their operations more sustainable. More green jobs will be secured by doing so.

The training needs of the existing entrepreneurs are that of more strategic way of thinking required for the management, which goes beyond the capacity of GBO training. The Global SIYB Programme of the ILO is now considering the necessity of developing new training programme to capture the specific training needs of entrepreneurs in this respect.

Training needs expressed by local governments

Through the pilot testing of GBO training, local governments from different parts of the country expressed their needs for GBO training. Towards the implementation of the 12th five-year plan (2011-2015), it is clear that the central governments will require local governments to adopt more distinctive measures in controlling environmental problems and closing gaps between rich and poor. Typical examples of what local governments expressed their interest in organizing GBO are:

- Expectation for private businesses to contribute in solving specific environmental problems that the city/county is facing, in particular water pollution;
- Declaring as “low carbon city” as its official policy, the city would like to adopt GBO as a tool to promote environmental protection;
- Old industrial bases, typically in the north-eastern part of the country, which have been looking for alternative industries.

Many of these cities mentioned their needs for capacity building of local training institutions to organize the GBO training. They would like to have their own SIYB trainers to be retrained as GBO trainers. It would be necessary for MOHRSS to have more systematic survey of local governments to analyze the needs for the adoption of GBO.

Eco-cities and Low-carbon cities in China:

Ecological civilization initiation has been promoted since the 11th Five Year Plan in 2007 by the Ministry of Environmental Protection (MEP). 53 pilot areas (provinces and cities) have been enlisted by MEP. “Eco-Cities” are resulted from the implementation of the initiative at the provincial level, with strong link to urban planning and local infrastructure development.

“Low-carbon cities and provinces” is the initiative derived from the preparation and the implementation
of the 12th Five year Plan led by the National Development and Reform Commission (NDRC). The initiative is strongly related to the domestic effort of China on climate change. The enlisted areas are: Guangdong, Liaoning, Hubei, Shaanxi, Yunnan, Tianjin, Chongqing, Shenzhen, Xiamen, Hangzhou, Nanchang, Guiyang, Baoding.

Follow-up services and linkages with other supporting mechanisms

The GBO training is a tool to let the learners develop potential green business ideas. They need continuous support to materialize their business ideas into more solid business plans. We strongly recommend the local governments to allow the learners to be accommodated in the Entrepreneurship Training Programme and proceed to the Start Your Business (SYB) training so that they will bring their business ideas into more solid business plans and avail access to other support facilities like bank loans and government grants.

Monitoring and evaluation

During and after the GBO training course, the trainers collect data at every point of service, analyze and communicate the data findings to the training institution or supporting organization/department. All the monitoring and evaluation data is captured in a GBO training report after each workshop. The data collected from the training courses provide the critical information for the training institutions to further develop the GBO training to reflect the training needs in the area. At the national level, the information from the field has been reflected in the revision of GBO training materials and development of Resource Books.