GREEN BUSINESS OPTIONS
Training Manual
Green Business Options. Training Kit
978-92-2-126146-9 (print)
978-92-2-126147-6 (web pdf)
Green Business/ Green Business Options/ Training Manual


ILO Cataloguing in Publication Data

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Acknowledgement

This training package has been adapted from an earlier version produced for the Green Business Options – entrepreneurship training programme organized in partnership with the Ministry of Human Resources and Social Security of China. The upgraded training package is completed by a task force of the International Labour Organization, consisting of:
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Thanks for the contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007 for figures (F1.1, F6.1, F8.3, TS6, and SYR/F1.1).

Printed in China
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INTRODUCTION

Our human society is facing unprecedented environmental challenges: climate change, industrial pollution, land degradation, emergence of new diseases and pests, resource depletion together with loss of biodiversity. As well as affecting the living environment for human beings, these issues also threaten economic development. It is the responsibility of the present generation to solve these problems and address the challenge to development – for ourselves but also for our children and their children. Dealing with the foremost challenge our generation has encountered — climate change — offers us an opportunity to promote the sustainable development of the whole of society and reconsider our collective responsibility.

With the support of the International Labour Organization (ILO), Green Business Options (GBO) Training Programme has been organized in China in cooperation with the Ministry of Human Resources and Social Security of the People's Republic of China in order to promote the creation of green jobs and decent work, and define practical solutions for the unprecedented climate change challenge. Promoting employment by starting businesses is becoming an important part of China’s policy in the employment field. China is transforming to a low-carbon economy and in light of this trend, the development of a large number of rising green industries such as renewable energy and eco-agriculture is drawing the attention of entrepreneurs. Meanwhile, many new policies, laws and regulations are imposing restrictions on traditional enterprises featuring high-energy consumption, high pollution and high emission, to encourage improvements in the energy efficiency of these industries. There are huge business opportunities hidden in these changes to the structure of the market and the new demands of existing business.

Green Business Options Training Kit is a set of booklets, including the GBO Training Manual, Trainer's Manual and sector-focused Resource Books to provide trainees with methods and pathway to develop their environmentally friendly business idea. The GBO targets potential entrepreneurs, particularly youth, to better understand and seize the business opportunities emerged through defining solutions for addressing climate change, inclusive and sustainable development. Green Business Options has been developed from an earlier training textbook, "Generate Your Business Ideas". Compared with the Generate Your Business Ideas, the current training manual features three important additional elements:
1. What are the relations between environmental challenges and green business opportunities?
2. What are green businesses?
3. How can we analyse green business opportunities and forge green business ideas?

Green Business Options also includes case studies of successful green businesses. It is our hope that this training material will inspire those participating in the training programmes to generate new ideas and that it will help them to learn about the market and the potential opportunities in green businesses. We believe that on completion of the programme, participants will be able to generate their own green business ideas and make themselves responsible entrepreneurs to build a sustainable, low-carbon future.
LEARNING OUTCOMES FOR THE PROGRAMME

The learning outcomes for the whole programme are set out here. In addition each chapter of the Green Business Options Training Manual has specific learning outcomes. On completion of the programme, you should check if you have achieved all the learning outcomes and if not, you may need to review some of the work and go over it again.

Learning Outcomes for the Programme

On completion of this Training Manual, you will:

- Be able to decide if you have the correct skills, knowledge and experience to start your own green business;
- Know more about some of the environmental challenges that are faced by China and the rest of the world;
- Understand the importance of making sure that business plays its part in addressing the environmental issues;
- Be able to identify business opportunities in the environmental sector as well as other sectors;
- Possess the knowledge, skills and tools to enable you to think clearly and critically about whether you are ready to start your own green business.

Good luck with the training programme. We hope you enjoy it and that it sets you on the road to becoming a successful green entrepreneur.
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A case study is integrated throughout the whole of the Green Business Options Training Manual. You should use this to help you understand what is required of you at the various stages and to help you think of some ideas and opportunities. For the purpose of the case study, we will follow three people who met on one of the Green Business Options training programmes. They did not know each other at the start of the programme but they worked together during the sessions and got to know each other quite well.

Mr Ding Lixin is 34 years old and is an unmarried University graduate. He does have a girlfriend but they are not planning to get married or begin a family. She supports him in his ideas and ambitions. He has worked in an engineering company for 10 years. He has always wanted to start his own business but has not been inspired with any ideas up to now. He has become increasingly aware of environmental issues and has decided to come on the Green Business Options course to see if it can help him make progress in his life.
Mr Wang Dapeng is 48 years old and has worked in various farm jobs for all his working life. He has realised that there are many problems in the agricultural sector at present and that environmental issues are at the heart of many of them. He does not see much of a future in conventional farming and has come on the course to find out more about environmental issues and to see if it can provide him with any ideas about how to develop his career. Mr Wang Dapeng is married with two children. He lives in a rural area and his wife has never gone out to work. She looks after the family home and tends the large garden in which she grows vegetables and keeps chickens and fish.
Ms Ma Jia is 28 years old and is a housewife and mother of one son. She worked in a bookshop before she had her son and she has recently decided that she would like to go back to work. However, she does not want to go back to a bookshop and in fact, is not very keen to work for anyone else. She has had the idea of starting a small business. Her son has begun to talk to her about environmental issues which he is learning about in school. This has made her want to find out more so she has decided to attend the Green Business Options programme. She hopes the programme may give her some inspiration about starting a business whilst also providing more information about environmental issues and why they are so important.

We will follow the three participants as they progress through the course, providing feedback on the exercises they undertake.
CHAPTER 1: ENVIRONMENTAL CHALLENGES

Learning Outcomes for Chapter 1

When you have finished studying chapter 1 of this training manual you will:

- Have a basic understanding of the causes and consequences of the environmental issues facing China and the rest of the world
- Understand the seriousness of the threat of climate change
- Have knowledge of some potential solutions.
INTRODUCTION

Since the early 1970s, the world has become increasingly aware that environmental problems have been threatening the development of the economy and society. This trend is particularly acute in today’s modern Chinese society. These environmental problems are caused by:

- our traditional methods of production
- unlimited consumption
- relatively poor supervision and regulation policies for environmental protection.

More recently climate change has been recognised as a uniquely serious challenge that will affect all aspects of our lives, including the work we do.

Before we discuss the first topic, it will be helpful to try and identify the environmental problems we face, who should be trying to solve them and how.

Exercise 1: Brainstorming environmental issues

Use a brainstorming to identify the major environmental issues that face China and the rest of the world. For each issue, try to identify:

- who should be taking action?
- what action they should take?

List the results on the following form and use other sheets if necessary.

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<thead>
<tr>
<th>Environmental issue</th>
<th>Who should be taking action?</th>
<th>What action should they take?</th>
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Environmental issues refer to all kinds of phenomena arising in the global or regional environment, which make human lives difficult and hinder development. Environmental issues are one of the major problems facing mankind at present. These issues are inextricably linked with other problems such as unemployment, poverty and resource scarcity.

Environmental issues may occur for different reasons. However, they fall into two major categories:

- Primary environmental problems caused by natural forces only such as volcanic eruption, earthquake, tsunami, flood, drought and landslides
- Secondary environmental problems – caused by human activities – which lead to environmental pollution and depletion of natural resources. These will, in turn further endanger the lives and development of human beings.

Examples include:

- natural changes exacerbated by climate change such as
  - changes to rainfall patterns leading to storm and drought
  - melting ice caps
  - landslides
  - sea level rise
- deforestation
- contamination of the water-table
- loss of natural species (biodiversity)
- air contamination in urban areas
- increasing quantities of waste, including chemical waste
- chemical contamination of the human body
- acidification of oceans
- depletion of natural resources such as fish-stocks and water.

It has been argued that climate change is real, is largely due to man's activities, and that it exacerbates some existing global and local environmental issues such as frequency and intensity of extreme weather events. This is especially the case for storms, droughts and their effects on floods and landslides and the reasons may become clearer as you spend time studying the issues.
Ecological damage occurs where human activities exert a direct impact on natural ecosystems, leading to reduction of the ecosystem’s productive capacity or a substantial change in its structure. This, in turn, leads to environmental problems. For example:

- Overgrazing causes grassland deterioration. With less vegetation to bind the soil, heavy rain will erode some of the top soil leading to further degradation and eventual desertification. If the soil is light, wind erosion can have the same effect.
- Excessive collecting and heavy fishing causes the extinction of rare species and decrease of the ecological system's productive capacity.

Environmental pollution means that the by-products and wastes from human activities disrupt and damage ecosystems when they enter the physical environment. Environmental pollution not only includes direct pollution caused by substances such as waste water, waste gas and waste residues, the so called “three wastes” from industry or the “three wastes” from human consumption, but it also includes pollution caused by substances' physical properties and kinetic nature, such as thermal pollution, noise pollution, electromagnetic pollution and radioactive pollution.

Environmental pollution may also evolve into many different environmental and human health issues. For example, air pollution caused by sulphur dioxide not only leads to a decline in atmospheric quality, but it may also cause acid rain. Acid rain falling on farm and forestry land can decrease the productive capacity of that land. It can also cause degradation of stone and brickwork on buildings, meaning that repairs become more urgent.

Combine this list of issues and actions with the list of issues and actions you came up with from your own brainstorming session and keep the information together for use in future.

It is interesting that for this group of participants, they felt the responsibility for acting on most of the issues they addressed lay with local and national governments. We hope that as you go through the course, you will realise that we, as individuals and small businesses can do a great deal to prevent and reduce the impact of some of these environmental issues. You should also realise that for some of the issues, particularly global warming, or climate change as we will call it through the course, some responsibility also lies with the international community because the greenhouse gases emitted in other parts of the world will affect us and our emissions will affect them.
For the first brainstorming session of the training programme, the three participants, Mr Ding Lixin, Mr Wang Dapeng and Ms Ma Jia, were designated to work together and they continued to do so throughout the programme. During the first brainstorm session, they were all very nervous and they did not manage to identify many of the environmental issues. They were, in fact, shocked when the trainer revealed his long list of environmental issues – they had not realised there were so many and that they were so pressing. Mr Wang Dapeng was impressed that there was some consideration of the effect on farm land as he thought the programme may be focused more on city based businesses and industry. The participants also found it difficult, at this stage to identify who should be taking action and what action was appropriate.

The following is the result of the brainstorming session for this group of three participants:
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<th>Environmental Issue</th>
<th>Who should take action?</th>
<th>What action is necessary?</th>
</tr>
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                            |                                                               | - Drive cleaner cars  
                            |                                                               | - Use more bicycles  
                            |                                                               |
| Soil erosion             | Farmers                                        | - Find ways of stabilising the soil and preventing it being washed away when the rain is heavy |
| Deforestation            | Local and national governments, Logging companies, Local communities | - Plant more trees  
                            |                                                               | - Stop cutting down trees and clearing land for farms and factories  
                            |                                                               | - Use less wood for fuel  
                            |                                                               |
| Water scarcity           | Local and national governments, Businesses     | - Stop polluting the water we have  
                            |                                                               | - Find better ways of getting the water to the people who need it  
                            |                                                               | - Give people a higher priority than businesses for water  
                            |                                                               |
| Management of mineral wastes | Local and national governments, The mining companies | - Clean up the deposits of waste  
                              |                                                               | - Regulate the amount of waste that can be dumped  
                              |                                                               | - Regulate where waste can be dumped  
                              |                                                               | - Ensure that companies use appropriate methods of waste disposal and/or recycling  
                            |                                                               |
| Industrial agriculture   | Individual farmers, Local and national governments, Those buying the produce | - Look again at traditional ways of farming  
                            |                                                               |
| Loss of wildlife         | Local and national governments, Businesses     | - Protect natural habitats to prevent loss of wildlife  
                            |                                                               |
| Disposing of rubbish     | Local and national governments, Individual householders | - Reduce the amount of rubbish we produce  
                            |                                                               | - Find better ways of managing the rubbish and recycling  
                            |                                                               |
CHAPTER 1 ENVIRONMENTAL CHALLENGES

ENVIRONMENTAL CHALLENGES

What environmental challenges do we face? The brainstorm exercise you have just done, the case study and your discussions in class will have helped you to identify some of these. You now have a list to use in the future for when you are undertaking further business planning or you need to consider other potential markets for your green product or service. You should bear these challenges in mind as you go through the rest of this programme and as you set up and develop your business.

In this Training Manual, we will deal with a number of the most pressing environmental issues and will help you to identify business opportunities that:

- may address some of these
- propose ways to produce and consume in a way that minimises damage to the environment.

For the purpose of the Training Manual, we will also discuss the business opportunities related to making production and consumption greener including through the production of green goods and services. But do not forget the other issues and do not be afraid to focus your business towards these.

The issues we will now consider are:

- Climate Change
- Desertification
- Loss of biodiversity
- Air pollution
- Water pollution
- Pollution from solid wastes
- White pollution
- Soil pollution
Climate Change

What is climate change?

The use of fossil energy (coal, oil, natural gas) discharges huge quantities of greenhouse gases, such as carbon dioxide, into the atmosphere. These gases enhance the greenhouse effect which leads to a rise in temperature. This impacts the global climate and, ultimately, threatens human existence. China, along with the rest of the world is facing such problems.

Before looking at the potential effects of climate change, it is worthwhile considering, for a few moments, the mechanisms that lead to this.

The greenhouse effect is a naturally occurring phenomenon that maintains the temperature of the earth at a level that can support life. Without the amelioration of the greenhouse effect, the average temperature of the earth would be around -19 degrees Celsius. The greenhouse gases in the atmosphere trap some of the long-wave radiation emitted by the earth and prevent it from passing directly into space. Instead, some of the radiation is reflected back towards the earth where it warms the atmosphere and the earth's surface. Because of this, the temperature at the earth's surface is much warmer than would otherwise be expected, at around 15 degrees Celsius. The naturally occurring gases which cause this effect are carbon dioxide, methane and nitrous oxide.
Halocarbons (CFCs and HCFCs) are manufactured gases but these are also powerful greenhouse gases when they escape to the atmosphere.

Adding greenhouse gases to the atmosphere, most notably carbon dioxide from burning fossil fuels, has led to the enhanced greenhouse effect which is leading to rising temperatures at the earth's surface. This is because more of the long-wave radiation emitted by the earth is being reflected back to the surface and is not escaping to space.

This is a simple explanation of a very complex process. There is now overwhelming consensus from climate scientists that the enhanced greenhouse effect is taking place and this is due to man-made emissions of carbon dioxide and other greenhouse gases. The effect is that the earth's surface and the atmosphere are warming. This will have a number of consequences.

**Extreme Weather Events**

The increase in heat energy in the atmosphere will make the atmospheric system more
unstable and this will lead to more extreme weather events. Typhoons will become more frequent and violent which may lead to increased tidal surges. Winters may become more severe and summers hotter. Heavy rainfalls are likely to worsen which may lead to increased risk of flooding. Floods and water disasters are becoming more frequent than any time in the past (in the 19th century China experienced one water disaster for every 20 years on average, whereas in the 20th century there were 9–10 flood incidents every 20 years) and this pattern is repeated elsewhere in the world.

**Sea Level Rise**

The seas around the country will absorb more heat and the average temperature of the oceans will increase. This will lead to thermal expansion of the ocean and sea level will
rise in relation to the land. This issue will be exacerbated as ice sheets in Antarctica and in Greenland melt, adding to the volume of water in the oceans. The rise in sea level will directly expose coastal regions to threats from flood, encroachment of sea water, which may lead to salinization of soils, and erosion of vulnerable coastlines by sea water. To exacerbate the situation, soil salinization and increasing areas of marshland mean that planting of grain crops close to coastal areas will decrease and grain production will drop.

**Human Health**

Climate change will bring changes to the existing climate zones in China and beyond. Such changes will facilitate the spread of heat-related diseases. A hot and humid climate is conducive to the spread of diseases such as malaria, hepatitis, meningitis, poliomyelitis, yellow fever, dengue fever, tetanus, cholera and dysentery. With a warming environment, the number of people suffering from these diseases will increase, and the number of deaths and injuries from extreme weather events will rise. Meanwhile, the frequency of cardio-respiratory diseases may decrease due to improvements in air quality, and the range of infectious disease vectors may change, potentially reducing the burden of diarrhoeal diseases.
climate, the diseases will also spread toward mountainous areas, where people lack tolerance to these diseases.

Hotter weather generally will lead to an increase in illness, particularly amongst the elderly and the young who are less able to cope with extremes of heat.

**Effect on biodiversity**

Climate change will seriously affect biodiversity. Research has demonstrated that warmer climatic phases correlate with lower levels of biodiversity. Studying the possible relationships between ocean surface temperature proxy data and biodiversity represented in the fossil record, researchers detected a correlation between climate change of any kind and extinctions but particularly there was a link between warming temperatures and biodiversity loss. They also found a time lag before adaptations allowed new species to evolve from those that survived the warming and to re-populate ecosystem niches.
Effect on agricultural production

The effect of climate change on agricultural production will be to reduced crop due to flooding or drought or just because the plants we have used traditionally are unable to grow with the change in conditions. Existing grain-cultivation areas may no longer be able to support these crops and other areas may have to be found. The rise of sea water further inland will lead to salinization of soils which will render them infertile.

In general, production levels are likely to drop and food shortages may become more frequent.

Mitigation of climate change

The two main policies to address climate change are mitigation and adaptation. Mitigation is achieved by reducing the emissions of greenhouse gases or the enhancement of carbon sinks. A carbon sink is anything that absorbs more carbon than it releases. Forests, soils, the ocean and the atmosphere all store carbon and this carbon moves between them in a continuous cycle. The constant movement of carbon means that forests act as carbon sources or sinks at different times in their development. The oceans are by far the largest store of carbon as dissolved carbon dioxide.

Examples of mitigation strategies include improving the energy efficiency of buildings and machinery, switching to renewable energy from fossil fuels and planting trees to increase the carbon absorption by forests.

There are many good reasons to put in place mitigation strategies to minimise the emissions of carbon dioxide before the effects become too severe. China is seeking
to reduce its emissions of carbon dioxide and other greenhouse gases by 45 per cent per unit (Yuan) of national income by 2020 when compared to 2005 levels. This is a challenging target but even if it is reached, overall emissions by China will still grow significantly due to the growth in economic output. When this is considered in relation to emissions from other countries, it becomes clear that mitigation will not be sufficient and other measures will have to be taken.

**Adaptation to climate change**

Adaptation is the adoption of appropriate measures to cope with the impact on the local environment as a result of climate change, to minimize its negative effects on human life and production. Examples include evacuating coastal settlements as sea level rises, constructing sea walls, developing drought and salt tolerant crops and planting trees to absorb heavier rainfall.

The difficulty is that adaptation strategies are expensive and many areas and localities cannot afford them. Also, the longer we wait before we take the appropriate action to reduce carbon emissions, the higher the price will be to society, industries and consumers. As indicated above, there are good reasons to start to mitigate the effects of climate change as much as possible before the effects become too severe but even if we were to reduce the level of greenhouse gas emissions substantially with immediate effect, some degree of change in the climate is still inevitable. Sea levels are rising and will continue to do so for several hundred years due to the surface warming of the oceans that has already occurred. Carbon dioxide stays in the atmosphere for around a hundred years so greenhouse gas concentrations will continue to rise. Our current climate is influenced by the emissions of previous generations and our emissions will define the climate for at least the next generation.

In reality, therefore, a mixture of policies aimed at both adaptation and mitigation will be necessary to address the issue of climate change.

Research has found that the communities most able to cope with issues on this scale are those which are most cooperative and which have the strongest social institutions. Such communities are able to innovate and experiment in the face of change as well as drawing on traditional knowledge and networks (Executive Summary of "Striking a Better Balance: The Extractive Industries Review", World Bank Group, p6).
Desertification

Desertification is a major environmental issue in China. Desertification occurs as a result of degradation of the land in arid, semi-arid and dry sub-humid areas due to climatic changes and human activities such as deforestation and over-grazing. Desertification is not, as was once thought, just the expansion of existing deserts although due to climate change this is taking place.

Desertification affects nearly a billion people across the world and affects 70 per cent of the dry lands or nearly 25 per cent of the land surface of the earth. It leads to widespread poverty and is responsible for much of the migration that is taking place in the developing world. Each year, the planet is estimated to lose 24 billion tonnes of topsoil and Asia has the largest amount of land affected by desertification at around 1,400 million hectares.

China is experiencing land degradation on a massive scale with the livelihoods of approximately 400 million people threatened by desertification. Half the population in desertified areas live below the poverty line. However, Ningxia Province is an example of how desertification can be overcome with the area reversing the trend. This has taken a very long time and a tremendous effort but is an example of what can be achieved.

Loss of Biodiversity

We have already discussed the effect of climate change on biodiversity but loss of biodiversity is an environmental issue in its own right.

The word "biodiversity" is a contraction of the term "biological diversity" and is a concept that embraces the variation of life on earth. A comparison of current and historical extinction rates has demonstrated that we are losing species (that is, they are becoming extinct) at a much faster rate than they have done previously. Current extinction rates are so high that many of the scientists involved in biodiversity research believe that we are entering a sixth mass extinction. A mass extinction is a monumental event in which around 75 per cent or more of all species existing at the time become extinct. This will, of course, not happen overnight but the effect of such an event on the human population cannot be overestimated.
Air Pollution

Normal air that we breathe contains mostly nitrogen (78 per cent), which is good for the growth of plants, and oxygen (21 per cent), necessary to humans and animals. The air also contains a small amount of carbon dioxide (0.03 per cent) and other gases. Air pollution occurs when gases or substances such as sulphides, nitric oxides, dust or organics enter the air. Air pollution is mainly caused by human activities, and sources of atmospheric pollution include:

- emissions from factories
- vehicle exhaust gases
- emissions from vegetation burned for farmland reclamation and from forest fires
- smoke from kitchen chimneys and street-side barbecues
- dust, from construction sites and other sources.

Water Pollution

Water pollution occurs when dirty and harmful substances enter clean water. Sources of water pollution mainly include:

- industrial sewage emitted without treatment
- untreated domestic sewage
- farmland sewage
- chemical fertilizers, pesticides and herbicides applied in excess to farmland
- industrial wastes and biological wastes piled by the riverside
- mineral washing process

Soil erosion may also give rise to water pollution.

Pollution from solid and liquid waste

Solid wastes include domestic sewage in cities, agricultural wastes and industrial wastes. Generally speaking, the waste generated is approximately one to two kilogrammes per person per day in cities in the developing world. The volume and the materials disposed of are linked to the residents’ living conditions and habits, the accumulation of wastes and used materials as well as urban construction conditions. In many cities, organic waste (biodegradable waste mainly from household waste) accounts for 70 per cent of the waste that is produced and the rest is glass, plastics, metals and waste paper.
CHAPTER 1 ENVIRONMENTAL CHALLENGES

However, many other types of waste are also found in municipal waste in relatively small quantities, most of them being hazardous such as paints, used cooking oil, mineral oil, chemicals, batteries, and contaminated containers. Electrical and electronic waste is also a growing problem in China. This "e-waste" is hazardous but of high economic value.

Agricultural waste is mainly manure from animals and straw from crop plants, as well as used pesticides. Industrial residues include mining gangue, mill-tailings, fuel waste and waste residues from smelting or chemical processes.

Solid wastes are difficult to dispose of as they comprise many different materials and their physical properties (such as size, mobility, uniformity, degree of grinding, water content and calorific value) are varied. To prevent pollution from solid wastes, the first thing is to control the amount produced. Methods of achieving this include:

- Preventing the generation of waste by improving resource efficiency (by producing the same amount of output with fewer inputs)
- Gradually changing from solid fuel (for civil and industrial use) in cities
- Improving the service life of products – avoiding built-in obsolescence
- Improving the recovery rate of the wastes at the point of production
- Taking appropriate measures for the proper recycling, recovery and final disposal of the waste generated, after the waste leaves the production site.

Waste is a resource that has an economic value that most of the time is not fully exploited. Waste can be turned into compost or biogas (biodegradable waste), it can be recycled into secondary primary resource to produce new products (some plastics, all metals including aluminium, copper, lead and steel for example) or it can be collected for its calorific value. For example, its energy can be recovered by incineration, such as in waste-to-energy plants, pyrolysis (for some special waste), and other technologies that will use waste directly as a fuel under strict controls.

**White pollution**

A large quantity of used agricultural film, plastic film for wrapping, plastic bags and disposable plastic cutlery (also known as plastic packages) are discarded on land and in the marine environment. They cause a lot of damage to the landscape and the environment. As most of the used plastic packages are white, environmental pollution thus caused is called "white pollution". However, this material should be considered as a solid waste and treated accordingly.
Soil Pollution

Pollutants produced from human activities enter the soil and accumulate to such an extent that the quality of the soil deteriorates. This means that some indicators of pollution in crops exceed the national standards. This phenomenon is called soil pollution.

There are various means through which pollutants enter the soil. Pollutants in waste gases, especially particulates, may enter the ground under the force of gravity and enter the soil. Other pollutants may be leached out of the air by rainfall and enter the soil in this way. Liquid wastes containing a large quantity of pollutants may enter the soil, either by accident or in irrigation water. The majority of soil pollution is caused by waste water irrigation. The pollutants in solid wastes may directly enter the soil or their percolate seeps into the soil.

Heavy use of pesticides and inorganic fertilizers have resulted in declining content of organic matters in the soil and hardened soil, which is another source of soil and water pollution. Soil pollution may lead to deteriorating soil quality and decrease of crop output and Furthermore, once pollutants enter the ground they accumulate in the soil over time, and can result in the permanent loss of arable land. As such, toxic pollutants such as mercury, cadmium and other heavy metals accumulate in the fruits of the crops or are directly ingested by species living in the natural environment such as small fish. These then end up in human bodies through the food chain, consuming the contaminated crops and animals.

For instance, the Zhangshi Irrigation Zone in Shenyang, Liaoning Province, has long been irrigated with industrial sewage. As a result, cadmium content in the soil and rice there exceeds normal standards and the rice is no longer edible for people or livestock. The soil cannot be used as farmland and can only be used for other purposes. However, experiments with bioremediation are taking place in the area using Black Nightshade, Solanum Nigrum, and it is possible that over time, the loss of arable land may be reversed. For more information on the technique of bioremediation, please see the reading material in appendix 9.
WHAT IS ENVIRONMENTAL PROTECTION?

Environmental protection is a general term for actions taken by man to solve actual or potential environmental problems, coordinate the relationship with the environment and work towards sustainable economic and social development. There are engineering and technical, administrative, legal, economic, promotional and educational methods and means of achieving this. Methods of protecting the environment include:

- preventing environmental pollution
- preventing the environmental damage caused by construction and development activities
- protecting natural environments of special value.

Prevent environmental pollution

This includes preventing:

- the “three wastes” (i.e. waste liquids, gaseous emissions to air and solid waste)
- dust and radioactive substances emitted from industrial production
- noise and odour pollution
- vibration
- electromagnetic radiation and microwave radiation produced during industrial production
- harmful gases, liquid wastes and noise produced during transportation activities
- pollutants emitted from ship transportation on the sea
- pollution caused by toxic and harmful chemicals used in industrial and agricultural production
- pollution caused by toxic and harmful chemicals used in everyday life
- smoke and dust
- waste water and solid waste produced in urban life.
**Prevent environmental damage caused by construction and development**

This includes preventing:
- pollution and damage to the environment as a result of civil engineering works such as the construction of large-scale water conservancy projects, railways, arterial roads, large ports and docks, airports and industrial projects
- damage to and impact on the environment by agricultural reclamation, land reclamation from lakes and the sea, development of offshore oilfields, coastal zones and marshland
- damage to and impact on the environment from the exploitation of forests and mineral resources
- damage and pollution to and impact on the environment by establishing and building new industrial zones, cities and towns.

**Protect natural environments of special value**

This includes:
- offering effective protection to rare species and their habitat
- special relics of natural development history, geological phenomena and geomorphologic landscapes.

Policies used to protect the environment include:
- urban and rural planning
- preventative measures for drought, soil erosion and desertification
- afforestation
- control of population growth and distribution
- rational deployment of productive resources.

At present, environmental protection and the promotion of environmentally friendly activities has become one of the major activities for all governments and people in the world. Our country has declared environmental protection to be a basic state policy and has formulated and enacted a series of laws and regulations on environmental protection to ensure the thorough implementation of this policy. Further information about relevant environmental policies can be found in the six Resource Books that accompany this Training Manual.
ENVIRONMENTAL POLICY IN CHINA

China’s overall aim is to reduce emissions of greenhouse gases by 45 per cent per unit of GDP by 2020 and this is reinforced by a commitment to reduce emissions by 17 per cent by 2015 (both targets using 2005 as the baseline). This will be achieved by promoting low-carbon energy production alongside a more robust methodology for measuring the emissions. These include hydro electric power, wind energy, solar thermal heating and solar photo voltaic installations. Government institutions and social groups are encouraged to advocate a green, healthy lifestyle and sustainable consumption. The government sees this policy as an important strategy to maintain China’s economic and social development as well as presenting a great opportunity for economic restructuring and promoting a new industrial revolution.

These targets for greenhouse gas emissions are coupled with equally challenging targets for other pollutant gases such as ammonia, nitrogen oxides and sulphur dioxide. Under the 12th Five Year Plan (adopted in 2011) the government anticipate that China will continue to see rapid economic growth and total energy consumption will increase. There are, therefore, very good opportunities to find ways to reduce the carbon intensity of energy production and manufacturing, using the technologies mentioned above but other new and novel technologies about which we may not yet be aware.

In addition, the government is committed to spending significant amounts on the prevention and treatment of pollution in China’s groundwater. There are currently major issues with seepage from municipal sewage, household waste, industrial waste, fertilisers and pesticides into groundwater in some areas of the country which has serious implications for economic output and for peoples’ lives. Surface water is also polluted in many areas.

There are also efforts to curb the contamination of land by heavy metals and to promote energy efficient vehicles. The government is keen to promote the circular economy and ways of minimising resource use per unit of output. Reducing waste, recycling and reuse of goods and materials will be supported.

Alongside these issues, China is still experiencing large scale desertification and to combat this, land management and afforestation remain very important priorities.

This is only a brief summary of the policies that the government is putting in place to address some of China’s environmental issues. As a new green entrepreneur, you
will need to keep up to date with policy changes and be aware of the restrictions and opportunities offered by them. It is clear that new policies present some very good opportunities for new entrepreneurs in the environmental sector to develop new businesses. These new businesses should make money for those involved but can also help China to meet its goals for environmental protection.

**SUMMARY**

Climate change and other environmental issues have endangered the economic and social development of human society and this requires us to find a solution that involves producing and consuming in a way that is more sustainable. Public awareness can encourage industries to pollute less and the economy to adapt to the adverse effects of climate change. The need for industry to improve its environmental performance, including in terms of energy use, and the demand for environmentally friendly goods and services (green goods and services) by the public are sending strong market signals which should encourage the environmental industry to grow and the economy in general to take a greener path.

Climate change brings about a series of problems, including:

- warming of the seas and oceans, which will lead to sea level rise
- an increase in the damage caused by pests and diseases
- decrease in agricultural production
- extreme weather events and
- effects on human health.

This is not an environmental studies manual. This chapter has been created to provide a brief overview of some of the environmental issues we face. The following chapter will begin to help you identify some of the opportunities for new business that the environmental sector can offer.
When you have finished studying chapter 2 of this training manual you will be able to:

- Identify the different sectors in which a business could be started
- Identify a number of opportunities for starting a green business
- Understand the multiple benefits that can be derived from green business opportunities.
FINDING GREEN BUSINESS OPPORTUNITIES

Entrepreneurs who wish to begin a green businesses must, as part of their research and ongoing information gathering, pay attention to the general business environment. New industrial networks are taking shape and existing industrial networks are undergoing reform. These provide opportunities for entrepreneurs who want to begin green businesses.

The Resource Books

To accompany this Training Manual, there are six Resource Books that provide more detailed information about different sectors of the market for environmental products and services. The sectors covered are:

- The circular economy
- Energy efficiency
- Distributed renewable energy
- Eco-tourism
- Eco-agriculture and forestry products
- Recycling and waste management

This section of the Training Manual will provide basic information about these sectors but you should refer to the Resource Books for more comprehensive information.

The Circular Economy

In the process of our development, we have begun to recognise that natural resources are limited and that the environment does not have an infinite capacity to absorb our waste. The concept of the circular economy was devised by the American economist, Kenneth Boulding almost 40 years ago. In his paper, “The Economics of the Coming Spaceship Earth” (H. Jarrett (ed.), Environmental Quality in a Growing Economy, pp. 3-14. Baltimore, MD: Resources for the Future/Johns Hopkins University Press, 1966), Boulding compared the earth to a spaceship operating in the universe and that this "spaceship earth" did not have unlimited supplies of anything, either for extraction or to absorb pollution. He said that man must find his place in a cyclical ecological system
which is capable of continuous reproduction of materials although he did, however, make the point that this would require inputs of energy. It is only through this circular use of resources that man will be able to continue to develop but in contrast to our recent history, to do it sustainably. The development of the circular economy provides opportunities for the green entrepreneur.

On a more practical level, the circular economy seeks to develop interlinked manufacturing and service businesses to enhance environmental performance through collaboration in managing environmental and resource issues. This involves the exchange of materials where one facility’s waste, including energy, water, materials and information, is another facility’s input. By working together, the community of businesses seeks a collective benefit that is larger than the sum of the individual benefits each enterprise, industry and community would realize if it merely sought to optimize its performance on an individual basis. This concept is also known as 'industrial symbiosis'.

An intriguing example of industrial symbiosis is the use of shells from shellfish. A fishery that specialises in scallops generates more than 1,800 tonnes of scallop shells each year. Many of the more decorative shells are sold for giftware whilst the remainder are crushed and incorporated in the sub-base aggregates for forestry road construction.

In another example, a foundry specialising in ferrous and non-ferrous casting was recycling foundry sand as often as possible. However, the sand eventually loses the properties required for moulds and the company was spending significant sums on disposal of the spent sand, much of it going to landfill. After some discussion, the supplier of virgin sand to the foundry agree to a take-back solution for the waste sand. The supplier was able to reuse the sand for asphalt, cement, bricks and pipe-bedding.

If you can think of a novel use for the waste generated by an existing business, you have a good, green business idea.

**Energy Efficiency**

The central government has taken an aggressive approach to energy conservation and reducing emissions of greenhouse gases, especially carbon dioxide. A decrease in energy consumption per unit of GDP is one of the primary indicators of business efficiency. Action by the central government is expected to decrease total energy consumption by 20 per cent per unit of GDP during each Five-year Plan period from the year 2005 onwards and the government has committed to a 45 per cent reduction by
This drive towards energy efficiency provides many opportunities for the green entrepreneur. Many businesses and households know very little about energy efficiency and know less about how they can become more energy efficient. There are opportunities to provide advice to individuals and to small and large businesses about improving their energy efficiency and, as a result, saving money. What many people ignore is that most of us use energy in a wasteful manner and there are important and quick financial gains to be made through the introduction of simple, low- or no-cost measures. Just using an accurate meter that is visible and demonstrates energy use in real time can encourage behaviour change and lead to reduction in energy use. Changing lighting to low energy bulbs and LEDs can also save a considerable amount of energy. So, products that can be developed to save and conserve energy for individuals and businesses should find a ready market.

**Distributed Renewable Energy**

The dual challenges of climate change and the depletion of sources of fossil fuels is building a very large and dynamic renewable energy industry. Although China has developed significant renewable energy resources over the past few years, the development of this industry is really in its infancy.

Renewable sources of energy are those that will not run out in the future or that can be renewed, such as biomass. Thus, fossil fuels and nuclear energy cannot be considered renewable because they are both based on finite resources. Most renewable energy sources originate from the sun (solar energy) while tidal energy originates from the gravitational pull of the moon and geothermal energy results from heat trapped below
the surface of the Earth.

Solar energy can be used directly in two different ways. The heat energy from the sun's rays can be used directly to produce hot water (solar thermal), while the light energy can directly produce electricity from solar photovoltaic cells (PV). There are also two other, indirect ways in which renewable energy can be utilised:

- Wind energy has been utilised for mills and pumps for hundreds of years, but has only been harnessed to produce electricity during the past few decades. Wind ‘farms’, consisting of many turbines in an array, have been set up around the world, both inland and offshore.
- Wave energy technology is still in the early development phase but several devices have been tested in pilot projects. The most widely used is the oscillating water column which uses waves to push air through a turbine which generates electricity.

Tidal energy is harnessed by allowing the tide to build up a head of water behind a barrier, then allowing the water to flow out through a turbine to produce electricity. The effectiveness depends on the position of the moon, being greatest at full and new moons. Tidal currents can also be used to generate power, by installing turbines in the flows, and that is seen as a more likely way ahead than building large invasive barrages.

Geothermal energy is energy taken from hot regions below the surface of the earth. The available heat varies from place to place. There are different technologies available for exploiting this heat but it is generally very expensive because it involves deep drilling to the hotter regions some distance below the Earth's surface.

Energy generated from biomass is also important. This can be the direct heat generated from burning waste timber or other material (such as agricultural residues) or from the decomposition of human and animal wastes in a biogas plant. These have the dual advantage of also disposing of waste materials from other industries whilst generating heat or energy.

All of these renewable resources hold out great promise for the future and all have advantages and drawbacks. At present, many of them are more expensive than fossil fuels but their sustainability and smaller environmental impacts make them attractive alternatives to fossil fuels. The technologies also lend themselves to distributed systems with many small producers of energy across the country rather than the energy resources being concentrated in the hands of a small number of very large organisations.
A solar PV array can, for example, be used to power a single factory or a group of business premises and a small wind turbine could operate off the grid and directly produce the electricity needed for a farm on which it is situated. A biogas digester on a small farm may be fuelled by both human and animal waste. It would, therefore, provide a way of managing waste materials whilst also providing all the gas needed to heat and light the farm house and other buildings. The resultant sludge can then be used as fertiliser for the land.

Many companies with sufficient capital and access to the right technologies are interested in this industry and a number are looking for partners with common aspirations to collaborate in starting businesses. This may present opportunities for new businesses. However, without this type of collaboration, businesses in the start-up stage would be advised to avoid complex technologies and start from easily accessible businesses because of the:
- Competition from bigger organisations
- Capital required to begin a business and become competitive in this sector
- Length of time before new technologies can be brought to market, which means the new business will not make money for some time.

The features and development conditions of this industry mean that entrepreneurs must pay attention to the different sectors of the business. It may be appropriate to focus more on related service businesses, and seek opportunities from the labour-intensive stages of renewable electricity generation, for the reasons given above.

**Eco-tourism**

The International Eco-tourism Society (TIES) defines eco-tourism as "Responsible travel to natural areas that conserves the environment and improves the well-being of local people". The organisation goes on to say that those who implement and participate in eco-tourism activities should follow these principles:
- Minimise impact
- Build environmental and cultural awareness and respect
- Provide positive experiences for both visitors and hosts
- Provide direct financial benefits for conservation
- Provide financial benefits and empowerment for local people
- Raise sensitivity to the host country's political, environmental and social climate.
CHAPTER 2 GREEN BUSINESS OPPORTUNITIES

Tourism is an important source of revenue to many countries but conventional forms of tourism are based on the unfettered consumption of resources and are not sustainable. The central government is keen to develop more sustainable forms of tourism, particularly to encourage people to travel within China and learn more about the country. There are many opportunities for developing businesses in this sector.

For further information, see the Resource Book on this topic.

Eco-agriculture and Forest Products

Our food system makes extensive use of non-renewable resources and consumes many renewable resources at rates far exceeding replenishment and without any investment in their replacement. Agriculture releases greenhouse gases, nitrates and other contaminants into the environment. Directly or indirectly through land conversion, it contributes to the destruction of biodiversity. Most importantly, the total land available for food production is reducing due to demographic and urban development factors. Unless the impact of the food system on the environment is reduced, and crop production increases, the capacity of the earth to produce food for mankind
will be compromised with serious implications for future food security. Considerations of sustainability need to be introduced to all sectors of the food system, from production to consumption and in education, governance and research. In this regard, many jobs and businesses in the food production sector are not directly related to producing food, but in processing, transporting, and selling.

To a lesser extent, this is also true of our forestry system. We have cleared land for agriculture purposes and removed trees for fuel and construction without any real concern for the value that our forests and woodlands add to the environment. Whilst the inputs to growing forest products are less than for food production, the extraction and manufacturing process uses significant quantities of non-renewable resources.

There are real opportunities in this sector for innovative green businesses, either in low impact food production using organic methods or permaculture (which may also provide some forest products) or in providing services and support to farmers and foresters.

For further information, see the reading material on "Organic Farming and Permaculture" in appendix 5 and the relevant Resource Book.

**Recycling and Waste Management**

Almost all industrial processes today result in waste materials that need to be managed. Much of our waste has, up to now been disposed in rubbish dumps but this is not sustainable. When considering the management of waste, we need to think about the hierarchy of waste management which can help to select the least environmentally damaging option. The following is in order of priority:
Waste Prevention

The most cost-effective option is to reduce the amount of waste produced in the first place. In the production process, preventing waste is often represented by requiring compact and light-weight products and for product packaging, it requires simplicity and practicality as opposed to luxury and waste. If packaging materials can be reused rather than being single-use, this will reduce the impact of this aspect of the process.

Prepare for reuse

Some products and materials can be reused within the business or industry or in another organisation. This is where recycling meets the circular economy. This principle aims to resist the flood of disposable products onto the market and requires manufacturers to prolong use and duration of a product as much as possible.

Recycle

This ensures that benefit is still gained from goods and materials that have reached the end of their useful life. There are two types of recycling. Primary grade recycling involved wastes that are recycled to produce new products of the same type. Examples include using newspaper to produce new newsprint and used aluminium drink cans to make a new can. Secondary grade recycling is transforming waste resources into raw materials for other products. Primary grade recycling can achieve better efficiency in terms of reducing raw material consumption than secondary grade recycling.
Other recovery

Some facilities use waste to generate energy or to produce biofuels.

Final disposal

The least suitable option is to bury waste at landfill sites or to burn it without recovering the energy as these do not lead to any benefit from the waste. It is also important to note that although the waste has been buried, much of it will still remain for many years to come.

For entrepreneurs, there are very large opportunities in recycling and waste management. When considering a business start-up in this sector, entrepreneurs should begin with small projects which feature low levels of investment, a short start-up cycle and which minimises the complexity in technology. Recycling is a process, which improves the utilisation of energy and other resources and their wastes.

The Waste Hierarchy
Environmental management refers to the practice of restoring polluted or damaged ecosystems either by helping with artificial restoration or aiding the self-cleaning function of the environment. One very important factor in environmental management is control over the wastes being discharged into the air, water and soil. As with the hierarchy of waste management, preventing pollution and reducing the amount of wastes are preferable to pollution treatment.

At present, environmental management is mostly undertaken as government projects and may require a high level of technology and funds. However, many opportunities may appear at the local level for collection, transport, recycling, re-use and recovery of waste from one industry to another and for specific waste streams. If appropriate entry points are selected, and the strength of non-governmental organizations, volunteers and the general public are utilised to take part in environmental management, it may present a feasible opportunity for the new green entrepreneur.

For example, in a town or locality, a green entrepreneur could find out from all the manufacturers and other businesses the nature and quantity of any waste they generate from their business. By building a database of these 'wastes' and providing it to all the businesses, it may be possible to help link a business with a particular waste material that another business may use in its own manufacturing process. The green entrepreneur could then find the most efficient way of transporting the materials between the different businesses in the locality. This will minimise the amount of waste generated, it can save on the cost of raw materials for the business using the materials and for the supplier, it can generate revenue from something that would otherwise be discarded. The green entrepreneur would charge a fee and potentially a commission on the transaction that took place between the two businesses.

The problems to be resolved in environmental protection include two aspects:

- Restoring damaged ecosystems to protect human health.
- Reducing or eliminating harmful substances to prevent them from entering the environment.

Remediation and restoration of damaged sites could be a good opportunity for a new green business but it will be necessary to find ways of storing or making use of the contaminated material from a site. For further information, see the reading material on 'Bioremediation' in the appendices.
"GREEN" VERSIONS OF CONVENTIONAL BUSINESSES

In addition to the opportunities presented by new sectors arising from an increase in environmental awareness and the production and distribution of green products and services, entrepreneurs should also be aware that there are opportunities to start new, conventional businesses but to make sure they adhere to environmental principles.

Take, for example, a business manufacturing clothing. If the entrepreneur is aware of environmental issues, he or she may wish to develop the business with environmental principles in mind. The entrepreneur decides to make sure the clothing can be sold as a "green" product and therefore that the establishment can be considered a green business and he or she can seek appropriate certification to demonstrate the environmental credentials. In these circumstances, the entrepreneur would make sure that the premises in which he or she set up the business was energy efficient and there was no waste of heat or electricity. It would be important to get third party confirmation of the energy efficiency of the business so that the owner could demonstrate the situation to customers and potential customers. If possible, the entrepreneur could make sure that at least some of the energy and heat required by the business was generated on site. It would also be important to make sure that the raw materials needed to make the clothes – the cotton and wool for example – came from verifiably sustainable sources. This may mean going to the cotton producer or the wool producer and buying materials directly rather than through a wholesaler. If it was possible, the business owner would make sure the materials were purchased locally to avoid the need for transporting them a long way and to make sure the crops and animals from which
the raw materials came were farmed organically.

When ready to begin manufacture, the entrepreneur would make sure that the machinery used was of high quality and that, if anything went wrong, it could be repaired rather than having to be disposed of. The entrepreneur would also make sure that staff members were treated well, they had a good environment in which to work and that minimum labour standards were respected.

The business person would, when ready to sell the product, seek external accreditation of his environmental credentials so that the products could be advertised and sold as "environmentally friendly" clothing. However, it would still be important to make sure that finished goods were not transported long distances or if they were, that the most sustainable method of transport was selected. To make sure that his business was as sustainable as possible, the company could even offer to take back the used garments at the end of their life to enable them to be recycled to make new garments, thereby promoting the circular economy.

This would, therefore, be a conventional clothing business but it would be set up and managed to make sure its environmental impact was as small as possible. In this way, the entrepreneur is also making opportunities for others who want to become involved in the environmental sector because he would be purchasing his raw materials, machinery and energy from other businesses that specialised in these areas.

Another example could be a retailer of consumer electrical goods. In this case, the entrepreneur would make sure that his own premises were managed as efficiently as possible but he or she would also purchase and resell only those appliances with the highest energy efficiency rating. By also providing the consumer with specific and relevant advice on the efficiency ratings and the use and maintenance of the appliances, the business would also help to reduce energy consumption during the "use" phase of the products life cycle. The business should also seek to take back the appliances at the end of their life to ensure they were reconditioned where possible to extend their use or, if they had reached the end of their life to make sure they are appropriately disposed of.
Exercise 2: “Ecostar” Case Study

Read the Case Study entitled, “Ecostar”, Business Opportunities in Old Equipment. This is an example of a conventional business in that the entrepreneur did not enter the business with the idea of it being "green" but which addresses many environmental issues. In particular, the business is addressing the issue of waste and ensuring that the expensive resources bound up in photocopying machines are used more effectively and for longer.

Once you have read and understood the Case Study, answer the following questions:

- How did Gao Guoqiang discover and analyse his business ideas?
- How has the business start-up story of Gao Guoqiang inspired you?
EXERCISE 2 CASE STUDY

Exercise 2 asks the participants in the programme to read a case study about a successful business that meets many of the criteria of being a green business. This is used as an example of how successful you can be as a green entrepreneur if you have the right business idea and are willing to invest time and effort into making it successful.

Our participants, Ding Lixin, Wang Dapeng and Ma Jia read the case study individually and then came together to answer the questions. This is the outcome of their discussions:

<table>
<thead>
<tr>
<th>How did Gao Guoqiang discover and analyse his business ideas?</th>
<th>How has the business start-up story of Gao Guoqiang inspired you?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gao Guoqiang was always determined to have his own business</td>
<td>It has made us recognise that the green business opportunities may not be the obvious ones – a conventional business can also have good environmental credentials.</td>
</tr>
<tr>
<td>He recognised there was a market for copying services because the price of copying machines was too high for many businesses.</td>
<td>The first idea you have is not always the one that will be successful – you have to be persistent and focused on developing your own business.</td>
</tr>
<tr>
<td>His initial idea – a copying shop – was initially successful but others followed his idea of using second-hand machines and because the barriers to entry were low, others entered the market and drove down prices.</td>
<td>You have to watch the market and see what is happening with your customers and competitors.</td>
</tr>
<tr>
<td>He recognised that merely competing on price was not an option so looked for other opportunities and realised there was a market for good quality, refurbished machines. He did some research with suppliers and found that there was no one manufacturing new machines in China and that the majority were imported. He also found out that overseas businesses traded up their copiers frequently, which meant there were a large number of good quality, second-hand machines available.</td>
<td>You have to be prepared to be adaptable to new market conditions.</td>
</tr>
<tr>
<td>He therefore began importing second-hand machines from overseas and refurbishing them.</td>
<td>You have to really want to start a business.</td>
</tr>
</tbody>
</table>
BUSINESS OPPORTUNITIES FOR PROMOTING SUSTAINABLE CONSUMPTION AND PRODUCTION

Whilst making sure consumer goods (clothing, electrical goods, food and other materials) are produced, sold and recycled in the most environmentally efficient manner can reduce the impact of the goods themselves, it does not address one of the fundamental issues facing China and the world. To continue to grow economically, governments encourage consumers to continue to buy goods and services. However, the earth only has a finite set of resources and unbridled consumerism is not sustainable. It is necessary for the green entrepreneur to promote "sustainable consumption". But what do we mean by "sustainable consumption"?

Sustainable consumption, according to a working definition proposed by The Oslo Symposium in 1994 is

"the use of services and related products which respond to basic needs and bring a better quality of life while minimising the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life-cycle of the service or product so as not to jeopardise the needs of future generations".

Sustainable consumption is, therefore, an umbrella term that brings together a number of key issues, such as meeting economic needs, enhancing the quality of life, improving resource efficiency, increasing the use of renewable energy sources, minimising waste, taking a life cycle perspective and taking into account social equality. But how can all these components be met?

A key issue is the extent to which necessary improvements in environmental quality can be achieved through the substitution of more efficient and less polluting goods and services (patterns of consumption), rather than through reductions in the volumes of goods and services consumed (levels of consumption). Political reality means it is much easier to change consumption patterns than consumption volumes, although both issues need to be addressed.

There are potential business opportunities that arise from a need to move to more sustainable consumption patterns and levels of consumption. From the point of view of the producer, ensuring that goods are as energy and resource efficient as possible is important and allows options for the consumer. So, the manufacturer of environmentally friendly clothing discussed above, can have an effect on changing consumption patterns. There are also opportunities to offer advice and guidance to
individuals and companies on the goods that they should purchase – to help them make the right purchasing decisions. This advice and guidance can also extend to offering help on ensuring the life of equipment and goods is extended as far as possible by providing recommendations for repair rather than purchasing new goods. The example of the consumer electrical retailer in the previous section is an example.

There is often a decision to be made when purchasing items about the balance between price and quality. Buying a higher price and higher quality item should mean it lasts for longer and costs less over the whole life of the product. However, many consumers will need to be educated to enable them to make these types of informed decisions.

Providing repair services for damaged and worn items is a way of changing overall levels of consumption. If, for example, the life of a domestic washing machine can be extended by 2 years by repair, the level of consumption will reduce. So, repair of electrical goods and equipment is a good, environmental business which can be promoted as a way of making consumption more sustainable.

Similarly, a service offering to repair or renovate clothing can be seen as a means of reducing consumption. If a seamstress or tailor can extend the life of an item of clothing by repair or restyling, it can reduce the owner’s desire to replace the item. Restyling can be a way of making an old-fashioned item more modern and likely to be worn for longer. A business taking in high quality clothing and accessories, cleaning and repairing them and offering them for resale to new owners is also a good way of reducing consumption.

**Exercise 3: Initial ideas for green businesses**

By now, you have some idea of the environmental challenges we are facing and we have discussed green business opportunities. You can now begin to make a list of potential green businesses that you may be interested in starting. At this stage, you do not need to think too closely about what is involved in the businesses or how they will work, just make a note of the ideas.

You will keep adding to this list as we go through the next few chapters of this Training Manual.

Begin your list here but do not be afraid to use additional sheets of paper if your list gets too long.
Exercise 2 asks the participants in the programme to begin a list of potential green business ideas. Each individual participant will keep their own list but it can be useful to share ideas and suggestions. One of the important benefits of attending this course is to meet with other people who share your wish to begin a new green business and you may find willing partners for some of your ideas from among the participants. A business may be stronger with more than one person involved as this extends the ideas you may have and allows you to share the workload.

The three participants we are following, Ding Lixin, Wang Dapeng and Ma Jia began their lists as below. You will see that the ideas that each of them had at this early stage of the course was quite different but that already they had begun to identify areas where they may be able to work. We will see how their list developed as we follow their progress through the course.
### My Green Business Ideas: Mr Ding Lixin

- Waste recycling
- Supply energy meters
- Supply wind turbines
- Erect wind turbines
- Provide spare parts for small wind turbines
- Design new forms of packaging
- Find other uses for materials being disposed of
- Remediation of waste using bioremediation

### My Green Business Ideas: Mr Wang Dapeng

- Energy efficiency adviser
- Supply energy efficient appliances for households
- Supply biomass energy devices
- Fit biomass energy devices
- Build biogas digesters
- Eco-tourism resort
- Organic farming or permaculture
- Grow trees for timber and fuel (biomass)
- Bioremediation

### My Green Business Ideas: Ms Ma Jia

- Fitting energy efficiency devices for houses and small businesses
- Supply solar thermal panels
- Fit solar thermal panels
- Agency to arrange eco-travel holidays
- Eco-tourism resort
- Sell clothing that does not damage the environment
- Make clothing that does not damage the environment
THE MULTIPLE BENEFITS OF GREEN BUSINESS OPPORTUNITIES

Starting a new business that they own and manage is a goal for many people who relish the challenge of setting up something new that can be successful and can generate an income for them and their families and can contribute to the local economy. If, however, that business is a green business opportunity, there are a number of additional benefits, including:

- The business provides more fulfilment than just making money – you are also "doing good"
- You are acting in the best interests of the country, which has made environmental improvement a key aim of development for the future
- You may be able to take advantage of subsidies and other incentives that are made available by state and provincial governments
- Your ideas are likely to be viewed favourably by municipal authorities
- You are improving the environment and minimising environmental damage whilst running a business
- Valuing your employees and those working with you
- You are helping other people to recognise the benefits of taking action to safeguard the environment – you are disseminating information about environmental issues and some of their solutions
- Doing things more efficiently can often cost less
- You are helping to offer forthcoming generations a better future
- The business can help to conserve scarce resources and minimise waste
- You are "giving back" to the community
- You are part of the solution to the country's and the world's environmental problems.

Starting a green business can be more difficult than beginning a conventional business because of the additional protocols you may need to put in place to justify your environmental credentials. In these circumstances, the green entrepreneur may have to be more determined and have more of a will to succeed. Although building a profitable business may remain the primary motivator for the green entrepreneur, it is unlikely to be the only motivation.

However in your desire to be as environmentally friendly as possible, you must take care that you do not lose sight of the need to make sure the business is profitable. An
unprofitable business is not sustainable in the longer-term as you need to make money to be able to continue in business and to continue the good work that you have set out to do. A sustainable business is a profitable business!

SUMMARY

Accompanying the environmental challenges that we are all facing are green business opportunities, including renewable energy, recycling, ecological agriculture and the fields of environmental protection and management. All of these provide business opportunities for green entrepreneurs as does the potential for starting a conventional business but making sure it is run in an environmentally friendly manner. In addition to opportunities in sustainable production, sustainable consumption also provides business ideas.

So, how can we seize these opportunities to establish a business successfully, and achieve the win-win situation of environmental protection and economic development? We will begin to look at this in the next chapter of the Training Manual.
CHAPTER 3: WHAT IS A GREEN BUSINESS?

Learning Outcomes for Chapter 3

When you have finished studying chapter 3 of this Training Manual, you will:

- Know what an enterprise is
- Have an understanding of different types of business
- Understand the difference between a business selling a product and one selling a service
- Be able to identify the features of "green" industry
- Be thinking about your business as part of the green economy which leads to the creation of green jobs.
WHAT IS AN ENTERPRISE?

The concept of enterprise

An enterprise is an economic organization that produces and exchanges commodities with the intention of making a financial profit. An enterprise can be formed by a single individual, two people or a group of individuals.

The enterprise purchases goods from the market (product or service), and also sells their products to customers (product or service). Therefore, in the course of operation, an enterprise mainly deals with two things, commodities and cash, which constantly flow between enterprises and suppliers as well as enterprises and consumers, thus forming two flows:

- Commodity flow: purchase a commodity from the market (equipments, raw materials or a service) and sell a commodity (products or services) to the market.
- Cash flow: cash outflow (cost of raw materials, rent, staff salaries) and cash inflow (sale of goods).

The ultimate purpose of running a business is to make profits, so the cash inflow to the enterprise should exceed the cash outflow. In a successful enterprise, the in-and-out activities of commodity flow and cash flow will circulate repeatedly.
THE TYPE OF ENTERPRISE

When you decide to start a business, you may find it very difficult to choose an appropriate project, trade or specialised area. With so many choices, it can be difficult to work out where to begin. The fact that you are on this programme suggests that you have already decided your business should be in the environmental sector or that you want to have a "green" version of a conventional business, but as you are probably beginning to realise, even this sector has many different facets and business opportunities. To help you make sense of this, we will begin by looking at different types of enterprise.

Whilst there are many types of enterprise, they can be classified in a number of ways:

Trading enterprise

Trading enterprises purchase goods from the manufacturer or wholesaler, and then sell them to customers and other businesses. Within this classification of trading enterprise, retailers buy from wholesalers or manufacturers and sell directly to consumers. All shops and on-line businesses that sell goods to final consumers are retailers. You do not need to have a physical shop to be classed as a retailer. Wholesalers buy goods from manufacturers and then sell them to retailers. Wholesale centres for vegetables, seafood, fruits, stationery and daily necessities are all wholesalers. Therefore, trading enterprises are divided into retail trade and wholesale trade.

Service enterprise

Rather than selling or manufacturing products, service enterprises provide services such as housing renovation, mail delivery, moving furniture and personal possessions, household services, legal consulting, and technical training. Service enterprises may also provide advice to businesses about, for example, energy efficiency or waste management.

Manufacturing enterprise

Manufacturing enterprises make or fabricate specific physical products. If you intend to establish an enterprise producing and selling furniture, bricks, farm machinery, small hydro power equipment or wind turbines, then you will own a manufacturing enterprise.
Agriculture and forestry enterprises

Such enterprises use land or water for production such as planting fruit trees, keeping poultry or growing fish, and produce a variety of products.

Some companies do not absolutely fit into this simple classification. If you are going to set up a solar hot water repair business, you will run a service enterprise because you are providing equipment maintenance and repair services. However, in the course of your repairs you may also sell spare parts and consumables (such as antifreeze
and plumbing fittings). This means you are also a retail trader. Therefore, it is the main scope of operation that determines the type of enterprise.

There are a number of other classifications that are worth exploring.

**Social enterprises**

Any of the types of business described above may also be a "social enterprise". In a social enterprise, the idea of profit may be slightly altered. A social enterprise is a business with a social or environmental mission and usually all or a proportion of the profit from the business is channelled into the local community or an environmental cause. In this way, the business is philanthropic whilst also contributing to the economic development of the country and creating employment. Social enterprises are often businesses that are focused on helping the community or environment in some way already and providing funds to the community from profit can be an extra benefit. However, any business can be a form of social enterprise if they decide to use some of their profit to benefit the community.

Being a social enterprise does not mean that the business does not need to be profitable. If the business does not make a profit, there is nothing to donate to the community or environmental cause.

Specific types of social enterprise will need to be registered with the relevant authorities, depending on the country and, possibly, region in which your enterprise will be based. The governance structures that apply to such enterprises may be different to those applying to purely commercial enterprises. If you need further information or advice on this, you will need to discuss your plans with the authorities in your area.

**Classification by customer**

Another way of considering businesses is by thinking about their customer. If the business is providing goods or services to other businesses, it will be classed as a "business-to-business" enterprise (B to B or B2B). If the company is providing goods or services directly to consumers, it will be classed as a "business-to-consumer" enterprise (B to C or B2C). Of course, as we have seen above in the case of the farm machinery repairer, these classifications are often not clear cut and a business may be both "business-to-business" and "business-to-consumer". For example, a retailer in a business district who specialises in selling recycled stationery may sell large quantities of stationery to local businesses but may also sell smaller quantities to individual consumers
for their own use.

From the above categories, you may feel that you are particularly suited to run a particular type of enterprise or that you have in mind who will be the end user of your products or services. Of course, the different kinds of enterprise have different characteristics and you need to analyse carefully what you are trying to achieve with your business to decide which type of enterprise is right for you. Your preferences, personality and experience will determine the choice you make about which type of enterprise will meet your business goals.
YOUR BUSINESS IDEAS

To create a successful business, you need to have a clear idea about the business you expect to operate and your goals for the business.

A successful business must meet the needs of its customers but in a way that enables it to make profits. It must provide people with the products they want at a price they can afford but that price must also be high enough to bring profit to the business. When thinking about your business idea, you should consider:

- What products or services your business is going to sell
- To whom your business is going to sell products or services – your customers
- How your business is going to sell products or services – your route to market
- What customer needs your business is going to meet and how your product or service will provide a benefit to the customer.

Before going into this in too much detail, however, we will first consider who should be involved in your business.

Should I begin my business alone or with others?

This is a difficult question for the new entrepreneur and will depend on the type of person you are, the type of business you have in mind, the size of the market and the interest of others in the business you are considering. The advantage of starting a
business on your own is that you are in charge and you are able to take all the important
decisions without having to defer to others. It also means you will not have to share the
profit from the business with anyone else.

However, this also means that you will, at the outset, have to do everything. You will
have to source the materials, the premises, the equipment and, if necessary, the staff.
You will also be responsible for finding customers and selling your product or service to
them. This also means you have to make sure they pay you on time and in the correct
amount to enable you to pay your suppliers, to pay your staff salaries and to pay the rent
for the premises.

This can be a very lonely position, especially at the start of the business when there are
so many things to do and the amount of revenue you are generating is small. If there is
someone else who shares your ideas and aspirations as well as the costs and who you
can work with, it may be worth considering setting up the business together. This will
enable you to share the roles and responsibilities and to identify which parts of running a
business you are each best equipped to undertake. You also have someone with whom
you can share the frustrations and disappointments but also the successes.

If you are thinking about going into business with a partner, you will need to think
carefully about the way you structure the business. You will need to make sure that
you have agreed between yourselves what will happen if you want to dissolve the
partnership or if something happens to one of you. It is worth exploring these issues at
the outset rather than waiting for something to go wrong and then to find yourselves
arguing over the next steps.

What products or services is your business is going to sell?

Ideally, your business ideas should be based on products you are familiar with or services
where you are proficient. However they must also be products or services that people
are willing to pay money to buy. Analysing a number of business ideas will help you
focus your attention on the product or service that you are best able to provide.

Products are the articles that people pay money to buy. They can be things you produce
by yourself but they can also be things you purchase and then sell. Tools, baked
products, garments, stationery, electrical appliances and furniture are all products.

Service refers to things you do for others and for which, they are willing to pay you for
your labour. This is usually because it is a specialist service that not everyone can do such as providing legal advice or installing a biogas digester. It may also be because the customer has realised that it is better for him to pay someone else for the service rather than spend his valuable time doing it. An example would be polishing shoes or repairing bicycles. In this case, the customer may be able to do these things but he prefers to pay someone else to do it for him.

**Who will be your customer?**

Customers are an indispensable part of any business – without someone willing to buy the product or service offered by the business, there is no business. Clearly understanding the customers who are likely to buy your products or services is very important. Do you sell goods or services to a specific type of customer or to everyone in a region? For example, if you are intending to repair farm machinery, farmers with damaged machinery will be your customers. It is, therefore, important that you are in an area where there are many mechanised farms. If you are in the middle of a city, there may not be a big demand for your services! Your business will not make a profit unless there are enough people who are willing to spend money buying your products or services at the price you need them to pay.

**How is your business is going to sell products or services?**

If you plan to open a shop, deciding how you are going to sell your products or services is not complicated. However, having a shop premises is expensive and you will need to make sure it is in the right place so that potential customers will pass the shop and see it. You will also need to make the premises eye-catching so that people will be interested and want to enter the shop. If people are interested in your shop and in buying from you, you will also need to make sure the shop is open for business when the customers are around and that you or your sales staff are aware of how to sell products to the customers.

For manufacturers or service providers, there are many sales methods but the majority of these will rely on you going to your customers rather than expecting your customers to come to you. So you will need to be able to travel to customers premises, demonstrate to the customer your product or service and explain how it will provide
him with a benefit in his business or in his life. If, for example, you are providing advice to businesses about how they can become more energy-efficient, you will need to understand the type and size of business the customer operates. You should also have an idea of the energy consumption of the business and where you may be able to recommend savings. You will need to spend time with the owner of the business or the decision-maker and persuade them that you can offer a service to them that will make their business more energy-efficient and save them money but you will also have to make sure they pay you enough money to allow you to make a profit.

Other routes to market may involve direct mail to potential customers, using newspapers and magazines that will be read by your customers to advertise your services or products or attending trade shows or exhibitions where you customers may attend.

A route to market that is now very significant across the world and which is growing in importance is the Internet. The Internet can be used as a route to market for all types of business but having an effective web site is crucial. So, a web site can be used by a retail business, selling directly to consumers but equally can be used in B2B transactions. If you intend to sell your products or services directly from the web site it will be necessary to set it up for e-commerce, making sure that the site can process transactions safely and securely.

Even if you do not intend to sell products or services directly from your web site, the development of the Internet as a research tool by customers and potential customers means it is very important for you to have a web site that tells people about your business. Whilst doing market research later in this programme, take a note of the web sites that you think are effective and that are designed well and try to incorporate the good features into your own site when you develop it.

**What customer needs is your business going to meet?**

Your business ideas should always give consideration to customers and their needs. When you are thinking about your business ideas, it is very important to investigate what your future customers’ need is. Later in this Training Manual, we will provide you with some advice on how you can undertake these investigations.

You should recognise that starting up a business is not easy. It involves a great deal of planning and then a great deal of work to get the business off the ground. If you have
not done your planning effectively and you start an inappropriate business, then your efforts and the money you spend on starting up your business might be wasted.

All successful businesses start from a well-conceived business idea. This Training Manual will help you create good business ideas, analyse the ideas and select one idea which will be suitable for you and can help you become a successful green entrepreneur. At the end of the previous chapter, you began to compile a list of green business ideas. We will now take this further and develop more ideas for your business.

**GREEN BUSINESS IDEAS**

Green businesses adopt principles, policies, and practices that improve the quality of life for their customers, their employees, the communities in which they operate and the environment. Many green businesses begin with a desire to resolve the impacts of climate change and other environmental problems. This desire, on the part of the green entrepreneur can be as strong as the profit motive and be equally important in terms of the goals of the business. If this is the case, it is important to recognise these parallel goals and that they may not always be mutually compatible. If so, you will have to make a decision about whether to compromise your environmental ideals or the level of profit you can hope to achieve.

There are opportunities for green businesses in every geographical area and area of our lives. What is important, though, is making sure the business addresses one or more of the areas of environmental concern. Some examples follow:

- **Pollution control such as**
  - water pollution
  - air pollution
  - waste management and hazardous waste management
  - noise
  - odours
  - soil decontamination
- **Mitigation of climate change by**
  - reducing the emissions of greenhouse gases
  - reducing the use of non-renewable resources, especially fossil fuels
  - finding more sustainable ways of travelling – low carbon transport solutions
- reducing the amount of waste generated
- reducing the amount of water usage
- working towards sustainable consumption goals
- increasing the amount of energy generated from renewable resources

- Adaptation to climate change
  - flood control
  - constructing resilient buildings – to withstand severe weather events
  - overcome soil salinization
  - develop and grow drought resistant food crops

- Energy efficiency and renewable energy
  - reduce energy use – develop more efficient electrical equipment
  - develop resources to generate renewable energy

- Conservation, biodiversity, natural resource management
  - Safeguard vulnerable species
  - manage forests and farmland to encourage wildlife
  - minimise use of finite resources.

Green business will help people who are vulnerable to environmental threats and the impact of climate change to restore their livelihoods and to live more harmoniously with nature.

Why should you, as an entrepreneur, opt for developing a green business? Where are the green business opportunities? How do you proceed to develop your green business ideas? The following is an introduction to, and analysis of the market for environmentally sustainable products and services.

**Key factors influencing your green business**

To identify sectors that turn the environmental and climate change threats into business opportunities, three key factors that you need to keep in mind are:

- **Changes in consumer habits.** For example, many people are now deciding to purchase organic food or energy from renewable sources because they, themselves, are convinced that we need to do something about our environmental impact.

- **Direct impacts on the natural and built environments such as extreme weather events and their impact on agriculture, businesses and business infrastructure.**
• Impacts from regulations such as new obligations to use energy efficient light bulbs, regulations affecting the energy efficiency of manufacturing plants.

Market features of green industry

There are a number of features that differentiate the market for products and services that have minimal environmental impact from other markets:

• It is a newly emerging market in China and elsewhere
• There is excellent potential for growth in this market
• However, there is also a high level of uncertainty
• The markets are new (for example, environmental protection, eco-tourism and energy conservations services) and the businesses serving these markets are often new
• Green products comprising renewable resources such as wind energy, recycled paper and bio-fuels are reasonably common. They can substitute for some existing products and can co-exist with them in the market. Compared with existing products, the market share of such green products is still very small and many of them are not yet recognized by consumers on the market.

DEVELOP YOUR GREEN BUSINESS IDEAS

An introduction to business planning

We mentioned earlier in the chapter that starting your own business involves a great deal of planning. One of the other Training Manuals in this series will go into more detail about business planning but it is important that you have an understanding at this stage.

A business plan is a document that sets out what you aim to do in your business and how you will do it. It is important to have a realistic, workable business plan when you are starting up your business so that you can look to the future and reduce the associated risks. A business plan is also:

• A working document, which you can use to help guide the growth and development of your business. It is not a document to be created at this stage and forgotten.
● A control document, which you can use to compare your actual progress with what you planned.

The business plan is a living document. It will need updating and changing as your business grows. It is a good idea to make sure that you include in your plan some time to allow you to update your business plan occasionally but regularly.

You should prepare a business plan because:

● It reminds you why you made certain decisions. It is easy to forget this as time passes.
● It allows you to describe your business (the 'vision' behind the business as well as the product or service) to supporters, customers and suppliers
● It helps you to know where you are going
● You will also know when you have reached your business destination. This gives you control over your business.
● Planning forces you to deal with all aspects of the business – even the parts you are not so keen on
● It encourages you to be realistic about what you can achieve with the resources you have available
● It can help to convince you that your business is a real possibility
● It should give you pride in your business.

Business planning is all about gathering together the information that will help you to make informed business decisions. You should make plans:

● before you start;
● whenever you change the direction of your business;
● as part of an ongoing process – typically once every year.

At this stage of your development, you should keep a record of all the ideas you have for your business and the processes you go through to develop your business idea. This information may be valuable later if you find you have to adjust to changing circumstances or find that your initial idea needs to be amended.
**Challenges and opportunities of starting a green business**

**Challenges**

In starting your green business, you will come across many challenges and opportunities. These are a few that you may need to address in the early stages of developing your ideas.

- How do I make my 'green' products acceptable to the consumer?
- How do I transform existing products into green versions and get them into the mainstream market?

**Opportunities**

The following changes to traditional industrial processes will help to provide opportunities for green businesses:

- Measures and mechanisms to strengthen environmental and ecological protection.
- Improvements in the utilization efficiency of energy, water and other resources.
- Development of the recycling economy to fully utilize renewable resources and minimize the generation of waste.

**Exercise 4: Building Energy Efficiency (BEE) Retrofit**

Find the reading material in the appendices about Building Energy Retrofit in China and read it carefully. When you have finished reading the information, answer the following questions:

- What do you think is the potential for small businesses to explore the BEE market?
- What kind of skills are required to do business in the BEE market? If you do not have such skills, do you have to look elsewhere for a business idea?
- How can you get in touch with local government officials to obtain necessary information?

**EXERCISE 4 CASE STUDY**

Exercise 4 is all about Building Energy Efficiency Retrofit. In the exercise, you are asked to read some material and then to respond to some specific questions. The instructor in this case suggests that the participants work together in groups to answer the questions, after they have read the material. The exercise and the results from our group of participants, Ding Lixin, Wang Dapeng and Ma Jia is set out below:
<table>
<thead>
<tr>
<th>What do you think is the potential for small businesses to explore the BEE market?</th>
</tr>
</thead>
</table>
| · There is a big potential for small businesses in this market  
· Many existing buildings need to be made more energy efficient  
· There are not enough people in the business of energy efficiency retrofit at present to meet the demand  
· Small businesses can respond to demand quickly and there is good opportunity for a small business that does a good job to grow. |

| What kind of skills are required to do business in the BEE market?  
If you do not have such skills, do you have to look elsewhere for a business idea? |
|---|
| · Need to understand how buildings are constructed;  
· Need to know how businesses occupying buildings use energy;  
· Must be able to identify potential savings in buildings (if the business or building owner is not going to save money, they may not be willing to spend);  
· Need to understand the costs of retrofitting;  
· Must understand demand in our area;  
· Need to find out about government help for doing this work in our area;  
· Unlikely that one person will have all the knowledge necessary to do all the work such as insulation, lighting controls and light bulbs, heating and ventilation systems.  
If we do not have all the skills and knowledge, it is possible to find partners to work with who have complementary knowledge available. There will be other people with the skills and knowledge who do not want to start their own business but who would work for someone else. There may be opportunities to work in another organisation to find out more. |

<table>
<thead>
<tr>
<th>How can you get in touch with local government officials to obtain necessary information?</th>
</tr>
</thead>
</table>
| · Ask at your local municipal offices who would be the right person to speak with  
· Check the web site for the local municipal offices to see if the names of the relevant officials are listed. |
Exercise 5: More green business ideas

From the information in this Chapter, you will almost certainly have had other ideas about the type of business you could begin. Go back to the list you began at the end of the previous chapter in exercise 3 and add any other ideas to it that you may have had.

EXERCISE 5 CASE STUDY

Exercise 4 asks the participants in the programme to add to the list of potential green business ideas they began during exercise 2.

The three participants we are following, Ding Lixin, Wang Dapeng and Ma Jia, added to their lists as below. From this, you will see that Ding Lixin is focusing on the engineering and mechanical types of business because this is where he has existing experience. You may also be able to discern that he has ideas about potentially quite large businesses when compared to Ma Jia, who is focusing on smaller businesses that she may be able to run herself.

Ma Jia is also finding it more difficult to come up with ideas than the two men she is working with. She is not as confident as them and is looking for ideas that will enable her to work from her own locality and to manage alongside bringing up her son. Her experiences to this point in her life have not prepared her as well for starting and running her own business.

Wang Dapeng is also focusing on areas that he knows – those that are to do with farming and the land. However, he is finding that working with other people is helping him to come up with many more ideas than he would be able to alone so he is enjoying this experience. He recognises that he will need to do a lot more research into some of the ideas but at present, he is doing as instructed and just jotting down ideas as they come into his head.
## My Green Business Ideas: Mr Ding Lixin

- Waste recycling
- Supply energy meters
- Supply wind turbines
- Erect wind turbines
- Provide spare parts for small wind turbines
- Design new forms of packaging
- Find other uses for materials being disposed of
- Remediation of waste using bioremediation
- Manufacture small wind turbines
- Furniture manufacturer
- Sell bicycles
- Repair bicycles
- Soil decontamination
- Low carbon transport adviser
- Green building design or specification

## My Green Business Ideas: Mr Wang Dapeng

- Energy efficiency adviser
- Supply energy efficient appliances for householders
- Supply biomass energy devices
- Fit biomass energy devices
- Build biogas digesters
- Eco-tourism resort
- Organic farming or permaculture
- Grow trees for timber and fuel (biomass)
- Bioremediation
- SOCIAL ENTERPRISE!
- Repair farm machinery and tools
- Advise other farmers how to safeguard wildlife
- Advise other farmers how to use fewer resources (including energy)
<table>
<thead>
<tr>
<th>My Green Business Ideas:  Ms Ma Jia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitting energy efficiency devices for houses and small businesses</td>
</tr>
<tr>
<td>Supply solar thermal panels</td>
</tr>
<tr>
<td>Fit solar thermal panels</td>
</tr>
<tr>
<td>Agency to arrange eco-travel holidays</td>
</tr>
<tr>
<td>Eco-tourism resort</td>
</tr>
<tr>
<td>Sell clothing that does not damage the environment</td>
</tr>
<tr>
<td>Make clothing that does not damage the environment</td>
</tr>
<tr>
<td>Sell organic fruit and vegetables</td>
</tr>
<tr>
<td>Supply recycled paper and stationery products</td>
</tr>
</tbody>
</table>
An enterprise is an economic organization that conducts the activities of commodity production and exchange for the purpose of profit. An enterprise can be formed by a single individual or a group of individuals.

The enterprise purchases goods from the market (product or service), and also sells them to customers (product or service). Therefore, in the course of operation, an enterprise deals with commodities and cash, thus forming a commodity flow and a cash flow.

You should consider which business type is most suitable to you. There are mainly four types of enterprises: trading (including retail and wholesale), service, manufacturing, as well as agriculture, forestry, animal husbandry and fishery. As a business owner, each type of business will pose different challenges.

Starting up a business is not an easy thing, and it involves a great deal of work and many drafts of plans. If you start an inappropriate business, then the efforts and resources you have spent on exploring your business ideas and starting up might be wasted.

Green business ideas refer to business ideas that seek to resolve the challenges of environmental problems and climate change. A green business should help to protect the environment, restore damaged ecosystems, minimise the negative impact on the environment, reduce the emission of greenhouse gases, or help those who are subject to environmental threats and the impact of climate change restore their livelihoods, and live more harmoniously with nature.

Good preparation of a business idea includes thinking about:

• What products or services your business is going to sell
• To whom your business is going to sell products or services
• How your business is going to sell products or services
• What customers’ needs your business is going to meet.

You have now spent some time looking at environmental issues and some opportunities for green business that they present. In this chapter you have looked at different types of business. The next chapter is all about you, your experience and your skills and how these can help you in developing your green business.
CHAPTER 4: ARE YOU READY TO START A BUSINESS?

Learning Outcomes for Chapter 4

When you have finished studying chapter 4 of this training manual you will:

- Be able to identify the key factors required to start a new business
- Understand where you need to strengthen your skills and abilities to help you start your business
- Have a clearer idea of the type of business that will work for you.
The success of an enterprise, especially in the early stages, is closely related to its owner. When you decide to start your own business, the initial thing to do is to look at yourself seriously to determine whether you have the correct skills, experience and attributes to become a business owner and whether you have the basic resources needed to start a green business.

In this chapter, you will learn about the basic attributes necessary for successfully starting a business and how to evaluate whether you have them. In addition, you will learn some techniques to identify your own strengths and weaknesses in relation to setting up and managing a new green business.

**KEY FACTORS IN STARTING A SUCCESSFUL BUSINESS**

Before you start your business, you will need to develop a clear understanding of how well equipped you are to establish your own enterprise. If, after a period of reflection, you find you do not have all the attributes you need to be a successful entrepreneur, you will need to:

- actively look for effective ways to overcome them
- if you do not think you can overcome the issues you must either
  - consider finding a business partner (or several others) with whom to go into business so that, between you, you possess all the necessary attributes
  - think carefully about whether starting a business is really the right thing for you to do. If not, and you are passionate about working in the environmental sector, find a green business that you can work for and offer your services. You may find that, after some time working in the sector and picking up information and additional skills and expertise, you may be ready to begin thinking about your own business once more.

Frequently asked questions are:

- How can I be a business owner?
- How do I successfully start a business?

There is no simple approach or shortcut to establishing a successful enterprise, you will have to put in a lot of planning and hard work. However, from the experiences of many other business owners, successful and less so, some key factors for creating a successful
small enterprise can be identified.

The business owners themselves are crucial throughout the entrepreneurial process. To become a business owner, you should be equipped with the ability to take risks, manage your business well, and win customers. The success of business owners depends on four factors:

- Motivation
- Ability
- Ideas
- Resources.

This is the MAIR model. The MAIR model can be depicted as a house with four walls where each wall represents a particular business aspect. If any of the walls were to fail, the house would fall. Similarly, all four aspects have to be carefully explored and understood before an idea can be shaped into a viable business. The MAIR model can be used by the entrepreneur to assess a business before starting it, or at any stage thereafter.

The following sections look at these factors in turn.

**Motivation and Determination**

For an individual or a team, strong entrepreneurial motivation and determination are prerequisites for setting up and establishing a successful business. But what is business motivation and determination? This involves really understanding why you want to start a business and what lies behind this. Entrepreneurial motivation and determination, as the premise and foundation for the success of your business, can be reflected in your answers to a number of questions:

**Commitment**

To be successful, you have to make a commitment to your business. You should put
significant emphasis on your enterprise, totally devote yourself to it and strive to overcome the difficulties encountered during the process. You should ask yourself, 'what is the primary motivation for me to start a business?'

**Attitude**

If you want, passionately, to establish a business, the likelihood of success is much greater. If you are just looking for something to do, then there is likely to be only a slim chance of success. A key question here may be, "did you try to start a business before this?"

**Family support**

Starting an enterprise will take up much of your time and energy, so it is very important to make sure you have the support of your family. You should seek advice from family members. If they agree with you and support your business plan, you will have strong backing. You should ask, "do I have my family's support in starting this business?"

**Health**

Starting a business can be both physically and emotionally draining. You need to be healthy both physically and mentally. If you are not in good health, you may be less likely to fulfil your commitment to establishing an enterprise (although there are examples of people who have overcome significant personal adversity to establish businesses). You should ask yourself, "am I healthy enough to start my own business?"

**Ability**

Another crucial issue is whether you have specific skills, experience, abilities and qualities that will be helpful in starting a business. These may be, for example, prior knowledge of entrepreneurship or technical knowledge of the sector you are entering. They may also be technical and management skills related to enterprise or business, including:

**Technical skills and knowledge**

It makes sense to enter a business sector where you have existing technical skills and knowledge. If you do not possess this technical information, it will be more difficult to understand how the sector works and what you will need to know. If you do not have the technical skills and knowledge, you will need to acquire them or in the short
term at least, ensure there is another senior person in the business who does have this knowledge. You could ask yourself, "do I have enough technical knowledge of this sector to be confident about starting a business?"

**Taking risks**

There is no absolutely secure business. There is always a risk of failure which may be due to circumstances beyond your control. It is important, therefore, that you are willing to take the risks associated with starting a business. However, careful assessment of your own willingness to take risks and planning to avoid as many risks as possible can reduce many of the dangers. A good question to ask is "do I have previous experience of running a small business and does this cover any aspect of the business I want to start now?"

**Decision making**

You must make many decisions in the process of setting up a new business. When confronted with hard choices which may make a significant impact on the business, you must act decisively. For example, it may be difficult for you to dismiss hard-working and loyal employees, but if it becomes necessary for the business, you have to do so. Ask yourself, "do I have the ability to make difficult decisions quickly and when under pressure?"

**Integrity**

A bad reputation caused by treating customers or suppliers poorly or due to inadequate financial management will be detrimental to the establishment of your enterprise, especially in the early days. You should consider, "do I know how to manage customers and suppliers and can I manage the financial aspects of the business?" The good news here is that these aspects of running a business can be dealt with by employing people with the requisite skills and experience. As the business grows, you will not need to do absolutely everything yourself.

**Ideas**

When you are faced with intense market competition, coming up with ideas other people may not think of or doing what others would not like to do, is a pre-requisite capacity for outstanding business owners. Innovation can often be an important factor in being
Successful in the market place. There are many questions to ask at this stage and some of them are as follows:

- What is the product or service that the business will sell?
- Who are the customers?
- What customer need does it meet?
- Is the product developed, tested (if necessary) and does it meet the specified standards? Is it ready for the customers?
- What quantity of the product will be produced and sold?
- Is it known if the customers will buy it? Has a market survey or other market research been conducted, even if informally?
- Why will customers prefer this product/service to that supplied by competitors?

In addition, in relation to a green business start up, there are other questions to consider:

- How will the product/service help with the environment?
- What environmental issue will it help to overcome?
- How will I make sure my business does not cause environmental harm?
- How do I demonstrate and prove my environmental credentials to stakeholders in the business and to my customers?

Resources needed and their availability

The fourth wall of the house that is your new business is the resources that you may need and that are available. There are four types of resource required to begin a business: land; labour; capital; information. We will look at each of these in turn:

Land

If you are not starting an eco-tourism business or an organic farm, you may question the need for land. But most businesses will need premises, even if it is a room in your own home at the beginning. You will need somewhere you can keep all the documentation relating to the business and where you can store your products or the items related to your service. If you are thinking of starting a wholesale or retail business, you will need a shop or warehouse. If your business will be Internet based, you will still need to ensure that supplies of your product are available for delivery to your customers. Do you have access to these types of premises? Do you know how big your premises will need to be - how much stock will you need to store to meet the customers’ needs? You will need to do some research to be able to answer these questions effectively.
**Labour**

Depending on the type of business that you are thinking of starting, you may or may not need any labour in addition to yourself. However, if the business is successful, after a relatively short time you will need to employ additional people. You will need to think carefully about the type of person (or people) you will need and make sure their skills and experience meet the needs of the business. When you have employees, you will need to make sure you have the financial resources to meet their wages or salary and you will also have obligations in terms of training.

**Capital**

This is probably the most important resource you will need to start your business and the availability of capital may dictate the type of business you can start. If you are starting a retail business, for example, you will need stock. You may be lucky and find a wholesaler who will provide you with goods on "sale or return" but you will need capital to pay the rent or to buy your premises and to pay your staff members.

Service businesses generally require less capital at start-up than manufacturing or trading businesses, especially if the business is knowledge based and the knowledge of the entrepreneur is the main asset. However, some service businesses do require significant amounts of capital. For example, farm machinery repair will require premises and heavy equipment for dealing with the machinery being serviced or repaired.

Under-capitalisation is one of the major reasons for new businesses to fail in the early stages. Do not underestimate the amount of money you will require to establish the business before you begin to generate revenue from sales of products or services. It can sometimes be many months before there is any net inflow of revenue.

Labour and capital are, to some extent, capable of being substituted for each other in some industries. For example in organic agriculture, it may be possible to avoid having to invest in expensive machinery if there is a suitable workforce available to sow and harvest the crops. But do not forget that the labour force will also need paying and at some point, investment in capital equipment will be necessary.

**Information**

We are, increasingly, living in a world where one of the major resources for any individual
or business is access to information. This may be information about your competitors, about market conditions, about speeches made by government ministers or about new legislation that may affect the business or your customers. It is important when planning your business to make sure that you have access to the right information to help you run the enterprise successfully. Again, however, care is also needed because too much information can be damaging. You need to think about running the business and spending too long reading about market conditions can prevent you from taking advantage of the conditions that prevail.

For some service businesses, such as energy efficiency advisors, having access to the most up to date information about your area of expertise is vitally important. This and other environmental sectors are changing so quickly that you can easily be left behind by the pace of change.

The Internet is, increasingly, the main source of information for business owners about the market sector they are in, what their competitors are doing and what legislative or regulatory changes are on the horizon that may affect the way the business operates. If possible, you will need to get access to the Internet to be able to obtain the most up to date information.

Exercise 6: Self Evaluation

Before you begin thinking in detail about your own business ideas, you need to have a clear understanding of whether you have the right skills, experience and attributes to start a business of your own. You should complete the following exercise, which will help you understand the competences of a successful business owner and evaluate your abilities and potential to run your own business.

There are ten sets of questions that deal with the different competences required to be a successful business owner. You should work through each set of questions, carefully considering which of the alternatives is the best description of you. If, for example under the second set of questions about risk tolerance, you were looking at the first set of alternatives, you would need to think if you enjoyed taking risks and that it is important to take risks to get on in life. If this describes your attitude to risk, you would enter 2 points in the space in column A. If, on the other hand, you do not like taking risks, you would enter 2 points in the space in column B.
If you are to get the most benefit from this self-evaluation, you will need to be honest with yourself. The exercise is personal and is intended to help you evaluate your skills, experience and personal qualities and how well these will equip you for successfully starting your own business.

<table>
<thead>
<tr>
<th><strong>Your motivations for starting a business</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Column A</strong></td>
<td><strong>Column B</strong></td>
</tr>
<tr>
<td>Before starting my own business, I have a good job</td>
<td>Before starting my own business, I don't have a good job</td>
</tr>
<tr>
<td>From each of my previous jobs, I have learned something. I find them interesting.</td>
<td>I only work for money. There is no pleasure in working. I'm not interested in taking a job.</td>
</tr>
<tr>
<td>I want to make my business a life-long career.</td>
<td>I have no choice but to start a business.</td>
</tr>
<tr>
<td>I want to own a business so I could offer my family a better way of life.</td>
<td>I want to start a business because I want to be successful. All the rich people have their own businesses.</td>
</tr>
<tr>
<td>I'm convinced that whether I can be successful depends largely on my own efforts</td>
<td>Whoever wants to be successful will need a great deal of help from others.</td>
</tr>
</tbody>
</table>

| TOTAL | TOTAL |
### Risk Tolerance

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
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<tbody>
<tr>
<td>I'm convinced that I have to take risks in order to make progress in life.</td>
<td>I don't like to take risks, even if there are chances to earn high returns.</td>
</tr>
<tr>
<td>I believe there are opportunities in risks.</td>
<td>If I have a choice, I am willing to do everything in the safest way.</td>
</tr>
<tr>
<td>Only after weighing up the pros and cons will I take risks.</td>
<td>If I like an idea, I will take risks without weighing up the pros and cons.</td>
</tr>
<tr>
<td>Even if I lost the capital invested in my business, I would accept it.</td>
<td>It would be difficult for me to accept that the capital invested in my business might be lost.</td>
</tr>
<tr>
<td>I would not expect to be in full control of things, even if I had sufficient power to control them.</td>
<td>I like to be in full control of the things I do.</td>
</tr>
</tbody>
</table>

| TOTAL      | TOTAL      |

### Persistence and the ability to handle a crisis

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>I do not give up easily, even in the face of extreme difficulties</td>
<td>If there were many difficulties, it would not be worth striving for certain things. I'm looking for an easy life!</td>
</tr>
<tr>
<td>Setbacks and failures would not depress me for too long.</td>
<td>Setbacks and failures would have a big impact on me.</td>
</tr>
<tr>
<td>I believe I can turn the tables – I have the tenacity to make my own luck.</td>
<td>In the few things that one can do independently, destiny and luck play an important part.</td>
</tr>
<tr>
<td>If someone says 'no' to me, I will stay calm and try my best to change his or her mind.</td>
<td>If someone says no to me, I will feel bad and give up.</td>
</tr>
<tr>
<td>In the face of a crisis, I am able to keep calm and find the best solution.</td>
<td>When faced with a crisis, I get frantic and nervous.</td>
</tr>
</tbody>
</table>

| TOTAL      | TOTAL      |
### Family Support

<table>
<thead>
<tr>
<th><strong>Column A</strong></th>
<th><strong>Column B</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>If the decisions about my business have an impact on family members, I will let them participate in the decision-making.</td>
<td>I will not let my family members participate in making any decision that would affect them.</td>
</tr>
<tr>
<td>My total dedication to the business would deprive me of a normal home life with my family but they would understand this.</td>
<td>My total dedication to the business would deprive me of a normal home life with my family and they would feel upset about this.</td>
</tr>
<tr>
<td>If my business is not successful at the beginning and causes economic difficulties to my family, they will accept this.</td>
<td>If my business is not successful at the beginning and causes economic difficulties to my family, they will get angry.</td>
</tr>
<tr>
<td>My family is willing to help me overcome difficulties in my business.</td>
<td>My family may be unwilling or unable to help me overcome difficulties in my business.</td>
</tr>
<tr>
<td>My family believes it is a good idea for me to start a business.</td>
<td>My family is worried about my idea of starting a business.</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>TOTAL</strong></td>
</tr>
</tbody>
</table>

### Initiative

<table>
<thead>
<tr>
<th><strong>Column A</strong></th>
<th><strong>Column B</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>I am not afraid of problems because they are part of my life. I will find a way to solve problems.</td>
<td>I find it difficult to deal with problems. I would worry about the problems or I would simply give up thinking about them.</td>
</tr>
<tr>
<td>I will try my best to overcome difficulties. I regard difficulties as challenges and I like to take up challenges.</td>
<td>In the face of difficulties, I would try to forget them or wait for them to go away.</td>
</tr>
<tr>
<td>I don't wait for things to happen but try to make them happen.</td>
<td>I like to follow the trend and wait for good things to happen to me.</td>
</tr>
<tr>
<td>I like to try unusual things.</td>
<td>I only like to do what I am good at.</td>
</tr>
<tr>
<td>I believe all ideas are helpful. I would seek as many ideas as possible and see which ones are feasible.</td>
<td>Different people have different ideas and it's not possible to follow them all. I would stick with my own ideas.</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>TOTAL</strong></td>
</tr>
</tbody>
</table>
### Ability to Coordinate Family, Culture and Business

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>So long as it is affordable, I am willing to withdraw money from my business for my own and my family's use.</td>
<td>I will withdraw as much money as my family needs from my business.</td>
</tr>
<tr>
<td>If my friends or family have financial problems, I will only help them by using the money reserved for my own use and not withdrawing money from the business.</td>
<td>If my friends or family have financial problems, I would help them, even if it would undermine the business.</td>
</tr>
<tr>
<td>I cannot spend too much time on my family and social obligations without neglecting my business.</td>
<td>I put family and social obligations before my business.</td>
</tr>
<tr>
<td>My family members and friends will pay for my products, services or the use of the assets of my business as other clients do.</td>
<td>My business will provide special benefits and services for my family members and friends.</td>
</tr>
<tr>
<td>I will not allow my friends or family members to buy on credit.</td>
<td>I would often allow my friends and family members to buy on credit.</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>TOTAL</strong></td>
</tr>
</tbody>
</table>

### Ability to Make Decisions

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am able to make decisions easily. I like making decisions.</td>
<td>I find it hard to make decisions.</td>
</tr>
<tr>
<td>I am able to make tough decisions independently.</td>
<td>Before I make tough decisions, I like to ask many people for advice.</td>
</tr>
<tr>
<td>Once I have made a decision, I am often able to decide what to do next.</td>
<td>I would postpone decision-making whenever possible.</td>
</tr>
<tr>
<td>Before making a decision, I will think carefully and consider all the possibilities.</td>
<td>I make decisions based on my feelings and first instinct. I only know what to do now.</td>
</tr>
<tr>
<td>I am not afraid of making mistakes because I can draw lessons from them.</td>
<td>I am often afraid of making mistakes.</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>TOTAL</strong></td>
</tr>
</tbody>
</table>
## Ability to Accommodate the Needs of Your Business

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>I only provide products and services according to my customers' needs.</td>
<td>I only provide products and services that I want to provide and like doing.</td>
</tr>
<tr>
<td>If my customers want to buy cheap products or services, I will try to find a way of meeting their needs whilst still making a profit for my business.</td>
<td>If my customers want to buy cheap products or services, they will have to look for some other companies.</td>
</tr>
<tr>
<td>If my customers want to buy on credit, I will try to satisfy them at the lowest risk.</td>
<td>I will never allow anybody to buy my products or services on credit.</td>
</tr>
<tr>
<td>I am prepared to relocate my business to get more business.</td>
<td>I will not relocate my business. Wherever my business is located, customers and suppliers will have to come to me.</td>
</tr>
<tr>
<td>I will research market trends and change my attitude and way of working to keep up with the times.</td>
<td>might as well work the way I know how. It is too difficult to follow all the changes in ways of doing things.</td>
</tr>
</tbody>
</table>

| TOTAL | TOTAL |

## Commitments to the Business

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>I work well under pressure. I like taking up challenges.</td>
<td>I do not work well under pressure. I like peace and quiet.</td>
</tr>
<tr>
<td>I do not mind working long hours to make my business a success.</td>
<td>I think the time after work is important. One should not work for too long.</td>
</tr>
<tr>
<td>I realise that running a successful business may mean spending less time with my family and friends.</td>
<td>I'm not willing to spend less time with my family and friends because of my business.</td>
</tr>
<tr>
<td>I realise that running a successful business may mean spending less time on socialising, on hobbies and recreation.</td>
<td>I think it is important to spend time on social events, hobbies and recreation.</td>
</tr>
<tr>
<td>I am willing to work hard and to go the extra mile to make my business successful.</td>
<td>I am willing to work and do the 'musts'.</td>
</tr>
</tbody>
</table>

| TOTAL | TOTAL |
### Negotiation Skills

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>I enjoy negotiating and will often achieve my desired outcome without offending anybody.</td>
<td>I don't like negotiating. It is much easier to go along with others' ideas.</td>
</tr>
<tr>
<td>I communicate well with others.</td>
<td>I have difficulties in communicating with others.</td>
</tr>
<tr>
<td>I like to hear others' opinions and suggestions.</td>
<td>Normally, I am not interested in others' opinions and suggestions.</td>
</tr>
<tr>
<td>I like to take an active part in negotiations.</td>
<td>In a negotiation, I would rather be a listener and allow things to develop.</td>
</tr>
<tr>
<td>I think the best way of achieving your purpose in a negotiation is to find a mutually beneficial solution.</td>
<td>This is my business, so my opinions are most important. There are always losers in negotiations.</td>
</tr>
</tbody>
</table>

| TOTAL | TOTAL |

### Scoring the Self-evaluation Exercise

When you have completed all 10 sections of the evaluation, you should add up the scores in columns A and B for each section and then enter your scores in the relevant columns in the following table:

<table>
<thead>
<tr>
<th>Personal Quality/skill</th>
<th>A STRONG (6-10 points)</th>
<th>NOT TRONG (0-4 points)</th>
<th>B RELATIVELY WEAK (0-4 points)</th>
<th>WEAK (6-10 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 My motivation for starting a business</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 My risk tolerance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 My persistence and ability to handle pressure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 My family support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 My initiative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 My ability to coordinate family, culture and business</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 My decision making ability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 My ability to accommodate the needs of my business</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 My commitment to the business</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 My negotiation skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL SCORE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER 4 ARE YOU READY TO START A BUSINESS?

If you score 6 to 10 points in column A, it means your abilities and qualities in those aspects are strong. If so, please mark a √ under 'Strong'.

If you score 0 to 4 points in column A, it means your abilities and qualities in those aspects are not strong. Then please mark a √ under 'Not Strong'.

If you score 0 to 4 points in column B, it means your abilities and qualities in those aspects are relatively weak. If so, please mark an X under 'Relatively Weak'.

If you score 6 to 10 points in column B, it means your abilities and qualities in those aspects are weak. If this is the case, please mark an X under 'Weak'.

For example, for section 7 – Ability to make decisions a friend of Ding Lixin scored 6 points in column A and 4 points in column B. He entered the scores on the summary sheet, he put '6' in the column marked 'A' and '4' in the column marked 'B'. He then placed a √ in the column denoted 'Strong' and a X in the column headed 'Relatively Weak'.

For each item (question) you will have scored 2 points. As a result, the maximum total score for A is 100 (2 points x 5 questions x 10 sections). Also the total score of A + B = 100. If you have been honest in your evaluation and the total score in column A is more than 50, you have many of the personal qualities you will need to be a good business owner. However, if you score 50 points or more in column B, it means you have some weaknesses and you will need to work on these to improve your abilities in these areas.

By undertaking this self-evaluation exercise, you can determine your strong points and your weaknesses in relation to starting up and running your own business. We all possess many qualities and abilities. All that is being evaluated here is your ability to start a new environmental business at the time you complete the questionnaire. If you do not score highly in column A, it may mean that you are not ready to be an entrepreneur at this time and you may recognise that, to strengthen your abilities in some areas you may have to work for others for some time or you may need to undertake some training.

When you are reviewing your results you should try to understand how your attitudes and personal qualities may affect your ability to start your own business and to help it to succeed in the longer-term.

The abilities and attitudes described in column A of the self-evaluation questionnaire will be needed daily in your work as an entrepreneur so you should put them into practice and learn to master them. For example:
• Discuss the pros and cons of a situation or idea with colleagues or family members
• Make a plan for your future to strengthen your motivation for starting a business
• Learn from other successful entrepreneurs and understand that your success will depend heavily on your own efforts
• Improve your ability to weigh up and evaluate problems and to tolerate risks
• Think about and learn how to manage crises effectively
• Discuss the difficulties of your business with your family members and persuade them to support you
• Try to be as open minded as possible about the ideas and opinions of others
• Analyse the causes and effects of problems and improve your ability to learn lessons from mistakes
• Put more effort into your work and understand that success comes from hard work.

EXERCISE 6 CASE STUDY

This exercise is the self evaluation exercise, designed to help you understand more about yourself, your motivations for starting a green business and your skills and abilities to do so. We have not reproduced all the responses provided by the three participants we are following but you will find the scores for each of them below and their own thoughts about what the results suggest to them. Each participant has also addressed the areas where they need to learn more, develop new skills or work to improve some of the skills they already possess.
Mr Ding Lixin

<table>
<thead>
<tr>
<th>Personal Quality/skill</th>
<th>A (6-10 points)</th>
<th>B (0-4 points)</th>
<th>TOTAL SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  My motivation for starting a business</td>
<td>10</td>
<td>2</td>
<td>82</td>
</tr>
<tr>
<td>2  My risk tolerance</td>
<td>8</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3  My persistence and ability to handle pressure</td>
<td>10</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>4  My family support</td>
<td>10</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>5  My initiative</td>
<td>10</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>6  My ability to coordinate family, culture and business</td>
<td>10</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>7  My decision making ability</td>
<td>8</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>8  My ability to accommodate the needs of my business</td>
<td>8</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>9  My commitment to the business</td>
<td>8</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>10 My negotiation skills</td>
<td>10</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

I was very pleased to score strongly on this self-evaluation and believe I have the confidence, the skills and the abilities to start my own business and to do well. I did not score as weak on any of the attributes and do not think there are any areas that I need to learn more or develop better skills or knowledge. I do recognise, though, that starting a new green business is likely to take me away from where I am comfortable, so I will have to make sure I keep learning and do not become complacent about my abilities – I have to keep learning, from events and from other people.
Mr Wang Dapeng

<table>
<thead>
<tr>
<th>Personal Quality/skill</th>
<th>A</th>
<th>STRONG (6-10 points)</th>
<th>NOT STRONG (0-4 points)</th>
<th>B</th>
<th>RELATIVELY WEAK (0-4 points)</th>
<th>WEAK (6-10 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 My motivation for starting a business</td>
<td>8</td>
<td>✓</td>
<td></td>
<td>4</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>2 My risk tolerance</td>
<td>6</td>
<td>✓</td>
<td></td>
<td>4</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>3 My persistence and ability to handle pressure</td>
<td>4</td>
<td>✓</td>
<td>6</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>4 My family support</td>
<td>4</td>
<td>✓</td>
<td>6</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>5 My initiative</td>
<td>6</td>
<td>✓</td>
<td>4</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>6 My ability to coordinate family, culture and business</td>
<td>6</td>
<td>✓</td>
<td>4</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>7 My decision making ability</td>
<td>4</td>
<td>✓</td>
<td>6</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>8 My ability to accommodate the needs of my business</td>
<td>6</td>
<td>✓</td>
<td>4</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>9 My commitment to the business</td>
<td>6</td>
<td>✓</td>
<td>4</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>10 My negotiation skills</td>
<td>6</td>
<td>✓</td>
<td>4</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TOTAL SCORE</td>
<td>56</td>
<td>7</td>
<td>3</td>
<td>46</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>

I scored more than 50 points in column A so I must have many of the qualities I will need to run my own business. But I realise there are areas where I will need to learn more and to strengthen my skills and abilities. I was weak in my persistence and my ability to handle a crisis so I will have to make sure that I stick at this new venture and find a way of managing any difficulties that come along. I also recognise that I'll have to work closely with my family. They may feel threatened and apprehensive about my decision to start my own business so I have to work with them to make sure they understand why I have to do this and what it can mean to them. There may be some difficulties in the early stages but I think I have what it takes to get through.

The really worrying score was in my ability to make decisions. I'll have to try and work out what I find so difficult about making decisions and sticking to them and learn how to be more decisive. I do like to weigh up all the options and take advice before making decisions and this may be helpful at some times but if I am my own boss and running my own business, I'll need to make quick decisions without necessarily consulting others. This might be just a lack of confidence in my own abilities but I'll have to do something about it.
CHAPTER 4 ARE YOU READY TO START A BUSINESS?

Ms Ma Jia

<table>
<thead>
<tr>
<th>Personal Quality/skill</th>
<th>A</th>
<th>STRONG (6-10 points)</th>
<th>NOT STRONG (0-4 points)</th>
<th>B</th>
<th>RELATIVELY WEAK (0-4 points)</th>
<th>WEAK (6-10 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 My motivation for starting a business</td>
<td>6</td>
<td>√</td>
<td></td>
<td>6</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>2 My risk tolerance</td>
<td>2</td>
<td>√</td>
<td></td>
<td>8</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>3 My persistence and ability to handle pressure</td>
<td>6</td>
<td>√</td>
<td></td>
<td>4</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>4 My family support</td>
<td>4</td>
<td>√</td>
<td></td>
<td>6</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>5 My initiative</td>
<td>4</td>
<td>√</td>
<td></td>
<td>6</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>6 My ability to coordinate family, culture and business</td>
<td>4</td>
<td>√</td>
<td></td>
<td>6</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>7 My decision making ability</td>
<td>0</td>
<td>√</td>
<td></td>
<td>10</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>8 My ability to accommodate the needs of my business</td>
<td>4</td>
<td>√</td>
<td></td>
<td>6</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>9 My commitment to the business</td>
<td>6</td>
<td>√</td>
<td></td>
<td>4</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>10 My negotiation skills</td>
<td>8</td>
<td>√</td>
<td></td>
<td>2</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>TOTAL SCORE</td>
<td>44</td>
<td>4</td>
<td>6</td>
<td>58</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>

My scores were not really a surprise as I know I have a lot to learn before I will be able to be a successful green entrepreneur. I need to have more confidence but it has been a long time since I had a job or was in the workplace so I have some way to go. I was pleased that I scored well on my commitment to the business, although I have to recognise that my husband and son will always come first for me. I also scored highly on the negotiation skills – I learned this from having to negotiate with my son about him going to school and going to bed at reasonable times. I will have to examine my motives for starting a business. Is it just because I don't want to work for someone else or is it because I really want to run my own business and do some good? I think it is because I really want my own business but I will have to make sure this is the case and find a business idea that really inspires me.

There are a lot of other areas where I will need to become stronger but that is not a surprise. This is my first look at developing my own business and I will need to get more confident and more decisive. I will look for other training programmes to help me with this but I am sure if I come up with the right business idea for me, I will be able to give it the attention and support it needs. I will talk with my husband about this and see if he has any ideas about the areas I need to strengthen and also to make sure I have his full support for this course of action.
STRENGTHEN YOUR ABILITIES FOR STARTING A BUSINESS

The self-evaluation questionnaire you completed in the previous section of this chapter should have highlighted any of the necessary skills, abilities, experience or attributes for starting a business that you might need to strengthen. You will, therefore, need to identify ways to strengthen your areas of weakness.

There are many ways that you can improve your skills and enhance your personal qualities. Some examples of how you can do this are:

- Talk to other entrepreneurs and learn from them, especially others who are starting businesses in the environmental sector.
- Attend training courses. For example, you may attend a training programme or class. If you have access to the Internet, there are many sources of information and training online that you can gain access to with no charge.
- Secure a position as an assistant or an apprentice to a successful entrepreneur. If you are taking this course of action, let the entrepreneur know why you want to work with them. In the majority of situations (provided you are not intending to compete directly with them) you will probably find them to be helpful and willing to pass on their skills. You may have to take this sort of position for little or no pay in the short-term.
- Read books and find Internet resources that may help you improve your skills in running a business. There are many available.
- Read newspaper and journal articles about other enterprises, and think about their problems and solutions. You do not need to restrict yourself to smaller businesses or those in the environmental sector as you can learn from all types and sizes of business. The solutions for large businesses may not be those that you will be able to follow in your start-up business but you will certainly be able to learn things from them.
- Consider finding a business partner with complementary skills and start a business together with him/her. In dealing with certain situations in their businesses, people often find themselves lacking in experience or practice and having a partner with complementary skills can be very helpful.

You should now move on to the next exercise.
Exercise 7: Turning weaknesses into strengths

In this form, write down any ideas you can come up with for how you can turn your weaknesses into strengths.

<table>
<thead>
<tr>
<th>My weaknesses</th>
<th>How I will improve these aspects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Many aspects of your experience, such as your:

- Working experience
- Technical skills
- Knowledge of business practices
- Hobbies

may also be important factors in the success of your business. Some examples are:

- Ms. Bai Lei has worked in a kindergarten for many years. She has learned from her job how to educate children and she knows a lot about the management of
a kindergarten. She can draw on her experience to start a business. She believes she can attract more parents by offering them an 'environmentally friendly' kindergarten experience for their children by ensuring she does not waste energy and serves organic food.

- Mr. Jia Peng always helps his uncle repair family cars. Mr. Jia is good at repairing electric plugs and electric fittings. He could use this experience to start a business installing energy efficiency devices for individuals or businesses. He is also aware that the government is providing help for people to purchase electric cars. He realises he could combine his experience of electrical repairs with car repairs to provide a service to owners of electric vehicles.

- Ms. Ma Lili has been fond of making cakes since her childhood. She has also worked for several bakeries. She now knows where to purchase high quality flour from an organic farmer and she thinks she could start a business selling high quality baked products using locally sourced, organic ingredients.

**EXERCISE 7 CASE STUDY**

Following on from the self-evaluation questionnaire that made up exercise 5, participants in the course were asked to write down ideas for turning their identified weaknesses into strengths. These are some of the ideas put forward by our three participants, Mr Ding Lixin, Mr Wang Dapeng and Ms Ma Jia.
Exercise 7: Turning weaknesses into strengths

In this form, write down any ideas you can come up with for how you can turn your weaknesses into strengths.

**Mr Ding Lixin**

<table>
<thead>
<tr>
<th>My weaknesses</th>
<th>How I will improve these aspects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Motivation for starting a business</td>
<td>I need to examine my desire to be rich. I don't think this is a problem as I do not want to be rich for the sake of it, I just want the rewards that come from running a successful business.</td>
</tr>
<tr>
<td>2 Risk tolerance</td>
<td>I understand that setting up a business is risky but it would still be difficult to accept if my capital was lost, especially if I had invested a lot in the business.</td>
</tr>
<tr>
<td>3 Persistence and ability to handle pressure</td>
<td>This area is not a weakness for me.</td>
</tr>
<tr>
<td>4 Family support</td>
<td>My girlfriend fully supports my ideas of starting a green business. I need to make sure I keep her up to date with things so she remains committed.</td>
</tr>
<tr>
<td>5 Initiative</td>
<td>This area is not a weakness for me.</td>
</tr>
<tr>
<td>6 Coordinate family, culture and business</td>
<td>This area is not a weakness for me.</td>
</tr>
<tr>
<td>7 Decision making ability</td>
<td>Generally I’m OK with decision-making but I will have to make sure I can react quickly when it is necessary and not always have to seek others' advice.</td>
</tr>
<tr>
<td>8 Accommodate the needs of the business</td>
<td>I understand the need to provide products or services at a range of prices but it would not be my intention to supply cheap items. My aim would be quality at the right price, not just price-cutting to beat the competition.</td>
</tr>
<tr>
<td>10 Negotiation skills</td>
<td>This area is not a weakness for me.</td>
</tr>
</tbody>
</table>
### Mr Wang Dapeng

<table>
<thead>
<tr>
<th>My weaknesses</th>
<th>How I will improve these aspects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Motivation for starting a business</td>
<td>Although I have a job, I do not really enjoy it but this is not my main motivation for starting a new business. I also recognise that it is not necessarily a passport to riches. I just want to have enough money to provide well for myself and my family.</td>
</tr>
<tr>
<td>2 Risk tolerance</td>
<td>I need to get better at taking risks. Just starting a business is risky enough but I need to be able to continue this. I will look for advice from other entrepreneurs in books and I will try to find out if there are any training courses that may help.</td>
</tr>
<tr>
<td>3 Persistence and ability to handle pressure</td>
<td>I have to find out how to be calm in a crisis. Crisis management is a skill that can be taught so I will have a look for training courses that may help me. I have to avoid getting nervous and I have to realise that the one person who can make my business idea a success is me.</td>
</tr>
<tr>
<td>4 Family support</td>
<td>I need to speak more openly to my family about my ideas for starting my own business. They are apprehensive about it as things are difficult enough financially as it is without losing more through a failed business. I think if I talk to them and explain fully what I want to do and why, I am sure I can persuade them to support me.</td>
</tr>
<tr>
<td>5 Initiative</td>
<td>I have to stop being so passive and actually take the lead sometimes. I want to stick with my own ideas but I also don't want to stick with them rigidly if they are not the right ones to follow. I will try something new each week to see if my ideas work or not.</td>
</tr>
<tr>
<td>6 Coordinate family, culture and business</td>
<td>There is nothing to change in this area as my family is the most important thing to me and I will always put them first.</td>
</tr>
<tr>
<td>7 Decision making ability</td>
<td>I find it hard to make decisions and will often put them off or ask as many people as possible what I should do. I have to become more confident and assertive to help my decision-making and I will look for training courses to help in this area.</td>
</tr>
<tr>
<td>8 Accommodate the needs of the business</td>
<td>I need to fully understand the potential issues of offering products or services on credit to customers. I have never bought anything on credit before and I would be reluctant to encourage others to do so but it may be that some of my customers will need to buy on credit, especially if they are business customers. I hope the additional material in these courses may help me to understand the issues. My ties to my home village are very strong and there are family commitments there. I would be very reluctant to relocate so I may have to adapt my business ideas to fit the location.</td>
</tr>
<tr>
<td>9 Commitment</td>
<td>I have to make sure I am getting the right balance between work and home life if I start my own business. I do need to spend time with my family but recognise that I also have to devote myself to the business.</td>
</tr>
<tr>
<td>10 Negotiation skills</td>
<td>I am not the best negotiator and I need to find a training course to teach me this skill.</td>
</tr>
</tbody>
</table>
Ms Ma Jia

<table>
<thead>
<tr>
<th>My weaknesses</th>
<th>How I will improve these aspects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Motivation for starting a business</td>
<td>There are many areas where I need to improve my skills and abilities if I am to be a successful green entrepreneur. Before I do much else, I need to become more confident in my own abilities and be more assertive. I hope the rest of this course will help to persuade me that I have what it takes to be an entrepreneur but if not, I will find another role. It may also be that I need to work for someone else for a period again to get back into the workplace before I attempt to run my own business.</td>
</tr>
<tr>
<td>2 Risk tolerance</td>
<td>If this course does not help, I will look for training to help me become more confident and assertive. This will help me to make decisions and to understand when I should take risks. I have good access to the Internet so I can do some research on training programmes and other information that may help me.</td>
</tr>
<tr>
<td>3 Persistence and ability to handle pressure</td>
<td>I will also talk about my ideas in much more depth with my husband. He may be able to help with my concerns. If I know he is supporting me, I can do much more. His experience from his workplace may be useful and he may be able to coach me in some areas.</td>
</tr>
<tr>
<td>4 Family support</td>
<td>I do not want to lose sight of the fact that my family is very important to me and if I had to make a choice between a business and my family, the family would come first. But I also really want to do this and want to succeed. It may be sensible for me to talk to my friends and explain what I am trying to do. It may be that others may want to work with me and their skills and experience would complement mine and we could be successful together rather than me having to do everything myself.</td>
</tr>
<tr>
<td>5 Initiative</td>
<td></td>
</tr>
<tr>
<td>6 Coordinate family, culture and business</td>
<td></td>
</tr>
<tr>
<td>7 Decision making ability</td>
<td></td>
</tr>
<tr>
<td>8 Accommodate the needs of the business</td>
<td></td>
</tr>
<tr>
<td>9 Commitment</td>
<td></td>
</tr>
<tr>
<td>10 Negotiation skills</td>
<td></td>
</tr>
</tbody>
</table>

You have probably done many small jobs in your area. These may help to you to think of ideas for your business. Examples are: growing vegetables; cooking; babysitting; dancing; repairing watches or machines; washing clothes; or sewing. Your interests and hobbies, such as: telling stories; painting; fishing; listening to music; playing football; or baking may also bring you many ideas for starting a new business.

You may have many skills, a great deal of experience and a number of social ties. All of these can help you to plan and start your business. Whenever you think of another interest or ability, add them to this list. You should keep the list in the papers you use to plan and develop your business. Now do the following exercise.
Exercise 8: Identifying your abilities

Write down as many things as you can think of in each of the spaces below and on a separate piece of paper. You know yourself and your abilities and relationships so this exercise must be done individually.

My skills – I am good at doing the following things:

My interests and hobbies – I enjoy doing the following things:

My experience – I have the following work experience or educational background (list the jobs you have done and the training you have completed, together with any other working experience you have)

My business network – I know the following contacts, relatives and friends who work in enterprises and who may offer me information, advice or help (note their titles too)
Exercise 8: Identifying your strengths

Write down as many things as you can think of in each of the spaces below and on a separate piece of paper. You know yourself and your strengths and relationships so this exercise must be done individually.

Mr Ding Lixin

<table>
<thead>
<tr>
<th>My skills – I am good at doing the following things:</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am good at problem solving and negotiating with people. I think I am also a good motivator – the people in my team work well together. I manage them but I also work well under instruction from my manager. I am good with numbers and plans and I can meet deadlines. I can draw plans and diagrams and I am good at making decisions. I pay attention to detail.</td>
</tr>
<tr>
<td>I get on well with my work colleagues and the customers I deal with. I think I communicate well, both verbally and in writing and I am also good with computers. I write reports and I can also speak in public, delivering presentations and lectures. I can drive and I own a car. I also have a bicycle which I use sometimes.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>My interests and hobbies – I enjoy doing the following things:</th>
</tr>
</thead>
<tbody>
<tr>
<td>I enjoy sport, especially football (soccer). I have not played regularly since I left University but I watch it on television regularly. I enjoy eating out and going to nightclubs with my girlfriend.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>My experience – I have the following work experience or educational background:</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have a good academic background. I studied engineering at University and got a degree and a post-graduate qualification before starting work for my present company. I have worked in structural engineering since leaving University. I specialise in the structural loads that are placed on buildings and their foundations and how they can be made stronger and more resilient.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>My business network – I know the following contacts, relatives and friends who work in enterprises and who may offer me information, advice or help:</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have a wide range of contacts in my business and personal life who may be useful to me as I set up this new business. The list is too long to compile here but includes people at all levels in a number of organisations. My network of friends from my University days also gives me access to other businesses and business sectors.</td>
</tr>
</tbody>
</table>
Mr Wang Dapeng

My skills – I am good at doing the following things:
Because I work on a farm and do not interact with many people, other than the farm owner and the other two people who work there, I am not sure what skills are going to be useful. But I am good with my hands and I can follow instructions and interpret information – from the farm owner or from manufacturers on equipment and other things we use on the farm. I am not afraid to take action and I am able to meet deadlines. I have to be able to work alone and be self-motivated and I like to think that over the years, I have developed a lot of professional knowledge. I am also good at finding practical solutions to problems on the farm, making things or adapting them to meet a particular need.

My interests and hobbies – I enjoy doing the following things:
I do not really have time for too many hobbies and interests outside the farm. I do like to help my wife in the garden when there is time and I help the children with making models and I have built them a tree house.

My experience – I have the following work experience or educational background:
I have worked on a farm for most of my working life. I can work with animals and also with crops. I have experience of repairing and maintaining mechanical equipment such as tractors and harvesting machines. I know about the use of herbicides and pesticides to maintain the health of the crops and also the use of antibiotics for animals.

My business network – I know the following contacts, relatives and friends who work in enterprises and who may offer me information, advice or help:
My network is very small and is restricted to the local village and to the sales people from the agricultural cooperative where we buy most of our requirements and sell our products. I have some distant relatives who have moved to the city to work but communication with them is difficult and I have lost touch with most of them.

Ms Ma Jia

My skills – I am good at doing the following things:
It is some time since I worked outside the home and I did not have a very responsible job at that time, so it is difficult to know what skills I have. I think I can probably:
- advise people
- do clerical work
- listen to people and see different points of view
- provide good customer service, serving others and relating to them and their needs

My interests and hobbies – I enjoy doing the following things:
I spend a lot of time with my son and other mothers and their children and I enjoy looking after them. I also enjoy cooking for my husband and son and doing small repairs to the furniture and furnishings in the house. I used to make some clothes for my son but I have not done this for some time.
My son has recently begun to learn about environmental issues at school and I am surprised by how much he knows and how many questions I cannot answer so I have begun to buy some books to try and research this topic – so at least I can answer his questions. The whole topic is very interesting and the more I learn, the more I find I want to know. But there is so much to learn because this affects everything we do in our daily lives.

My experience – I have the following work experience or educational background:
My most recent work experience was in a bookshop where I was responsible for helping customers to find the books they were looking for and taking their money as they paid for the books. I enjoyed working in the bookstore. Since then, I have looked after our home and my son and met the family's needs. I have experience of making sure the household finances were sorted out and for buying all the food and other things we need. I cook the food for the family and make sure the home is clean and tidy.

My business network – I know the following contacts, relatives and friends who work in enterprises and who may offer me information, advice or help:
I have very few direct contacts as it has been some time since I left work in the bookstore so some of the friends I have made through kindergarten and more recently through my son's school have some business experience and other skills that complement my own.
WHAT KIND OF BUSINESS ARE YOU BEST EQUIPPED TO START?

When you have worked to identify the skills, attributes and experience that you will need to begin your business, you can then begin to think about the types of business that you may be best equipped for. You will recall from chapter three of this Training Manual that there are a number of ways of classifying businesses. For the purposes of this section, we will look at two major categories and some different business types within these.

- **Business-to-Consumer (B to C or B2C)**
  - Retailer
  - Service provider

- **Business-to-Business (B to B or B2B)**
  - Wholesaler
  - Manufacturer
  - Service provider

**B to C**

*Retailer*

A retailer purchases ready-made products from wholesalers or suppliers and makes profits by reselling them to the customers. Grocery stores, hardware stores, clothing stores and stationery shops are all retailers.

*Service Provider*

A service provider provides his specialist skills and experience to the consumer. However, within this there may be some element of product sales to support the work done. For example a plumber provides his expert skills and experience in managing and repairing domestic water systems or making sure the solar thermal panels fitted to heat the water are working correctly but he may also need to supply pipework, valves
and other fittings. In addition to plumbers, electricians, installers of solar PV panels and energy efficiency advisers are all service providers to consumers.

**B to B**

**Wholesaler**

Wholesalers are larger merchants. They purchase goods in large quantities from manufacturers (people who produce products) and resell them to retailers in smaller batches. For example, an electrical appliance wholesaler will purchase electrical appliances and equipment, including some energy efficiency appliances from a number of manufacturers. He will select a range of appliances from budget lines through to the most expensive and will keep significant quantities of stock so he can supply a large number of retailers with all the stock they may require.

**Manufacturer**

A manufacturer is an enterprise that uses raw materials such as leather, foodstuffs, cloth, metals and timber to manufacture new products. For example, shoe factories, furniture factories, clothing factories, farming tool factories and those producing solar PV panels are all manufacturers.

**Service Provider**

A service provider in the B to B sector provides his specialist skills and experience to other businesses. Examples are a shipping agent, a banker, a courier, a building contractor, or a machinery repairer.

You should also remember from earlier in this Manual that the distinction between business types is not always so clear cut. For example, above, we spoke about Ms. Ma Lili who thinks she could start a business selling high quality baked products using locally sourced, organic ingredients. In this case, she would be purchasing from the producer of the raw materials and would be manufacturing (baking) the cakes and also retailing them directly to her customers. The purpose of providing classifications for business is to help you define your business ideas and to be clear about your suppliers and your customers but take care not to worry too much about which category your business falls into.

You should now complete the exercise which follows.
Exercise 9: What business type?

For which type of business do you think you have the greatest level of experience or skills?

- Are you willing to work with many people or do you prefer to work independently?
- Do you prefer jobs involving manual labour rather than talking to customers and suppliers or the other way round?
- Do you like working outdoors or behind an office desk?

Think about the descriptions of the different types of business and then rank them in order by putting a number in the box adjacent to the business type:

**B to C**
- Retailer
- Service Provider

**B to B**
- Wholesaler
- Manufacturers
- Service Provider

Now write down the reasons for your choice:

Remember, you can come back to this exercise at any time during your business planning.
This exercise is to help you begin to narrow down your choices of business type. This is not the time to make a final decision but to try and understand from what you have learned about the business types and your own skills, experience and abilities and to use this information to inform a preliminary choice of business type.

Again, the results of the exercise for our participants, Ding Lixin, Wang Dapeng and Ma Jia are set out below.

**Mr Ding Lixin**

The order in which Mr Ding Lixin has ranked the choice of business type is:

- Manufacturer
- Service Provider (B to B)
- Wholesaler
- Service Provider (B to C)
- Retailer

The reasons for this choice are:

My technical knowledge would allow me to develop a manufacturing business and I have enough contacts to make this type of business work, if I can find the right product to manufacture. I have no real interest in retailing as I think standing in a shop all day would be very boring and I am also not terribly interested in providing services to householders – the volume of sales I would need to complete and the difficulties in dealing with householders means it is unlikely to result in the sort of returns I expect and want to achieve.

I am also in the fortunate position of having a reasonable amount of capital available to start my business and I can get access to additional funds through my business contacts. A lack of funds will probably not be a restricting factor in my choice of business.

Providing services to businesses is a possible option and I would not rule it out but at this stage, I do not know what type of service I could provide.
### Mr Wang Dapeng

The order in which Wang Dapeng has ranked the choice of business type is:

- Service Provider (B to B)
- Service Provider (B to C)
- Wholesaler
- Retailer
- Manufacturer

The reasons for this choice are:

> At this time, I am still not decided fully what business I want to begin but given the choices in this section, after so long working outdoors and in the fresh air, I cannot see myself running a business that is all inside. I can foresee the potential for providing services to farmers and other people from the countryside so that is why I have chosen business to business service provider as my first option and a similar business providing consumer services as second. I think wholesaling, retailing and manufacturing are all businesses that would need me to be inside much of the time and would also require some big capital outlay. These are not appropriate for me at this time.

### Ms Ma Jia

The order in which Ma Jia has ranked the choice of business type is:

- Service Provider (B to C)
- Retailer
- Wholesaler
- Service Provider (B to B)
- Manufacturer

The reasons for this choice are:

> My choices are really driven by what I don't think I can do rather than the business I really want to start. So, I have put manufacturer, business to business service provider and wholesaler as my bottom choices because I do not have the skills or the money available to start any of these businesses. I could, potentially, be a retailer if I could find a way of having a shop or stall without a great deal of outlay on either premises or stock – perhaps someone would supply me on sale or return in the early stages?

So, whilst I do not have much real idea about what I do want to do, by a process of elimination, I have decided that I am not suited to some types of business. I am still a little confused by the whole process and hope that I will get some better ideas before the end of the course.
The business owner is a crucial factor in the entrepreneurial process. To become a business owner, to start a business and to run it well, you need to be equipped with an attitude that enables you to take risks and to be self-reliant. The success of a new business owner will depend on four factors:

- motivation
- ability
- ideas
- resources.

In addition, to turn your business ideas into a reality, you need to make a feasible plan and implement it.

However, before you start thinking about a business idea, you need to know if you have the necessary qualities, abilities and experience for starting and operating a business. You will need to understand the type of business you are best equipped to start.

You must understand if you have the qualities for operating a business successfully. To do this, you will need to ask yourself a number of questions about your motivation, tolerance of risk, persistence, initiative, decision making, negotiation skills and your commitment to your business. If you find that you do not yet possess all the qualities required in a successful business owner, you can find ways to develop these qualities.

You must understand if you have the abilities and experience necessary for starting and operating a business. Your working experience, technical skills, knowledge of business practices, hobbies, social ties and family background are all important factors in the success of your business.

You will need to consider which types of businesses fits you best. In this section we looked at: business-to-consumer enterprises, and in particular, retailers and service provider; and business-to-business enterprises, which we broke down to wholesalers, manufacturers and service providers. As a business owner, each type of business would pose a different challenge and the way you work will largely depend on the type of business you choose.

You should always bear in mind that not everybody has the correct motivation and other attributes to enable them successfully to start a business. However, if this is you, you may be able to develop your existing skills and experience with training or with a further
period of working before you think again about starting a business. Alternatively, you will possess other abilities and personal qualities which would equip you to do other jobs. If you do not think you have the ability to start your own business but are passionate about environmental issues, find an existing business in the sector and seek employment with them.

We have spent this chapter looking at you and your attributes. In the following chapter we will try to bring some clarity to your ideas about potential business opportunities.
CHAPTER 5: GENERATE YOUR GREEN BUSINESS IDEAS

Learning Outcomes for Chapter 5

When you have finished studying chapter 5 of this training manual you will:

- Be able to use brainstorming, structural brainstorming and Mind Maps to resolve business problems;
- Understand how life-cycle analysis can help you identify business opportunities;
- Understand how to undertake basic market research to help you develop your green business idea.
INTRODUCTION

It is possible that, before you embarked upon this training programme, you already had a business idea. If so, this is a very good sign as it indicates that you are already making the preliminary steps towards starting up your business. You should have included this in the list of business ideas you began at the end of chapter two.

If you are in this situation, you have begun to consider the areas you may work in and the type of enterprise that may suit you. However, you should not disregard other ideas. It is not always helpful to stick too stubbornly to your first idea as there are many opportunities and your initial idea can be a starting point towards developing others that may be more lucrative or meet your needs as an entrepreneur more effectively.

When generating a business idea, you need to keep an open mind and be receptive to other ideas no matter where they come from. You should aim to think out as many ideas as possible and then list them out, adding them to the list you began at the end of chapter two.

You can use the following tools to help you develop your business ideas:
CHAPTER 5  GENERATE YOUR GREEN BUSINESS IDEAS

- Personal brainstorming
- Structural brainstorming
- Mind Maps
- Life-cycle analysis
- Surveying other businesses in your locality
- Surveying your environment
- Draw on your own and others' experience

When you apply these skills, you should seek the support and assistance of your family members. You can also use your social network.

**PERSONAL BRAINSTORMING**

You will recall from chapter one that brainstorming is a method of broadening your mind and helping you to create many different ideas. Personal Brainstorming involves only you and a piece of paper or a computer screen. You can begin from one word or one topic, and write down all the ideas entering your mind that are associated with that one word or topic. You can continue to write as long as you like, even if the ideas seem totally irrelevant or very peculiar. Good ideas often arise from very peculiar notions that, at the time, do not seem to mean anything in relation to the topic you are considering.

Personal brainstorming is a very useful tool at the start of any new project – such as starting a new business. Planning something new is generally much easier if you begin simply by thinking of ideas – in no particular order or structure – and jotting them down on a sheet of paper or in a notebook. It can be very difficult to begin planning something new because you do not know where and how to start. Brainstorming is a very good way to begin. The technique also generates lots of possibilities which you might otherwise miss by getting into detailed structured planning too early.

Now try the following exercise.
Exercise 10: Personal Brainstorming

Try doing some brainstorming exercises by yourself.

Find somewhere quiet and away from distractions such as the telephone or other people talking. Start from any one word that is related to green business; write down all the ideas that come into your mind. Write until you can no longer think of any other ideas. When you have exhausted all the ideas from one word, think of another and go through the process again.

Leave the list of words for some time, then look over the words and try to relate them to potential business ideas.

Even if this exercise has not immediately revealed any business ideas that you like, it can be very helpful in opening up your mind. Try coming back to this exercise several times with different trigger words and see what develops.

STRUCTURAL BRAINSTORMING

Brainstorming can also be used to consider a specific industry or business field. Instead of selecting a word randomly, you should start from a specific product, and then try your best to think out all related businesses. For example, you could look at:

- Businesses related to sales of the product
- Businesses related to manufacturing the product
- Indirectly related (by product) businesses
- Businesses related to service.
CHAPTER 5  GENERATE YOUR GREEN BUSINESS IDEAS

This method can be illustrated by using a diagram:

As with personal brainstorming, you can continue to record ideas until you no longer have any new ones. Similarly, when undertaking structural brainstorming, you should suspend disbelief and write down whatever idea or word that comes to mind, and decide later whether or not the idea has any value or is correct. Let’s take a solar water heater as an example:

<table>
<thead>
<tr>
<th>Sales Line</th>
<th>Manufacturing Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shops selling solar water heater</td>
<td>Manufacture solar water heater</td>
</tr>
<tr>
<td>Selling solar water heater online</td>
<td>Manufacture parts needed for solar water heater</td>
</tr>
<tr>
<td>Selling equipment for constructing solar water heater</td>
<td>Manufacture metal plates needed by solar water heater</td>
</tr>
<tr>
<td>Selling tools for repairing solar water heater</td>
<td>Manufacture wind powered water heater</td>
</tr>
<tr>
<td>Selling parts necessary for producing solar water heater</td>
<td>Manufacture geothermal water heater</td>
</tr>
<tr>
<td>Selling spare parts for solar water heater (shop, online or from mobile shop)</td>
<td>Manufacture solar silicon wafer for solar panel</td>
</tr>
<tr>
<td>Sell advertising space on solar water heater</td>
<td>Repair solar water heater</td>
</tr>
<tr>
<td>Manufacture solar water cup</td>
<td>Repair and service water heater production equipment</td>
</tr>
<tr>
<td>Recycle water heaters at end of life</td>
<td>Solar water heater maintainance</td>
</tr>
<tr>
<td>Use waste and old water heaters to produce artefacts</td>
<td>Provide cleaning service for factories</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>By-product Line</th>
<th>Service Line</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Repair cleaning service for solar water heaters</td>
</tr>
<tr>
<td></td>
<td>Provide advice on sizing and installation of solar water heaters</td>
</tr>
</tbody>
</table>

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## Exercise 11: Structural Brainstorming

Try your own structural brainstorming exercise:
- Select an environmental product you are familiar with or that you have experienced or are interested in. It can also be an idea about your own business that you have considered, or a product you have learned about from talking with others.
- Using the table below, write your selected product in the central box.
- Brainstorm the different lines as illustrated in the example above.

| Sales Line | | Manufacturing Line |
|------------|----------------------------------|
|            |                                  |
|            |                                  |
|            |                                  |
|            |                                  |

**PRODUCT:**

| By-product Line | | Service Line |
|-----------------|----------------------------------|
|                 |                                  |
|                 |                                  |
|                 |                                  |
By its very nature, the personal brainstorming session is very personal and the ideas that arise may appear completely irrelevant to anyone else. Because of this, we have not followed the group of participants, Ding Lixin, Wang Dapeng and Ma Jia through this process (Exercise 10) but we hope you learn something from it. We will, therefore, move on to the structural brainstorming sessions which our group undertook.

Because the group is made up of different people with different aspirations for their entrepreneurial careers, they decided to have a look at two different products for their structural brainstorming sessions and after some discussion, they decided on wind turbines and organic clothing. Mr Ding Lixin wanted to include a bigger, more technologically advanced product and persuaded the other two participants to consider wind turbines. Ms Ma Jia wanted something more related to everyday life and after looking back over her list of possible business ideas, she asked if they could look at the clothing idea. Mr Wang Dapeng had no strong views either way and accepted the ideas of the other two. The results can be seen below:

<table>
<thead>
<tr>
<th>Sales Line</th>
<th>Manufacturing Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sell small wind turbines to householders</td>
<td>Manufacture large wind turbines</td>
</tr>
<tr>
<td>Sell big wind turbines to land owners and government bodies</td>
<td>Manufacture small wind turbines</td>
</tr>
<tr>
<td>Sell repair kits for small wind turbines</td>
<td>Manufacture wind turbine blades</td>
</tr>
<tr>
<td>Sell measuring equipment to those surveying for new wind farms</td>
<td>Manufacture gearboxes and other parts for turbines</td>
</tr>
<tr>
<td></td>
<td>Manufacture accessories for small wind turbines</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Sell advertising space on turbine columns</td>
<td>Erect wind turbines</td>
</tr>
<tr>
<td>Sell ear muffs to people in vicinity of wind farms!</td>
<td>Repair wind turbines</td>
</tr>
<tr>
<td>Take photographs of wind farms in beautiful areas for sale</td>
<td>Provide advice about the best turbines for a specific site</td>
</tr>
<tr>
<td>Organise tours around wind farms for those interested</td>
<td>Undertake noise/vibration/wildlife surveys associated with wind turbine erection</td>
</tr>
<tr>
<td>Consult for wind farm developers or government bodies in any disputes</td>
<td>Survey areas for potential wind farms</td>
</tr>
<tr>
<td>Find new areas for wind farm development</td>
<td>Advise turbine manufacturers and erectors on local regulations</td>
</tr>
<tr>
<td>Write an instruction manual to show how to best install wind turbines.</td>
<td>Provide electrical connections to wind farms</td>
</tr>
<tr>
<td></td>
<td>Do groundwork and infrastructure work for wind farms</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>By-product Line</th>
<th>Service Line</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# GREEN BUSINESS OPTIONS

<table>
<thead>
<tr>
<th>Sales Line</th>
<th>Manufacturing Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sell organic clothing range on-line</td>
<td>Manufacture cloth for organic clothing</td>
</tr>
<tr>
<td>Sell organic clothing range by catalogue</td>
<td>Manufacture clothing from organic cloth supplied by others</td>
</tr>
<tr>
<td>Sell organic clothing range in retail premises</td>
<td>Manufacture accessories to accompany organic clothing</td>
</tr>
<tr>
<td>Become wholesaler of organic clothing</td>
<td>Develop 'green' dyeing process and use it for cloth and clothing</td>
</tr>
<tr>
<td>Organise sales parties for organic children’s wear</td>
<td>Manufacture organic school uniforms</td>
</tr>
<tr>
<td>Sell organic school uniforms directly through schools</td>
<td>Manufacture table linen and other household fabrics using organic material</td>
</tr>
<tr>
<td>Sell workwear directly to factories or catering companies</td>
<td>Manufacture workwear from organic material (for catering or manufacturing)</td>
</tr>
<tr>
<td>T-shirt printing</td>
<td>Provided repair service for clothing</td>
</tr>
<tr>
<td>Become expert on sourcing organic fabrics and raw materials</td>
<td>Recycle used clothing</td>
</tr>
<tr>
<td>Check on credentials of organic clothing manufacturers and suppliers (auditor)</td>
<td>Laundry service for organic clothing</td>
</tr>
<tr>
<td>Organise tours to organic farms where raw materials produced</td>
<td>Provide service helping busy people to source ethical and organic clothing – personal shopper service</td>
</tr>
<tr>
<td>Write a book about organic clothing manufacture</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>By-product Line</th>
<th>Service Line</th>
</tr>
</thead>
</table>

You can see from the list of potential business ideas in the notes from these structural brainstorming sessions that the participants found this to be very useful. At the end of this session, they all found that they had new ideas to think about – they realised that the different business processes discussed earlier in the course were beginning to reveal many potential business ideas that they had not considered previously.
MIND MAPS

In its purest form, mind mapping is a way of unlocking the potential of the brain by allowing it to think broadly rather than in a linear fashion, as we are often taught. In this context, you can think of it as an extension of brainstorming but in a way that allows you to link and expand ideas. By using a mind map, you can quickly identify and understand the structure of a subject. You can see the way that pieces of information fit together, as well as recording the raw ideas that you would obtain from brainstorming.

Mind mapping can help you break down large projects or topics into manageable blocks, allowing you to plan effectively without getting overwhelmed and without forgetting something important.

To draw a basic mind map, follow these steps:

- Take a blank sheet of paper and write down the title of the subject you are exploring in the centre of the page and draw a circle around it.

- As you come across major subdivisions or subheadings of the topic draw lines out from the circle. Label these lines with the subdivisions or subheadings.

- These subheadings or subdivisions will generate new, linked ideas and as you think more deeply about the subject and uncover a new level of information (further subheadings or individual facts) that link to the subheadings, draw these as lines linked to the subheading lines.

- For individual facts related to ideas, draw lines out from the appropriate heading line and label them.

- As you come across new information, link it to the Mind Map accordingly.

A complete Mind Map may have main topic lines radiating in all directions from the centre. Sub-topics and facts will branch off these, like the branches and twigs from the trunk of a tree. You do not need to worry about the structure you produce as this will evolve of its own accord.
When using mind maps, it is useful to bear in mind some conventions:

- Use single words or simple phrases. This ensures the facts are conveyed in the correct context and in a format that is easy to read.
- Print the words. This makes them easier to see and to read.
- Use colour to separate different ideas. This may help you to separate ideas where necessary and can help to show the organisation of the subject.
- Use simple images or symbols where these mean something to you.
- Use cross-linkages. Information in one part of a Mind Map may relate to another. These can be identified by lines to show the links.

In addition to drawing Mind Maps by hand, on paper, there are a number of computer software tools that can improve the process by helping to produce high quality Mind Maps that can be edited or redrafted. Examples are Xmind (http://www.xmind.net) and Freemind (http://sourceforge.net/projects/freemind). The following diagram is an example of a Mind Map constructed using Freemind. This was prepared by someone who is trying to identify the right type of environmental business to begin and it is, therefore, relevant to your situation.

Have a look at the Mind Map and see if you can add any ideas to it.
Life Cycle Analysis or Assessment (LCA) is a well-established tool that enables organisations to quantify the environmental impacts of their products or services throughout their life cycle. That is, from sourcing the raw materials, through their transport to the manufacturing site, the manufacture and distribution of products and on to their use and ultimate disposal. It is a highly effective tool when used in support of strategy development, performance improvement and commercial advantage. The diagram above illustrates the systems approach to life cycle assessment.

LCA is used to determine the environmental performance of products and to identify ways to improve a product’s environmental burden, either via supply chain or distribution modifications or changes to the process. In this context, however, we will use the idea of a product’s life cycle to find ways to identify business opportunities. For
example, thinking about the life cycle of a product may allow you to think about how industrial products (articles consumed and the "triple wastes" – energy waste, water waste and solid waste) can be modified to enter the natural cycle in a harmless and safe manner. Alternatively, you may be able to identify how intervention into the life cycle may reduce the environmental impact of the product or how the product at the end of its life can become the raw material for another process.

You should now undertake the following exercise.
Exercise 12: Using Life-cycle analysis to generate business ideas

Before starting this exercise, you should read the accompanying information about life-cycle analysis in the appendices to this Training Manual.

Think about one product you use in your house or in your work life. Now, try to put yourself in the place of the manufacturer or distributor of this product and map out the product's life cycle. Try to identify the raw materials that go into the product, the way they are transported to the factory, the processes the materials go through in the factory and the energy used to achieve this. You could also consider the packaging used and the method of distribution and sales. How is the product used and what happens to it at the end of its life?

You should then think about the life cycle and try to redesign the processes to reduce the environmental impact of the different stages, and identify which parts of the life cycle contain opportunities for green business ideas. Enlist the help of members of your family or your social network to work with you on this project.

If you do not come up with many ideas for one product, try thinking about another product and map out that product's life cycle, again thinking about new business opportunities presented by the process.

Use the form below to identify green business ideas but use additional sheets if necessary. When you have completed this work, add any new ideas or possible business ideas to the list you began at the end of chapter two.

<table>
<thead>
<tr>
<th>Name of product:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Life-cycle process</td>
<td>Potential business ideas</td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The life cycle analysis of a product is quite difficult for someone who is not technically minded and has not really thought about the materials and processes that go into manufacturing an item or what happens to it after it has been disposed of. However, recognising the opportunities that this type of exercise offers them, Ding Lixin, Wang Dapeng and Ma Jia approached it with some enthusiasm. They began by looking at a television set but quickly realised that the manufacturing processes were very complex and that they did not know enough about the raw materials that went into making it. So the group refocused their ideas and tried to look at the life-cycle of an upholstered chair.
<table>
<thead>
<tr>
<th>Name of product: Upholstered armchair</th>
<th>Life-cycle process</th>
<th>Potential business ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Raw materials</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fabric for lining and covering</td>
<td></td>
<td>Organic upholstery fabrics – lining materials, and finishing fabrics</td>
</tr>
<tr>
<td>Timber for frame</td>
<td></td>
<td>Timber from sustainable sources</td>
</tr>
<tr>
<td>Foam &amp; polyester fibres for filling</td>
<td></td>
<td>Frames made from glued and laminated off-cut timber</td>
</tr>
<tr>
<td>Spring steel for springs</td>
<td></td>
<td>Natural replacement for filling</td>
</tr>
<tr>
<td>Fire resistant and/or anti-stain coating</td>
<td></td>
<td>Upholstered furniture with no added chemicals</td>
</tr>
<tr>
<td>Webbing straps</td>
<td></td>
<td>Upholstered furniture from natural resources</td>
</tr>
<tr>
<td>Furniture tacks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewing thread</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glue for timber</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transport</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road transport for all materials from suppliers to manufacturers</td>
<td></td>
<td>Low carbon road transport</td>
</tr>
<tr>
<td>Road transport of finished furniture to wholesalers and retailers</td>
<td></td>
<td>Low carbon alternatives to road transport (rail, waterways?)</td>
</tr>
<tr>
<td><strong>Processes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timber cut, jointed, glued to make frame</td>
<td></td>
<td>Improved logistics for reducing emissions from transport</td>
</tr>
<tr>
<td>Webbing and springs put in place</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lining material used to cover springs and webbing</td>
<td></td>
<td>Natural glues</td>
</tr>
<tr>
<td>Padding secured over lining to chair seat, back and arms</td>
<td></td>
<td>Find better method of packaging the chairs on completion to protect from dust</td>
</tr>
<tr>
<td>Exposed wood stained or painted</td>
<td></td>
<td>Recycling for packaging material</td>
</tr>
<tr>
<td>Finishing fabric overlain and sewn on</td>
<td></td>
<td>Dismantling used furniture and remaking</td>
</tr>
<tr>
<td>Padded cushions covered separately and added</td>
<td></td>
<td>Furniture frame repairs</td>
</tr>
<tr>
<td>Dust cover added beneath and tacks added strategically for security and decoration</td>
<td></td>
<td>Re-upholstery of worn items (including springs, webbing and padding)</td>
</tr>
<tr>
<td><strong>Energy</strong></td>
<td></td>
<td>Renewable energy sources for furniture workshop</td>
</tr>
<tr>
<td>Lighting and heating factory or workshop</td>
<td></td>
<td>Repair and refurbish woodworking and sewing equipment</td>
</tr>
<tr>
<td>Power tools for cutting and shaping timber</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric sewing machines</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heat gun for packaging</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Packaging</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plastic wrapping for finished chair for delivery to retailer and to consumer</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Disposal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sent to landfill as a whole item</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burned</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Clearly, the participants in the course are not experts in furniture making and they are unlikely to have identified all the processes in the manufacture, use and disposal of upholstered furniture. However, the work they have done and the information they have been able to gather from their experience has allowed them to think of a number of ways the process could be made more efficient or less damaging to the environment and this has led to a number of additional business ideas.

The participants added some of the ideas from the last two exercises to the list of business ideas they began earlier in the course and these can be seen below:

<table>
<thead>
<tr>
<th>My Green Business Ideas:  Mr Ding Lixin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste recycling</td>
</tr>
<tr>
<td>Supply energy meters</td>
</tr>
<tr>
<td>Supply wind turbines</td>
</tr>
<tr>
<td>Erect wind turbines</td>
</tr>
<tr>
<td>Provide spare parts for small wind turbines</td>
</tr>
<tr>
<td>Design new forms of packaging</td>
</tr>
<tr>
<td>Find other uses for materials being disposed of</td>
</tr>
<tr>
<td>Remediation of waste using bioremediation</td>
</tr>
<tr>
<td>Manufacture wind turbines</td>
</tr>
<tr>
<td>Manufacture parts for wind turbines</td>
</tr>
<tr>
<td>Provide advice about the best turbines for specific sites – specialist wind farm advisor</td>
</tr>
<tr>
<td>Develop low impact dyeing process for organic fabrics (for clothing and upholstery)</td>
</tr>
<tr>
<td>Low carbon road transport</td>
</tr>
<tr>
<td>Low carbon alternatives to road transport (rail, waterways?)</td>
</tr>
<tr>
<td>Improved logistics for reducing emissions from transport</td>
</tr>
<tr>
<td>Hand made furniture</td>
</tr>
</tbody>
</table>
### My Green Business Ideas: Mr Wang Dapeng

- Energy efficiency adviser
- Supply energy efficient appliances for householders
- Supply biomass energy devices
- Fit biomass energy devices
- Build biogas digesters
- Eco-tourism resort
- Organic farming or permaculture
- Grow trees for timber and fuel (biomass)
- Bioremediation

- Grow organic cotton
- Become expert on sourcing organic fabrics and raw materials
- Check on credentials of organic clothing manufacturers and suppliers (auditor)

- Source natural materials for furniture making
- Dismantling used furniture and finding new uses for component parts

### My Green Business Ideas: Ms Ma Jia

- Fitting energy efficiency devices for houses and small businesses
- Supply solar thermal panels
- Fit solar thermal panels
- Agency to arrange eco-travel holidays
- Eco-tourism resort
- Sell clothing that does not damage the environment
- Make clothing that does not damage the environment

- Organise tours to organic farms where raw materials are produced
- Organise sales parties for organic children's wear
- Recycle used clothing

- Source organic upholstery materials for furniture making
- Dismantling used furniture and finding new uses for component parts
MARKET RESEARCH

The purpose of market research is to provide you with information about products and markets, to enable you to make informed decisions about your business. As this is early in the development of your business, we are using market research to help you identify gaps in the market and potential opportunities for new products or services.

At this stage, you will do this market research in three ways:

- Survey businesses in your locality
- Survey the local environment
- Draw on your own experience.

Before getting into the details of the surveys, we first need to understand the purpose of the surveys and to plan them effectively.

Market Research – Focus and Planning

Market research is generally used when a business has designed a new product or service line and they want to check that there is likely to be a demand for it. You will almost certainly want to do some market research of this type when you have defined your business idea and decided on the product(s) or service(s) that you will offer to customers. At this stage, however, we are researching the market for environmentally friendly or 'green' products or services to:

- Find out what products there are in the market place
- Identify what individuals or businesses are already buying
- Work out if there are gaps that are not being served by existing products
- Identify if there are shortcomings in the products or services offered by existing providers that can be exploited, that is, can you offer a better, slightly different product or service or can you improve on the existing providers by offering superior customer service?
- Find out if potential customers – either businesses or individuals – have requirements that are not being met by existing products or services
- Identify any changes in regulations or legislation that may open up a new market for a product or service.
It is important that you keep these points in mind when undertaking your market research to make sure you are asking the correct questions or looking in the right areas.

When you have worked out what you are trying to find out, it is also important to plan how you will gather this information. It will be a poor use of your time and other resources if you set out to gather the information without any real plan of how you are going to gather it. So, you must decide upon the:

- **Geographical area you will use to gather the information.** For example, is it important to you that your business provides a service to customers in your local area or do you want to sell to neighbouring towns and cities or to the whole country?
- **Type of customer you will focus on.** Would you prefer to offer products or services directly to the consumer (B to C enterprise) or do you envisage that you would be more comfortable selling to other businesses (B to B)?
- **Number of customers.** Do you think you would be better trying to provide a high value service or product to a small number of customers or a low value product or service to a large number of customers? This may lead you to reconsider your geographical area.
- **Type of customer.** You should consider if you are likely to prefer selling a high level product or service to customers (individuals or businesses) who are cash rich or if you are aiming to develop a business that will enhance the well being of poorer people. This may direct you towards, for example, a social enterprise.

These criteria will help you decide on the scope of your research and the direction you will take in developing your business. You can then move on to undertake your market research.

When undertaking your surveys of the businesses in the locality or the environment, you should be systematic. If you are asking questions of people, make sure you ask the same questions of everyone so that you get some answers that you are able to compare. If you are surveying the businesses in a town or city, make sure you look at all the businesses there – use a map to make sure you have checked out all the streets and business areas. You can make this more effective by setting up forms or questionnaires before you begin the research. In this way, you can decide on the questions you are going to ask in advance and you then make best use of your time and that of the people you are surveying.
Survey businesses in your locality

A good way to find business ideas is to investigate the businesses in your locality, to walk around and look carefully so that you begin to understand what types of businesses are operating there. This will also help you to check whether or not you can find room for your business in the market.

It may be helpful to undertake this activity with a partner or friend. By talking about business ideas as you undertake your survey, you may come up with ideas and potential opportunities you may not spot whilst on your own. If you live in a village or small town, you can walk through the whole town. If you live in a city, you will probably want to restrict your survey to the industrial zone, market place and commercial district.
Exercise 13: Survey your local area

Think about the locality or the area where you want to begin your business. This will usually be your local town or city but it may be your home town. Follow the steps below to gather information on existing businesses and any gaps in the market that may present opportunities for new businesses.

Walk around your locality and using the following table, write down all the different types of businesses and sort them into categories. For instance, count the number of newspaper stands, banks, tailors, restaurants, clothing retailers and other businesses.

<table>
<thead>
<tr>
<th>Retailer</th>
<th>Manufacturer</th>
<th>Wholesaler</th>
<th>Service Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


When you have compiled your list of existing businesses, answer the following questions:

- What businesses are in the majority?
- What businesses are in the minority?
- Can you identify the reasons why there is this mix of businesses?

When thinking about the local market, can you draw any conclusions about it? Write down at least five opinions about the local market from your walk around.

- Is there still room for development?
- Are there opportunities for businesses to start up?

Now make a list of businesses that you did not find in your locality using the following table:

<table>
<thead>
<tr>
<th>Retailer</th>
<th>Manufacturer</th>
<th>Wholesaler</th>
<th>Service Provider</th>
</tr>
</thead>
</table>

From this list, try to identify potential businesses that you would be interested in starting. Add these ideas to your list of potential businesses that you began at the end of chapter two.
CHAPTER 5  GENERATE YOUR GREEN BUSINESS IDEAS

This exercise was undertaken by our three participants, Ding Lixin, Wang Dapeng and Ma Jia when they had returned home after the end of the Green Business Options programme. As each participant undertook the exercise individually, we will only look at the results of Ms Ma Jia’s survey.

Ms Ma Jia has researched information about Dongping, the small town where she lives and where she wants to start her own business. Ms Ma Jia has investigated the:

- Local industrial zone
- Market place
- Commercial centre.

She has also talked with the local chamber of commerce and browsed through the telephone directory, to check if there are advertisements published by other businesses. From this research, she prepares a list of all the businesses in Dongping. This list can be found in the following table.

<table>
<thead>
<tr>
<th>Businesses in Dongping Town</th>
<th>Manufacturers and Small Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Retailers</strong></td>
<td><strong>Manufacturers and Small Farmers</strong></td>
</tr>
<tr>
<td>15 restaurants</td>
<td>11 furniture and wood article manufacturers</td>
</tr>
<tr>
<td>27 roadside fruit and vegetable sellers</td>
<td>9 metal processing plants</td>
</tr>
<tr>
<td>6 roadside garment sellers</td>
<td>4 tailors</td>
</tr>
<tr>
<td>23 small roadside stalls</td>
<td>1 weaver</td>
</tr>
<tr>
<td>4 furniture stores</td>
<td>3 manufacturers of seat cushion and wall decorating articles</td>
</tr>
<tr>
<td>3 gas stations</td>
<td>2 display article manufacturers</td>
</tr>
<tr>
<td>2 groceries</td>
<td>2 cement board manufacturers</td>
</tr>
<tr>
<td>1 fruit and vegetable store</td>
<td>9 brick plants</td>
</tr>
<tr>
<td>1 garment, shoes and hat store</td>
<td>16 poultry and egg farmers</td>
</tr>
<tr>
<td>4 hardware and agriculture material shops</td>
<td>18 small dairy product farmers</td>
</tr>
<tr>
<td>2 electric appliance goods and accessories shops</td>
<td>10 vegetable farmers</td>
</tr>
<tr>
<td>3 agricultural material shops</td>
<td>3 rice mills</td>
</tr>
<tr>
<td>2 agricultural machinery shops</td>
<td>2 seasoning manufacturers</td>
</tr>
<tr>
<td>1 stationery store</td>
<td>2 bakeries</td>
</tr>
<tr>
<td>1 drug store</td>
<td></td>
</tr>
<tr>
<td>1 meat stall</td>
<td></td>
</tr>
<tr>
<td>2 beverage shops</td>
<td></td>
</tr>
<tr>
<td>Wholesalers</td>
<td>Service Providers</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>------------------------------------------------------------</td>
</tr>
<tr>
<td>1 fodder, fertilizer and agricultural product</td>
<td>1 clinic and 2 doctors</td>
</tr>
<tr>
<td>wholesaler</td>
<td>2 banks</td>
</tr>
<tr>
<td>1 plastic film, string and bag wholesaler</td>
<td>8 automobile repair workshops</td>
</tr>
<tr>
<td>1 cereal, corn, and mung bean wholesaler</td>
<td>3 electronic products, radio and TV repair shops</td>
</tr>
<tr>
<td>4 timber distributors</td>
<td>1 building and office cleaning service company</td>
</tr>
<tr>
<td>5 building material distributors</td>
<td>2 security companies</td>
</tr>
<tr>
<td></td>
<td>1 equipment leasing company</td>
</tr>
<tr>
<td></td>
<td>8 kindergartens</td>
</tr>
<tr>
<td></td>
<td>5 transport companies</td>
</tr>
<tr>
<td></td>
<td>9 roadside restaurants</td>
</tr>
<tr>
<td></td>
<td>5 long term restaurants</td>
</tr>
<tr>
<td></td>
<td>3 bicycle repair stalls</td>
</tr>
<tr>
<td></td>
<td>2 hotels</td>
</tr>
<tr>
<td></td>
<td>4 building contractors</td>
</tr>
<tr>
<td></td>
<td>1 accounting office</td>
</tr>
<tr>
<td></td>
<td>1 printing plant</td>
</tr>
<tr>
<td></td>
<td>1 post office</td>
</tr>
<tr>
<td></td>
<td>2 mills</td>
</tr>
<tr>
<td></td>
<td>2 customer rice mills</td>
</tr>
<tr>
<td></td>
<td>3 shoe repair and umbrella repair shops</td>
</tr>
<tr>
<td></td>
<td>2 building designers</td>
</tr>
</tbody>
</table>

Ms Ma Jia then undertook a general appraisal on Dongping Town:

- The income level of the people in the town is increasing
- The requirements of the people in the town are diversifying
- There are no high-end merchandise or leisure article stores in the town
- Agriculture is the main economic activity in this region
- Many visitors come to Dongping for sightseeing but they are not satisfied with the attractions
- The number of small children is increasing. There are many kindergartens
- There appears to be a lot of development taking place and there are many building contractors and suppliers of building materials.
Ms Ma Jia then compiled a list of businesses she had not found in Dongping Town. She recognises that these might provide good business start-up opportunities. From her research she does not think there are any opportunities in the wholesale market so she makes the following list:

<table>
<thead>
<tr>
<th>Possible Business Opportunities in Dongping Town</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Retailer</strong></td>
</tr>
<tr>
<td>Toy and garment store</td>
</tr>
<tr>
<td>Household article store (sheets, kitchen utensils)</td>
</tr>
<tr>
<td>Artefact and antique shop</td>
</tr>
<tr>
<td>Cheap garment shop</td>
</tr>
<tr>
<td>Bookstore</td>
</tr>
<tr>
<td>Distribution of organic foods</td>
</tr>
<tr>
<td>Knitwear shop</td>
</tr>
<tr>
<td>Sports merchandise shop</td>
</tr>
<tr>
<td>Musical instrument shop</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Ms Ma Jia focuses on the opportunities in the environmental sector as she believes an increasing number of people are showing an interest in this area. She places them into her own, growing list of business ideas. She selects businesses that she thinks she could manage on her own, as opposed to needing to find business partners and employees, and which the residents of the town might need. As a result of this, Ms Ma Jia's list of business ideas now looks like this:

<table>
<thead>
<tr>
<th>My Green Business Ideas:  Ms Ma Jia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitting energy efficiency devices for houses and small businesses</td>
</tr>
<tr>
<td>Supply solar thermal panels</td>
</tr>
<tr>
<td>Fit solar thermal panels</td>
</tr>
<tr>
<td>Agency to arrange eco-travel holidays</td>
</tr>
<tr>
<td>Eco-tourism resort</td>
</tr>
<tr>
<td>Sell clothing that does not damage the environment</td>
</tr>
<tr>
<td>Make clothing that does not damage the environment</td>
</tr>
<tr>
<td>Organise tours to organic farms where raw materials produced</td>
</tr>
<tr>
<td>Organise sales parties for organic children's wear</td>
</tr>
<tr>
<td>Recycle used clothing</td>
</tr>
<tr>
<td>Source organic upholstery materials for furniture making</td>
</tr>
<tr>
<td>Dismantling used furniture and finding new uses for component parts</td>
</tr>
<tr>
<td>Special waste management</td>
</tr>
<tr>
<td>Waste recycling and disposal</td>
</tr>
<tr>
<td>Energy auditing</td>
</tr>
<tr>
<td>Solar water heater maintenance</td>
</tr>
<tr>
<td>Biogas plant installation</td>
</tr>
<tr>
<td>Distribution of organic foods</td>
</tr>
<tr>
<td>Training centre for environment-friendly people</td>
</tr>
<tr>
<td>Agency to manage eco-tourism to the area.</td>
</tr>
</tbody>
</table>
SURVEY YOUR ENVIRONMENT

This section of the Training Manual provides you with a different perspective on trying to identify new business opportunities in your local area. This is done by thinking about the resources in the area and which ones may present business opportunities.

Natural Resources

Think about the things that are plentiful in your area. It is possible that some of these can be used to make useful products without damaging the environment. Natural resources include materials from land, agriculture, forestry, minerals, desert and water.

Perhaps, for example, there is a plentiful supply of timber or agricultural waste that could be managed effectively to provide biomass fuel for heating. Timber as a biomass fuel is sustainable, provided the woodland or forest is managed in the correct way to make sure there is a constant supply of new trees and the area is not clear felled. Coppicing and pollarding of trees is a good way of ensuring a constant supply of new growth.
Residents' ability and skills

Are the residents in your locality equipped with any specialist skills that may be used by your business? Are there competent engravers, weavers or carpenters? Are there people who provide caring services to elderly people or those who are ill?

If there are skilled weavers and there is a ready supply of wool from local farms, there may be an opportunity to develop a business manufacturing and selling hand-made woollen cloth. If the sheep are reared naturally and you do not use chemical dyes in the material production, you can promote the business as sustainable and environmentally friendly.

Institutions

Are there schools, hospitals or government agencies in your locality? What kind of businesses do you think can provide goods or services to these agencies? These agencies may require repairs and cleaning, they perhaps also need stationery, furniture, cleaning
equipment, food or other materials. If you can identify an institution that has significant requirements for goods and services in your area, can you make arrangements to meet with the material management or purchasing departments, to learn about their existing suppliers of products and services? You may find out that there are things they are not satisfied with or there are other products or services they may require in the near future that they do not purchase at present.

For example, the institution may have just decided that they want to make sure the paper and stationery they use is supplied from sustainable sources. You may be able to find a wholesaler who can supply you with recycled office paper and other stationery supplies. If you can secure some business with the major institution in your area, you can then begin to sell these products to other businesses in the vicinity.

**Industry**

Are there factories in your locality? What kind of raw materials and services do these factories need from their suppliers? Make arrangements to talk with their purchasing manager and ask the same questions as you would at the institution. What do they buy, who from and are there any areas where they are not satisfied? Are there any other
products or services they may be thinking of buying in the near future?

For example, the local ceramics factory may be just beginning to think about energy conservation but they have not yet begun to purchase goods or services relating to this. If you could provide advice on energy conservation or supply energy monitors to allow them to measure and manage their energy use more effectively, there may be an opportunity for you.

**Import Substitution**

Many consumer goods and items used in business are manufactured in other countries and imported to China. Think carefully about whether any imported goods could
be produced locally. This would give you a business opportunity and may provide
employment for other people in the area. You may be able to ask at the Customs House
for a document that lists the tariffs for import and export products. You may be able to
identify a product with a high import tariff that you can produce locally and so make it
cheaper than the imported version.

Publications

Publications can also help you find some good ideas. If you can find a library in local
schools or institutions, ask the librarians to let you use their periodical reading room.
You can read product catalogues, business journals and magazines, which may provide
you with some ideas. Perhaps you can find photographs of products not available locally
and details of suppliers. Newspapers and journals are full of potential ideas and they
may help you come up with businesses you could start or products you could develop
locally. Classified advertisements can help you generate ideas about the types of
products people may want to buy. You may also find articles about development trends
and different businesses in other regions which may help you with some ideas.
The Internet

The Internet is now becoming the main source of information for this type of research, rather than books, journals and other publications. Many journals and other publications are available on the Internet in electronic versions and you can find out a great deal of information from other documents and company information which is published on web sites. In addition, many government organisations and non-governmental organisations (NGOs) have comprehensive web sites where you can gather information about environmental issues. If you have access to the Internet, it can be a valuable source of information.

Commodities Fair and Business Exhibitions

Some institutions hold commodities fairs, which can help you generate business ideas. The number of business exhibitions taking place in towns and cities is also increasing. These fairs and exhibitions are very good opportunities to meet other businesses, to gain information about the types of products
and services available and other things that customers may want. You should take every opportunity available to attend or participate in such commodities fairs and exhibitions.

You should now proceed to undertake the following exercise.

**Exercise 14: Gather information from your environment**

Spend some time looking around your local environment and try to identify business opportunities in the following areas:

<table>
<thead>
<tr>
<th>Area for enquiry</th>
<th>Business ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural resources</td>
<td></td>
</tr>
<tr>
<td>Residents' ability and skills</td>
<td></td>
</tr>
<tr>
<td>Institutions</td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td></td>
</tr>
<tr>
<td>Import substitution</td>
<td></td>
</tr>
<tr>
<td>Publications</td>
<td></td>
</tr>
<tr>
<td>Commodities Fair</td>
<td></td>
</tr>
</tbody>
</table>
This exercise takes the work done in exercise 13 a stage further and asks you to identify other relevant information you may find in your locality that may help you to come up with additional ideas for your new green business. In contrast to other exercises they had been asked to do, the group, Ding Lixin, Wang Dapeng and Ma Jia, did not find this very helpful in providing them with further ideas for their new business. You will see from the table below that they were unable to devise any new ideas from the residents abilities and skills and from the publications. They also reached the conclusion that goods were imported to the area because there were not the skills or resources available to manufacture them so they were unable to identify any opportunities for import substitution. The table below indicates the additional information obtained by the participants on the programme from the surveys they undertook.

<table>
<thead>
<tr>
<th>Area for enquiry</th>
<th>Business ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural resources</td>
<td></td>
</tr>
<tr>
<td>Plentiful supply of timber for biomass and construction</td>
<td>Timber framed building construction</td>
</tr>
<tr>
<td>Stone quarry for construction materials</td>
<td>Organic livestock production</td>
</tr>
<tr>
<td>Good farmland for livestock production</td>
<td></td>
</tr>
<tr>
<td>Residents' ability and skills</td>
<td></td>
</tr>
<tr>
<td>Trained medical people</td>
<td>Cannot identify any additional business ideas from this information</td>
</tr>
<tr>
<td>Livestock farmers</td>
<td></td>
</tr>
<tr>
<td>Office and clerical workers</td>
<td></td>
</tr>
<tr>
<td>Foresters</td>
<td></td>
</tr>
<tr>
<td>Institutions</td>
<td></td>
</tr>
<tr>
<td>Hospital</td>
<td>Food supplies to schools, hospital or government offices</td>
</tr>
<tr>
<td>Schools</td>
<td>Sustainable stationery supplies</td>
</tr>
<tr>
<td>Local government offices</td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td></td>
</tr>
<tr>
<td>Pulp and paper mill</td>
<td>Renewable energy supplies</td>
</tr>
<tr>
<td>Wooden furniture</td>
<td>Recycling and cleaning of water</td>
</tr>
<tr>
<td>Livestock farming</td>
<td></td>
</tr>
<tr>
<td><strong>Import substitution</strong></td>
<td>Items imported because skills and resources needed to manufacture them here are not available.</td>
</tr>
<tr>
<td>-------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>High value electrical goods</td>
<td></td>
</tr>
<tr>
<td>Some furniture</td>
<td></td>
</tr>
<tr>
<td>Glassware</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Publications</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I am unaware of the publications that may be available to residents that may help them identify business opportunities. Can you help?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Commodities Fair &amp; Business Exhibitions</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular commodities fair held annually in the town. Visited by large number of people from the area.</td>
<td>Renewable energy supply to commodities fair Catering/food supplies for visitors</td>
</tr>
</tbody>
</table>

### Exercise 15: Thin Bamboo

This is another exercise that involves you in reading a case study and answering some questions.

This case study is a good example of a business entrepreneur finding a way of exploiting the natural resources of his home district. The district favoured the growth of bamboo and the migration of many farmers from the area to the towns and cities provided opportunities to find land on which to grow the bamboo for the products.

Now read the case study entitled, “Thin Bamboo Makes for a Major Industry” and then answer the following questions:

- What is the key to He Jie’s success in starting up his business?
- How did He Jie find and select his business ideas?
- What do you think of the weaknesses of his business and potential threats?
The participants read this case study with some interest. Mr Wang Dapeng, in particular, was excited by the opportunities which arose from the business idea in a rural area and which helped to improve the incomes of some farmers who may otherwise have had to leave the area. The group came together once they had read the case study and responded to the questions as a group. Their responses are as follows:

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the key to He Jie's success in starting up his business?</td>
<td>Recognising the opportunity presented by bamboo and the proliferation of the plant in his home area. Extensive market research using the Internet and his network of contacts, visiting other businesses manufacturing and using bamboo products and discussing opportunities with bamboo growers and forestry officials. The many applications that bamboo can be used for in both its natural state and through various types of processing. Government incentives for environmental businesses.</td>
</tr>
<tr>
<td>How did He Jie find and select his business ideas?</td>
<td>By extensive market research to identify the correct areas for growing bamboo and the types of product that could be in demand. By finding new varieties of bamboo that could be used for different purposes. He is also driven by a desire to help the economy of the local area by consolidating the industry and funding further research and development. He developed end-to-end services for the growers – providing them with bamboo seedlings to plant, helping to make sure they grow the bamboo properly and buying their crop from them for processing.</td>
</tr>
<tr>
<td>What do you think of the weaknesses of his business and potential threats?</td>
<td>Weaknesses are: Reliance on a single crop is a potential weakness but he has tried to overcome this by trying different varieties and developing many different products for his business. Reliance on many small producers. Threats are: Entry to the market by others. Farmers wanting to sell their product to others Disease or adverse weather conditions affecting the crop Fall in demand for products Other products being used to substitute for bamboo.</td>
</tr>
</tbody>
</table>
This section of the Training Manual asks you to identify with potential customers for a business. Firstly, you will consider your own experience and then look at how to obtain information from others.

Your own experience

Go back to the list of experience and interpersonal connections you completed earlier (exercise 7). Can you obtain any business ideas from your own past experience?

Thinking about yourself as a customer, what experience do you have of the market for environmental products and services? Have you spent time looking for an item only to be disappointed? Think about products and services you once needed at different periods in your life but were very difficult to find. Make a note of these and any business ideas they may give rise to.

Other’s experience

You should listen carefully to any experiences recounted by other people as they are all potential customers.

What are the experiences of your family members and friends. Expand your social knowledge. Talk with people with whom you do not often talk such as senior citizens, adolescents or people from different nationalities or social strata. If you are a woman, speak with some men. If you are a man, speak with some women. Go to another church, mosque or temple.

You should ask everyone you meet in the course of this market research exercise about the problems they encounter when they are looking for products or services that they require. The following are some examples, and these examples might become the source of a good business idea.

- “I can’t find a trailer for my bicycle that suits me.”
- “I have lot of things I don’t need at home. I would like to find a way of disposing of them that makes use of them. I don't just want to throw them away.”
● “I don’t want to use an air conditioner. But I can’t keep the window open, because there are too many mosquitoes around.”
● “I am afraid farmers use too much pesticide on vegetables. I would like to be able to buy fresh vegetables where there is a guarantee that they are free from pesticides.”
● “I want to go on holidays where I can enjoy fresh air and the natural environment.”

Ask others about poor service they have experienced. For instance:
● “In this town, I can’t find a decent waste collection service. It’s smelly in the street and I don’t think it’s very hygienic.”
● “The cost of heating’s going up so quickly. I must do something to reduce my use of electricity and gas.”
● “The clinic here’s hopeless. They don’t have any medicines and you have to wait nearly all day before a nurse becomes available to see you.”

Perhaps people will meet difficulties when they are doing things. Ask them which services are poor or examples like the lack of materials. Prepare these as a list. For example:
● “How can I fix the water leak by myself? It takes so long for anyone to get out here to fix it.”
● “I want to give pollution-free foods to my baby.”
- “Once the machine breaks down, it is very difficult to obtain repair services.”

You should remember to record all this information in your portfolio to help you decide on the type of business you would like to start. Many of the ideas suggested here are to do with informal discussions with other people you meet but it may be better to make the conversations more formal and to have a structured set of questions to ask. This will enable you to make sure you are gathering all the relevant information that you may need to help with deciding which business you should start.

When you have gathered all the information, you could use it in another brainstorm session, or you could use it in a Mind Map to come up with new business ideas. Remember to record all the business ideas you come up with on the relevant sheet that you began at the end of chapter two of this manual (exercise 3).
SUMMARY

You can generate your business ideas through the following methods:

- Brainstorming;
- Mind Maps;
- Lifecycle analysis;
- Market research:
  - Surveying businesses in your locality;
  - Surveying your environment;
  - Draw on your experience and that of other people.

Brainstorming can broaden your mind and help you generate many different ideas. You can start from a word or a topic. Write down all the ideas that enter your mind, write for as long as you like and write down everything you think of, even if they seem totally irrelevant or very odd. Good ideas often pop up from the strangest ideas.

Brainstorming can also be used to consider a specific industry. This is called structural brainstorming. Instead of starting from any phrase, you start with one specific product and then try your best to think of all relevant businesses:

- Business related to sales
- Business related to manufacturing
- Indirectly related businesses (byproduct)
- Service-based businesses.

Mind Maps allow you to identify and understand the structure of a subject. You can see the way that pieces of information fit together, as well as recording the raw ideas that you would obtain from brainstorming. Mind mapping can help you break down large projects or topics into manageable blocks, allowing you to plan effectively without getting overwhelmed and without forgetting something important.
Life-cycle Analysis focuses on the entire process of actual products from production to disposal, namely the environmental impact of their “life-cycle”. In the context of this programme, however, we used LCA to help us identify business opportunities in the life cycle of existing products or services.

Market research provides you with information about products and markets, to enable you to make informed decisions about your business. At this early stage, we use market research to help you identify gaps in the market and potential opportunities for new products or services.

Firstly, walk around and take a look at your locality as this is a good method of finding business ideas. Learn about what types of businesses already exist in your locality to see if you can find any service or product that is not supplied.

You can also discover more business ideas in your locality by considering all the resources and institutions in your area and seeing if they can be transformed into a business opportunity. For instance, think about:

- Natural resources which are available and can be made into useful products
- Whether residents possess personal qualities and skills which can be used by the business
- Local institutions (e.g. hospital or school) perhaps need certain services or products
- Analyse whether or not locally produced products can replace overseas imported products.

Furthermore, you should read newspapers, magazines, periodicals, product catalogues and books, from which you may develop some ideas. You should also use the Internet if it is available to you and attend commodities fairs and business exhibitions when possible.

Finally, you can also analyse your own experience and other’s experience to generate new business ideas. Can you obtain possible business ideas from your own past experience? For instance, think about the products and services that you once needed but found it hard to come by.

Listen carefully to the experiences of others. Ask for the information from your family members and friends. Try to talk with as many people as possible, asking them what problems they have met when they are looking for products or services they need.

On the list of business ideas that you began at the end of chapter two, write down all
the ideas you have generated, and explain every idea. In this way you will be able to remember all the details. Next, review your list of business ideas to select the one idea that suits you best. We will help you achieve this in the next chapter of this Training Manual.
CHAPTER 6: ANALYSE YOUR BUSINESS IDEAS

Learning Outcomes for Chapter 6

When you have finished studying chapter 6 of this Training Manual, you will:

- Be able to screen your business ideas to help you decide which is the best for you
- Know how to undertake field surveys and talk with important providers of information
- Be able to use a SWOT analysis to analyse your business ideas
- Undertake a basic environmental impact assessment of your business idea to make sure it is sustainable.
INTRODUCTION

We have spent some considerable time coming up with a long list of business ideas. Now it is important to think about refining the list, discarding some ideas and analysing others more carefully to see if they are worth pursuing. At the end of this chapter, you will have reduced your business ideas to two or three really strong ideas that you want to pursue and on which you will undertake more detailed research to determine which idea is the right one for you.

SCREENING YOUR BUSINESS IDEAS

At this point, you should have a long list of business ideas. This will probably comprise at least five ideas but possibly many more. The next task is to try to reduce the ideas in this list down to somewhere between two and four, that is, to leave only the ideas that suit you best.
### Exercise 16: Screening your business ideas

You should carefully consider each idea and analyse it by answering the following questions about customers, competitors, resources and knowledge.

<table>
<thead>
<tr>
<th>Customer</th>
<th>Competitor</th>
</tr>
</thead>
</table>
| - How do you know there is a demand for this business in your locality?  
- Who will be the customers for the business?  
- Are there enough customers?  
- Can the customers afford the products or services?  
| - Is the business going to be the only one of this type in the locality?  
- If there are other, similar businesses, how can you compete with them successfully?  |

<table>
<thead>
<tr>
<th>Resources and Requirements</th>
<th>Skills, knowledge and experience</th>
</tr>
</thead>
</table>
| - How can you provide the required quality of product or service that meets customer needs?  
- What are the resources needed to start the business?  
- Where do you obtain the resources to start the business?  
- Where can you find information and advice to help with starting the business?  
- Where will you find staff with the required skills and experience?  
- Can you manage the equipment and the factory (or other premises) needed for the business?  
- Can you get the financial capital necessary to meet these requirements?  
| - How much do you know about the products or services of the business?  
- What experience, knowledge and skills do you have to help you manage this business?  
- Why do you think this business will make profits?  
- Can you imagine continuing to operate this business in ten years time?  
- How adaptable will you need to be to run this business successfully?  
- Are you really interested in this type of business, and willing to invest the time and energy to make it succeed?  |
Exercise 17: Your own business ideas

Work through the business ideas you have listed on your work sheet and dismiss the ideas you are no longer interested in. Do not discard the list completely as you may wish to come back to it later if your initial ideas do not work out.

Now look carefully at the remaining ideas. Analyse them carefully, one by one, using the questions listed at the beginning of this chapter. Use the following table and additional work sheets to record the positive and negative aspects of the ideas.

<table>
<thead>
<tr>
<th>Business Idea</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

Carefully consider these ideas and place a tick alongside those which seem most suitable. Select the three best ideas or those you are willing to take further and write them down in the space below:

Remember that if you find there are any problems with the three ideas you have selected, you can come back to this exercise at any time.
These two exercises should have enabled you to narrow down your business ideas to the three that you think are most appropriate and likely to present you with a business idea you can develop further. You now need to collect more information about the different aspects of these ideas. The objective is to analyse various factors that will help you to accept or abandon each of them.

The following two methods can help you to analyse your business ideas.

- Field survey
- SWOT analysis.

EXERCISE 16 & 17 CASE STUDIES

These two exercises ask you to look at all your business ideas and analyse them to enable you to discard some ideas and decide on others to take forward. For the purposes of this exercise, we will look at the work done by Ms Ma Jia in analysing her business ideas. You will recall from the previous Chapter that Ms Ma Jia identified a number of business ideas and then selected her favourite 8 ideas. She used the questions outlined in Exercise 14 to analyse these business ideas and then used this information to help her think more carefully about the ideas. Ms Ma Jia then completed exercise 15 using this information and the following table is the result of her review of her remaining 8 ideas to decide on which idea she wanted to pursue.

<table>
<thead>
<tr>
<th>Business Idea</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Waste Management</td>
<td>I notice that hospitals and industries generate waste from their operations that need to be disposed of. This waste needs special treatment to avoid contamination and health hazards. My friend working in the hospital told me that it is expensive for the hospital to dispose of the material. Perhaps I can start with some of the hospitals and other healthcare facilities in the town, providing a door to door waste collection service. I need to establish contacts with the Health Department of the local government, and obtain a license if it is required. I also have to find a way of disposing of the waste safely and that does not cause more damage to the environment. This is very important because of the nature of the waste involved.</td>
</tr>
</tbody>
</table>

√
<table>
<thead>
<tr>
<th>Business Type</th>
<th>Description</th>
<th>Start-Up Costs</th>
<th>Competition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste Recycling and Disposal</td>
<td>I think this type of business is very easy to operate. A friend of mine once worked in the waste recycling station in the city, therefore, he can give me suggestions. He may also be a potential business partner. There should be a lot of customers as many people complain that they have no idea where to dump their waste; the municipal administration workers never collect it. Perhaps the municipal government will sign a contract with me? But a business like this will need very expensive vehicles, drivers and many staff members. I also have to find a way of disposing of the waste safely and that does not cause further damage to the environment.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Energy Auditing</td>
<td>The government recently established a new regulation on the reduction of energy consumption in manufacturing production lines. Big companies already have staff of their own to audit their energy consumption performance but small producers find it difficult to comply with the new regulation and providing the reports to the authority. It could be a good business if I can provide energy auditing service to these small producers at an affordable rate. It may not be difficult for me to obtain the auditor's license as I have a diploma in engineering but I don't know how competitive this market is.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Solar Water Heater Maintenance</td>
<td>In my town, particularly in the suburban areas, many houses have recently installed solar water heaters because the government is providing a small subsidy to do so. I have also heard that people are not satisfied with the after-sales services that the solar water heater agents can provide. This is probably due to the rapid expansion of the market which means the agents cannot keep up with the service demands. I can develop a periodical maintenance service to the users through contacting the agents. The start-up costs for this business will not be very high.</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Biogas Plant Installation</td>
<td>Most of the farmers in rural areas have 5-10 cows to produce milk but the problem is the amount of manure produced. They use part of the manure as fertilizer on their crops but pollution of the rivers is a problem. The local government is promoting the installation of biogas plants for these farmers but the government cannot provide installation services. I can develop a business to supply biogas plant, install it and provide a maintenance services. I could partner with the local livestock bureau.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Distribution of Organic Food</td>
<td>My friend who has a small child complains that she wants to give natural foods to her son, because he has an allergy to the chemical additives in some manufactured foods. Also, in my town those who are relatively well-off want to buy more healthy foods but they don't know where they can buy them. I can work with contracted groups of farmers to produce and distribute healthy organic foods.</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Environmental Training Centre</td>
<td>I am interested in environmental issues, because it's important to create better living conditions for my children's generation but I don't know what I can do exactly. When I talked to my colleagues in my office about this, many of them showed interest but they say it is not realistic to do it individually. We all need to know more about what we can do and there are many opportunities to learn. I can work with environment specialists in the local university, developing a training centre to provide people with help to understand the impact of environmental issues on their daily life. I can offer follow-up support services to adapt equipment and offer services on a business basis.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Eco-tour Agency</td>
<td>Many people, especially the younger generation, like travelling but are fed up with just visiting famous places. They say they need a more relaxing atmosphere surrounded by beautiful scenery and natural landscapes. But most of the available facilities are not meeting their needs. I can develop a new business with farm houses to accommodate people interested in spending time in rural areas and enjoy the natural beauty by conducting eco-tour programmes.</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
Ms Ma Jia looked through the ideas she had described in detail and selected three ideas for further analysis:

- Distribution of organic foods
- Solar water heater maintenance
- Special waste management

FIELD SURVEY

By talking with customers, suppliers and other business people, you can collect very useful information to help you to understand the factors that will affect your business ideas. You can arrange informal discussions and make observations, or arrange formal visits and interviews. A formal visit takes some time, but you are likely to gain much more useful information than just informal discussions. By undertaking this field survey, you have started to undertake market research, an important aspect of planning your business. Some of the people you meet during this exercise will, almost certainly, prove to be very useful to you as you start up and develop your business.

Who should you survey?

Who you talk with depends on your business ideas and the scope of your market research.

Retail business

If you are considering starting a retail business, you need to talk with other shop owners. It does not matter if they are competitors or not, they will all have helpful information. Perhaps, if you want to speak with someone who is offering the same or a similar range of products to you, you should find a retailer in another town to talk with. You will also need to talk with any potential future suppliers to verify price, warehousing and transport budgets. You will require shop premises so you should do some research about the size of shop you will need for your goods and talk to real estate agents about availability and price.
Wholesale business

A wholesale business is similar to a retail business in that you should speak with other wholesalers, potential suppliers, real estate agents and any suppliers of equipment, such as shelving and security equipment. You will need bigger premises than for a retail business but they do not need to be designed to attract customers. They should be functional as a place for storing your goods and moving them from there to the retailer.

Manufacturing

If you are considering manufacturing a product, you need to understand how this product is made, and the equipment and factory site requirements. You should also talk with potential raw material suppliers and equipment suppliers.

Regardless of what kind of ideas you have or business you are planning to start, you must talk with potential customers as their opinions are critical to your understanding of the benefits and disadvantages of your business plan. The most important question you need to ask about the business idea is, who will buy your product or service? Who will be your customers? Are they young people, elderly people, the rich, the poor, men or women? Do they come from rural or urban areas? Are they married or single? Do
they have children? You must find some potential customers with whom to discuss your ideas. By talking with a range of people you can try to obtain typical information from different types of customers.

If your products or services are targeted at all groups of people, you must talk with as wide a population range as possible. This should include men and women of varying ages and whom are from different income brackets. If your product or service is targeted at a specific group, either by age, gender or income group, you will need to target them specifically. However, make sure you ask people from different cultural and occupational backgrounds and neighbourhoods to get as good a cross section of information as possible. You should try to interview a minimum of ten potential customers. Do not forget to make a note of their details (age, gender, income level and other information).

When speaking with customers, competitors or suppliers, it is important that you do so in a structured way. It may be helpful to devise a questionnaire that can help to direct your questions and to make sure you do not forget to ask a crucial piece of information during your discussions.

**Key information provider**

“Key information providers” or “advice leaders” are very useful interviewees. These are people who know a great deal about the business field you are planning to enter, or who are very familiar with your potential customers. They might be buyers from large corporations, or administrative personnel of some institutions such as a school or hospital. They might also be personnel of government institutions, or supervisors of one specific industry in the government. They might be managers of large corporations, and know the overall market conditions, or staff members of non-governmental organizations (NGO). Alternatively, a key information provider
may be a lecturer at the local University or Business School. If you find even one key information provider among your interviewees, they might be able to introduce more key information providers to you.

**Exercise 18: Identifying key information providers**

Think about your business ideas and try to identify a number of key information providers in your locality or elsewhere who you would like to get in contact with to help you analyse your business idea. You should then try to identify what questions you would like to ask each key information provider and also plan how you are likely to be able to make contact with that person. It may be that you can find out his or her telephone number or email address or you may have an acquaintance who knows the person and can introduce you.

<table>
<thead>
<tr>
<th>Name of key information provider</th>
<th>How to get in contact</th>
<th>Questions to ask</th>
</tr>
</thead>
</table>

You should remember that these people are often very busy and may receive many requests for information. It is likely that you will only get to see one in every three or four of the people you would like to make contact with because they are unable or unwilling to meet with you or the timeframe for meetings do not fit your schedule. If you want to meet three people, your list here should comprise 10 to 12 potential contacts. You will also need to devise a strategy for getting them interested in you and your business to persuade them that it will be useful to speak with you.

When you have made contact with your key information providers, it is important that you make the best possible use of their time and yours. You should, therefore, prepare thoroughly for the meeting and make sure you know exactly what questions you need answers to.

When you meet the key information provider, introduce yourself and your business ideas to them through a discussion, whilst collecting relevant information. Be very positive
in your description of the research and analysis you have carried out up to this point;
explain why you think there is a need for this product or service. Remember that this is
the first opportunity you have to try to promote your own business ideas. If you make a
good impression on your key information providers, they may prove to be very helpful to
you as you set up your business.

**EXERCISE 18 CASE STUDY**

The three participants in the Green Business Options course we have been following,
Ding Lixin, Wang Dapeng and Ma Jia identified the key information providers who
can help them in their enquiries. Listed below are the key information providers
identified by Ms Ma Jia, with an indication of how she will make contact with them
and the types of questions they will ask. Ms Ma Jia recognises that she will have to
ask more relevant questions when she has got closer to identifying the new business
idea she will follow but this gives her some ideas for the types of question she can
ask.
<table>
<thead>
<tr>
<th>Name of key information provider</th>
<th>How to get in contact</th>
<th>Questions to ask</th>
</tr>
</thead>
<tbody>
<tr>
<td>local government official in charge of environmental affairs</td>
<td>Ask at the local municipal office who is responsible for this area and then make an appointment</td>
<td>How does the local government support green businesses? Which departments do we need to work with? Are there any relevant policies we ought to know about? Are there any regulations we should be aware of that may affect our business? How many other businesses are there who specialise in this area? How do people value environmental products and services?</td>
</tr>
<tr>
<td>the buyer for &quot;Sunyang&quot; corporation, based in the city</td>
<td>Known through an existing business acquaintance. Ask for an introduction.</td>
<td>How difficult is it for you to obtain 'green' products? Do you always have a ready stock of these products? How many other suppliers can provide 'green' items? How much of a market do you think there is for these? Are there any related products or services we should be considering?</td>
</tr>
<tr>
<td>staff member at Nanjing, an environmental NGO</td>
<td>Name obtained from research in a journal. Write a letter to her explaining what I would like to speak with her about.</td>
<td>What environmental changes are likely to take place in the area? Do you think there is a demand for environmentally friendly goods and services? How big do you think the market is? Are people willing to pay a premium for environmentally friendly goods and services?</td>
</tr>
<tr>
<td>catering manager at the hospital</td>
<td>We are both members of the local sports club. Engage him in conversation whilst there and arrange a more formal appointment.</td>
<td>How difficult is it for you to obtain organic food products? Do you always have a ready stock of organic food products? Who supplies you with your organic food products? How much do they charge you for the organic food products? How do you make sure the catering at the hospital minimises its impact on the environment?</td>
</tr>
<tr>
<td>headmistress of secondary school</td>
<td>Child attends the school so should be able to arrange an appointment.</td>
<td>Do you teach the children in school about environmental issues? Do you buy environmentally friendly stationery products? If so, where do you buy them from and what are the charges? Is the uniform the children wear to school made from organic material? If not, would you be interested in a supplier who could supply organic clothing? Is the school growing and if so, how many students will there be in two years? How many other schools are there in the area? Would you be able to introduce me to their principals?</td>
</tr>
<tr>
<td>head of local farming cooperative</td>
<td>Another contact from the school is a member of the cooperative and may be able to arrange a meeting.</td>
<td>Are there many farmers in the area moving towards organic production? Would you be able to sell organic produce on behalf of the farmers? Do you think there is a market for organic produce? What are the future trends in the market for organic produce? Do you get customers asking about the sustainability of the produce from the farms? How will the market for organic and low carbon produce grow in the next 6 months, year and 3 years?</td>
</tr>
</tbody>
</table>
Other interviewees

During your meetings, do not ask questions that can be answered with “Yes” or “No”, instead ask open questions: those that begin with who? what? why? where? when? how? For instance, do not ask questions like “Are you satisfied with this product?”. In order to obtain more helpful answers, you should ask “How satisfied are you with this product?”

Do not worry that one question follows another but ask only one question each time. For instance, ask: “How much do you spend on transport?”

Repeat the other side’s answer; ensure you have understood their words correctly and then move on to your next supplementary question or topic.

Questions to ask potential customers

You will have to ask different questions for your planned products or services, depending on whether they are new to the market or if there are existing suppliers. For already marketed products, your questions might include:

• Where do you buy this product or service?
• Where else can you buy this product or service?
• Why do you buy from that source?
• How often do you buy the product or service?
• At what price do you buy?
• Do you care about green products?
• Would you be willing to pay more for a green product, and how much?
• How do you recognize this is a green product?
• What arguments should be used to promote the green product or service?
• What do you think about the quality of the product/service you have purchased?
• Do you feel that there are some things that could be improved such as the style or the packaging?
• As far as you know, who else plans to provide such products or services?

If this is a new product or service, you should ask the customer whether or not they are willing to buy such products or services and how often they will make a purchase. You also need to investigate, how much the customers may be willing to pay for such a product or service. You can ask them, in relation to the product or service, which factors are important, for example:
• Style
• Quality
• Packaging
• Prompt service (reliability)
• Purchase venue, or how to make delivery
• Price
• Ease of use.

Showing samples or photographs of your own products or the ideas you have for them may be very useful. You can ask people what aspects of the product they like or dislike.

It is important to ask questions that will help people to give serious answers. So, instead of asking “Will you want me to maintain your solar water heating system very often?”, you should ask “Will you want me to maintain your solar water heating system every month, every three months, every six months or not at all?”

When asking about price, please give some specific price, and ask them which price they think is the most reasonable. For instance, ask “How much would you expect to pay for regular maintenance of your solar water heating system?”

Questions to ask potential suppliers and competitors

Whatever business you plan to start, you will need to talk with suppliers. You can ask them:
• How difficult is it for you to obtain these products?
• Do you always have a ready stock of these products?
• What is the quality standard of the goods that you are able to supply me?
• What is the breakeven for spending more on a green product/service?
• What price will you charge me for the goods?
• What kind of warehousing/packaging/maintenance is needed?
• How do you make sure your business minimises its impact on the environment and how do you measure its positive impact on the environment?

If you are purchasing raw materials for a manufacturing business, you will need to ask:
• What price will you charge me to buy certain quantities of raw materials?
• Can you guarantee the supply?
Can you guarantee the environmental credentials of the materials?

Who else can supply these raw materials?

What special requirements are there in warehousing, transport or usage for these raw materials?

You can address similar issues with your competitors. The suppliers and large competitors often have a very good overall understanding of the market. You can ask them the following questions:

- How often do you think people will buy such a product or service and in what quantities?
- How many other businesses are you aware of who are already providing such products?
- Is the demand for such products (i.e. the quantity that people buy) constant, or does it change throughout the year? At certain times of the year people may buy more of a specific type of product. For example, people may buy woollen blankets in winter or fertilizer before the planting season.
- What other related products or services do you think people are also likely to buy?
- What are the future trends in the market?

Questions to ask key information providers

What kind of questions should you ask your key information providers? To a great extent, this depends on who these people are and what their role and experience is in the market. You chose them because they have some expertise in the market or products. The questions you ask the suppliers can almost certainly be used here but in addition, you could ask the following:

- How useful is the planned business in the market place?
- What is the size of the market in this area? What quantity of these products or services do you think people will need?
- In your opinion what is the most important factor that drives people to buy this type of product or service? Is it, for example, quality, style, price, reliability or availability of support services? In this context, how important are the environmental credentials of the product or service?
- Do you think the market for the product or service will grow over time?
- What is the local/national level of demand and supply?
• How do you think the market will develop in the next six months, year, two years, five years?
• How do people value environmental products and services?
• How does the local government support green businesses? Which departments do we need to work with? Are there any relevant policies we ought to know about?
• Does the demand for this product or service remain steady throughout the year or does it fluctuate?
• In your opinion are there any related products or services we should be considering?

Exercise 19: Role Play

At this stage of the programme, your trainer will probably include a short role-play exercise. Two members of the group will be asked to act out a case scenario. In this case, one person will play the role of a new green entrepreneur and the other will act out the role of a key information provider.

The participant playing the role of the key information provider will be briefed by the trainer to make sure he or she is aware of the types of response that may be useful. He or she may also seek advice and support from other members of the group to make sure he or she has as much information as possible available to respond to the questions of the would-be entrepreneur.

The entrepreneur will also be allowed to prepare him or herself for the interview and the interview will last no more than 10 minutes.

Once the 'interview' is over, you will be asked for your feedback to identify what you have learned and if it has changed your ideas about how you would approach an interview with a key information provider. You should be prepared to provide your impressions and any observations you have about the exercise to the group.
Exercise 20: Field Survey

You have identified three business ideas from your long list. Beginning with your favourite idea, you need to gather as much information as you can about these businesses. Formulate your plan for gathering this information using this template.

<table>
<thead>
<tr>
<th>Business idea:</th>
<th>What information do I need to find out?</th>
<th>Who do I need to talk to?</th>
<th>What questions do I need to ask?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Once you have formulated your plans here, you can go out into the field to collect the information for the first business. Then carry out a similar exercise for the other two businesses on your list. As you get used to doing this, it will not take as long.

After you have collected all the information for the three business ideas, you should undertake a SWOT analysis on each business.
This is a similar exercise to the previous one but this relates specifically to your current favoured business idea – the one you are thinking of pursuing. For the purposes of this case study, we will look at Ms Ma Jia’s idea of distributing organic foods in the town where she lives. These are the early stages of her analysis into the type of market and supplier information she will need to gather if she is going to be able to plan her business effectively.

### Business Idea: Organic food distribution/sales

<table>
<thead>
<tr>
<th>What information do I need to find out?</th>
<th>Who do I need to talk to?</th>
<th>What questions do I need to ask?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there a market for this business?</td>
<td>Catering manager at hospital</td>
<td>Do they buy organic produce?</td>
</tr>
<tr>
<td>How big is the market?</td>
<td>Cooks at local schools</td>
<td>If so, where from?</td>
</tr>
<tr>
<td>Are there specific products that are required?</td>
<td>Catering businesses</td>
<td>If not, will they consider it?</td>
</tr>
<tr>
<td>What are the quantities that will be needed?</td>
<td>Food retailers</td>
<td>How much would they be prepared to pay?</td>
</tr>
<tr>
<td>Is there a price premium?</td>
<td>Fast food vendors</td>
<td>What products will they need and in what quantities?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Can I obtain the produce?</th>
<th>Local farmers</th>
<th>Does anyone grow organic produce?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there continuity of supply?</td>
<td>Farmers’ cooperative</td>
<td>If not, is anyone willing to convert to organic production?</td>
</tr>
<tr>
<td>What are the standards for organic accreditation?</td>
<td></td>
<td>What types of produce can I get access to?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How do I transport the goods?</th>
<th>Farmers</th>
<th>Can the suppliers deliver directly to my customers?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do I need my own vehicle?</td>
<td>Farmers’ cooperative</td>
<td>If I need a vehicle, does it need to be refrigerated?</td>
</tr>
<tr>
<td>Does it need to be refrigerated?</td>
<td>Other food distributors</td>
<td>How much will a refrigerated vehicle cost me?</td>
</tr>
<tr>
<td>If I need my own vehicle, how much will it cost?</td>
<td>Vehicle suppliers</td>
<td>Could some of the deliveries be made using bicycles?</td>
</tr>
<tr>
<td>How can I minimise the amount of travel by myself and others?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there an alternative mode of transport?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Where do I get the money from?</th>
<th>Family members</th>
<th>Will they lend me money?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bank manager</td>
<td>What interest will they charge me?</td>
</tr>
<tr>
<td></td>
<td>Other investors</td>
<td>How long will I have to pay it back?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What happens if I cannot pay it back in the agreed time?</td>
</tr>
</tbody>
</table>
SWOT ANALYSIS

After you have collected the on-site information on the business opportunities, the size of the market and the potential risks, you can then undertake a SWOT analysis on each of your business ideas. This type of analysis can help you focus your thinking on the possible problems and potential advantages that might exist in each idea.

SWOT means:

S – Strengths
W – Weaknesses
O – Opportunities
T - Threats

This type of analysis is very good for providing an overview of a project to identify what needs to be done to develop the business and how strong a proposition it is for you. You may get a feeling about the relative strengths and weaknesses of the business ideas but you will not get a comparison of your business ideas to help you decide which one to pursue.

Inside the business

To analyse the strengths and weaknesses of one business idea, you must look at the internal situation of the business that you are planning to start. What are the strengths and weaknesses of this business?

Strengths refer to the positive aspects of the business you plan to start when your ideas are compared with similar businesses and competitors. These positive aspects will be favourable to your business. Such strengths might be that you can make or provide better quality products, or that you plan to locate your business closer to the customers.

Weaknesses refer to the aspects which your business is not good at, when compared to the competitors. Perhaps your cost is higher because your business is a long way from the supplier and this means you have to pay higher freight costs.
Outside the business

To analyse the opportunities and threats to be faced by the business you plan to start, you must also grasp the external situation as it relates to this business. Which aspects of the external environment are favourable to the business, and which aspects will have a negative impact on the business?

Opportunities refer to potential development opportunities which are favourable to the business. For example, as more and more tourists come to your area the demand for the products you plan to produce or sell may increase.

Threats refer to things in the external environment that might occur to bring negative impacts to the business. For instance, the business idea may be too simple, so that other people can also start similar businesses in this region. In this way your market share will be reduced.

Exercise 21: SWOT Analysis

Undertake a SWOT analysis for all three of your business ideas using copies of the SWOT analysis table provided below.

- Carefully consider the strengths and weaknesses inside the business.
  These can include strengths and weaknesses related to the individuality of the product or service, funds, marketing of products or services, business premises, promotion or sales. Note all these down.
- Consider the external environment of the business. What are the opportunities for a business like this. These may have been highlighted by the 'key information providers' you interviewed during your field survey. Note down these opportunities and risks.
- Answer the questions about numbers of strengths, weaknesses, opportunities and threats and ask yourself:
  - Can I overcome the weaknesses and avoid the risks?
  - Can I continue to reinforce the strengths in this business and increase the opportunities?
- Consider how you will overcome the weaknesses and write down your decision on the SWOT analysis table.
- Now do a second SWOT analysis on your second business idea and then repeat the exercise for the third idea.
- If you have a trusted family member or business advisor, it may be helpful to ask them to check over your analysis and see if you have approached it correctly and that your conclusions are valid. If you are not being objective about the analysis, you may have exaggerated the strengths and opportunities and under played the weaknesses and threats.
### SWOT ANALYSIS

<table>
<thead>
<tr>
<th>Inside the business</th>
<th>Outside the business</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strengths</strong></td>
<td><strong>Weaknesses</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opportunities</strong></td>
<td><strong>Threats</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Are there more strengths than weaknesses? **Yes/No**  
Are there more opportunities than risks? **Yes/No**

How will I deal with the weaknesses?
The following example of a SWOT analysis is that made by Ms. C after collecting relevant information during her field survey. It relates to her idea of starting a business distributing organic foods in the local area.

### SWOT ANALYSIS

<table>
<thead>
<tr>
<th>Inside the business</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strengths</strong></td>
<td><strong>Weaknesses</strong></td>
</tr>
<tr>
<td>No need for shop premises</td>
<td>Not familiar with quality of agricultural products</td>
</tr>
<tr>
<td>Access to small cold store which is not being fully used at a friend's shop</td>
<td>Do not know about the environmental accreditation schemes for organic produce</td>
</tr>
<tr>
<td>Experience of working in farmers cooperative</td>
<td>Capital available to fund the business is limited</td>
</tr>
<tr>
<td>Interested in food safety</td>
<td></td>
</tr>
<tr>
<td>Access to delivery van</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outside the business</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opportunities</strong></td>
<td><strong>Threats</strong></td>
</tr>
<tr>
<td>Increasing income level of people will lead to more customers</td>
<td>Food sections of large shopping markets are also exploring this market</td>
</tr>
<tr>
<td>I know from my contacts that there is a growing market for this type of food</td>
<td>Some farmers thinking of selling directly to consumers</td>
</tr>
<tr>
<td>Recent incidents have alerted consumers to the issue of food safety</td>
<td></td>
</tr>
<tr>
<td>Local suppliers mean the food has not travelled far to reach the consumer</td>
<td></td>
</tr>
<tr>
<td>More producers are recognising the benefits of organic production</td>
<td></td>
</tr>
</tbody>
</table>

Are there more strengths than weaknesses? Yes
Are there more opportunities than risks? Yes

How will I deal with the weaknesses?
- I will develop a partnership with a vegetable shop.
- I will undertake more research on the quality of agricultural products and environmental and organic certification schemes.
- I can target customers who find it difficult to get to the shops (too ill or too busy) and who therefore may prefer to have a delivery to their home.
Ms Ma Jia also undertook a SWOT analysis on her other two business ideas – Special Waste Management and Solar Water Heater Maintenance. After looking at the results of these analyses and from a further review of her business ideas, she decided to develop a business plan for the local delivery of organic foods. This is because the strengths of starting a business in this sector are greater than the weaknesses and some of the weaknesses are easy to overcome. Meanwhile, there are also quite a few opportunities, because the demand for organic foods will continue to increase with the rise in income level and disillusion with industrial agriculture.

ENVIRONMENTAL IMPACT ASSESSMENT

Impact of the business on the environment

All businesses are closely associated with the environment. From the material we have already covered in this programme, you will be aware that the environment consists of material elements, water, air and soil, living organisms such as plants and animals, as well as social components, the people like you and me. All businesses, irrespective of whether they are 'green' or not, have an impact on the environment but for businesses working in this sector, it is important to eliminate or reduce that impact as far as possible and, where the impact cannot be eliminated, to find ways to offset the effect.

The diagram below illustrates the direct and indirect impact of a business on the environment. Businesses cause the exploitation of raw material and the acquisition of other resources from the environment, and they will create impact on the environment during the process of transforming these resources into products. Finally, they have to complete the transaction with the customer for the finished product, which is then in the environment.
This diagram differentiates the internal environment from the external environment:

The internal environment refers to the various production processes of the enterprise itself. For instance, the employees of a business are one part of its internal environment, and will be affected by occupational health and safety risks in the production process.

The external environment refers to all other substances, living organisms and social components. For example, business customers live in the external environment, and they pay money to the business to allow them to consume the products of the business.

The impact of a business on the environment might be either positive, or negative. For instance, a business creates a positive impact on the environment, because it provides people with job opportunities and income. On the other hand, a business might also bring negative impacts to the environment, because it might exploit quantities of non-renewable resources, or contaminate the environment during the production process.

In order to ensure the business you plan to start can achieve long-term survival and be completely sustainable – both in terms of its impact on the environment and its financial success – you must guarantee to minimize the negative impact of the business on the environment.

If you ignore the negative impact of your business on the environment, you will
encounter many problems. If your business fails to abide by laws and regulations on environmental protection, relevant government departments may refuse to register your business. If your business pollutes the local environment, your neighbours and the entire community (which contains your customers), might boycott it. If your production process brings hazards in the aspects of occupational health and safety to your employees, they might refuse to work for you. All of these may also lead to the business being prosecuted for breaking the law and this may lead to fines or imprisonment.

Furthermore, if your business excessively exploits rare natural resources, you will soon face the problems of the scarcity of the raw materials you need. For example, if you set up a commercial fishing business, and together with other fishermen over-fish the resources in an offshore area, your catch will decrease year by year and the profit made by your business will drop with the decrease in catch volume. Sustainable resource management is the key to long-term survival of the business.

**Purpose of environmental impact assessment**

Environmental Impact Assessment (EIA) helps you determine the possible negative impact of the business on the environment. However, a full EIA is complex to undertake and can be an expensive exercise. For the purposes of your business planning, you are not expected to become an environmental specialist and undertake a full EIA prior to starting your business. But it is important that you have a basic understanding of the main environmental issues that may arise from the operation of the business. Part of this analysis involves you making sure any polluting substances which are discharged by your business into the environment remain below the required minimum levels. You also need to explain what measures you plan to adopt to minimise the negative impact of the business on the environment.

The EIA method recommended below is very simple, it can help you quickly sort through your business ideas. By following the steps, you can evaluate the possible impact of the business you plan to start on the environment.

- Check if the business you plan to start is included in the list of business sectors subject to review by the local Environmental Protection department which has been delegated by the state Environmental Protection Department.
GREEN BUSINESS OPTIONS

- Provide detailed explanations about any pollutants which might be created by your business.
- Check if the business you plan to start is included in the list of business operation sectors subject to review by the local government.
- If the business you plan to start falls within the 45 business operation sectors, you need to obtain an Environmental Protection License (EPL) issued by the local government.
- The EPL is issued by the local government of your locality, business operation activities not listed in the table need to obtain a license from the state environmental protection department.

Identify the pollution your business might cause

It was made clear at the start of this chapter that all businesses will bring impacts of varying degrees to the environment. Therefore, all business owners must closely monitor the impact of their businesses on the environment. The following verification
form will help you analyse the impact of the business you plan to start on the environment.

The first column of this table is the main form of pollution that the business might cause, namely:

- Water pollution
- Solid waste pollution
- Air pollution
- Land pollution
- Noise pollution.

Further more, the production process of your business might also lead to occupational health and safety hazards to staff. This is included in the table.

In column 2, you can indicate whether or not you have foreseen any negative impact your business may have on any of the areas. For instance, if you plan to start a business repairing solar water heating systems, your business might generate some solid waste (e.g. damaged and worn parts), noise pollution and air pollution. If antifreeze included in the system was to leak onto the ground, it is also possible to pollute the water system.

In column three, you can specify what measures you will adopt to minimize or avoid any anticipated negative impact on the environment. Do not simply ignore pollution sources and make mistakes. If you ignore this problem now for the sake of saving time or money, it will arise when you register your business, or after your business has been established and launched into operation. By that time, you might have invested a large amount of capital, time and energy and it will cost you much more to correct your business plan or operation plan at that time.

If you are not sure about any of the potential impacts your business may have, but the frequency or severity of the impacts may be high (for example: you may emit small quantities of smoke but frequently; or the potential damage caused by a leak of chemical into a watercourse could be very severe) it may be worthwhile discussing the business ideas with the relevant people within local government or finding someone with a greater level of environmental knowledge than you who can help with this. However, for the majority of businesses you are likely to begin, this is unlikely to be necessary.
Exercise 22: Environmental Impact Assessment

<table>
<thead>
<tr>
<th>No.</th>
<th>Type of environmental impact</th>
<th>Any effect?</th>
<th>What is the impact and what environmental protection measures are being taken?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Water pollution</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Solid waste pollution</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Air pollution</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Land pollution</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Noise pollution</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Surrounding ecosystems</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Inadequate security measures inside the business</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Occupational health and safety issues</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Other problems</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

EXERCISE 21 CASE STUDY

This exercise is the assessment of the potential environmental impact of your new business. It is very early to begin thinking about this as, at this stage, you may not have finalised the details of your business. In addition, you probably do not know where the business is going to be located and what additional hazards may arise because of the siting. Nevertheless, it is a good time to begin to think about this aspect so that as you plan your business more thoroughly, you can find ways of overcoming any potential impacts there may be.

The environmental impact assessment you undertake at this stage will not be the final version of this document. As you plan your business more fully and you decide on the exact nature of the business, where it will be located and how it will operate, you should revisit this document. You will then gain a much better idea of the potential impacts and how to overcome them.

Again, this analysis is undertaken on the basis of the organic food distribution business that Ms C has opted to pursue and which we have looked at in detail in the past few case studies.
<table>
<thead>
<tr>
<th>No.</th>
<th>Type of environmental impact</th>
<th>Any effect?</th>
<th>What is the impact and what environmental protection measures are being taken?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Water pollution</td>
<td>✔</td>
<td>Possible issues with washing vegetables and other produce. Ensure proper interception is put on the drains from the washing area.</td>
</tr>
<tr>
<td>2</td>
<td>Solid waste pollution</td>
<td>✔</td>
<td>Possible soil residues and other organic matter from cleaning and selecting of vegetables and other produce. Collect all solid organic waste and either compost on site if allowed or send away to composting site. Could partner with supplier to provide material back for composting.</td>
</tr>
<tr>
<td>3</td>
<td>Air pollution</td>
<td>✔</td>
<td>No foreseeable issues</td>
</tr>
<tr>
<td>4</td>
<td>Land pollution</td>
<td>✔</td>
<td>No foreseeable issues</td>
</tr>
<tr>
<td>5</td>
<td>Noise pollution</td>
<td>✔</td>
<td>Slim chance of slight noise pollution from vehicle movements. Communicate with neighbours about vehicles and try to ensure they do not work at antisocial times.</td>
</tr>
<tr>
<td>6</td>
<td>Surrounding ecosystems</td>
<td>✔</td>
<td>No foreseeable issues</td>
</tr>
<tr>
<td>7</td>
<td>Inadequate security measures inside the business</td>
<td>✔</td>
<td>No foreseeable issues</td>
</tr>
<tr>
<td>8</td>
<td>Occupational health and safety issues</td>
<td>✔</td>
<td>Workers may be involved in working in cold conditions with refrigerated produce and if knives are used, may be dangers there. Also possible conflict between people and vehicle movements. Provide all employees with proper personal protection equipment such as steel toe capped shoes, protective gloves and warm clothing. Also high visibility outerwear to ensure they are seen by vehicle operators.</td>
</tr>
<tr>
<td>9</td>
<td>Other problems</td>
<td>✔</td>
<td>None foreseen</td>
</tr>
</tbody>
</table>
SUMMARY

Carefully consider the list of business ideas you have prepared and select from those the most appropriate. Analyse each business idea by answering a series of questions about:
- Customers
- Competitors
- Resources and requirements
- Your skills, knowledge and experience.

After sorting through all the ideas in the list of businesses, select the three ideas that suit you best. When you have done this, you need to obtain more information. Your target is to analyse all the factors which will help you accept or abandon each business idea.

SWOT analysis refers to the analysis of strength, weakness, opportunity and threats. This method can help you collectively consider the potential advantages and problems that might exist in each idea. It is not a good tool to compare the relative merits of different businesses but it can give you an indication of the strengths of the different ideas.

To analyse the strengths and weaknesses of a business idea, you need to understand the internal conditions. The strengths refer to the positive aspects of the business you plan to start. Compared with similar businesses and competitors, these positive aspects will be helpful for your business. The weaknesses are the things that your business may not be good at.

To analyse the opportunities and risks to be confronted by the business you plan to start, you must understand the external environment in which the business operates. Which aspects of the external environment will be favourable to the business and what aspects will bring negative impact to the business? The opportunities refer to potential development opportunities which are favourable to the business in the surroundings. The threats refer to things that might occur and then bring negative impact to the business.

To analyse the external environment, you must have sufficient information. To collect this information, you must undertake a field survey. A field survey involves talking with customers, suppliers and other people in business in the locality. Its purpose is to collect information on the factors that will affect your business ideas. You can arrange informal discussions and make observations, or arrange formal visits and interviews. This part of
your research takes some time, but through the field survey, you have begun to act in a business-like way and some people you come to know during your visit may become helpful to you in the longer term.

Finally, you compare the opportunities and risks, strengths and weaknesses of each business idea, select one idea with more opportunities than risks, and more strengths than weaknesses.

All businesses are closely associated with the environment in which we live. The environment consists of material elements, living organism components and social components. The impact of one business on its environment can be either positive or negative. To guarantee the long-term survival and sustainability of the business you plan to start, you must make sure to minimise the negative impact created by the business. If you ignore the negative impact of your business on the environment, you will have to confront many problems later. Environmental Impact Assessment (EIA) helps you determine this. This is important for all businesses but for a business that intends to be a part of the environmental sector, this becomes doubly important.
CHAPTER 7: YOUR OWN BUSINESS IDEAS

Learning Outcomes for Chapter 7

When you have finished studying chapter 7 of this training manual you will:

- Have a clearer idea of your green business opportunity
- Understand what your next steps will be.
Congratulations!

You have finished the first steps towards starting your own green business. Now you can complete your business idea summary in the table below.

After you have finished your business idea summary, you can start your own business by preparing your business plan. The “Start Your Business” (SYB) training programme of the International Labor Organization (ILO) can help you do this work. Once you have started your business and you have begun trading, the “Improve Your Business” (IYB) training program of ILO can help you improve efficiency and increase profits.

However, we realise that just working through this Training Manual, even with the support of your green business trainer, may not be sufficient to provide you with your green business idea. This is not because there is a problem but probably because you just have not found the right opportunity. If you are finding it difficult to make a decision, there are some options.

Are you still unable to decide between the three business ideas?

You may need to find some more “key information providers” in the business sectors you are looking at. This can help you obtain more information and recommendations before making the choice. The attached action plan will help you with this.

Are you still not sure if you are ready to start your own business?

If you are worried about this question, turn back to the self-appraisal exercise in the third chapter, and reconsider your answers. Were you fully truthful in your responses or were you exaggerating your skills and abilities in some areas? It could be that you need some more time and experience before you have all the necessary skills and attributes to enable you to start your business? If so, try to find work with another environmental business and learn more for the next few years. Then, when you have added to your experience and skills, come back and try again to start your business.

You may also just have to accept that you may not be fully equipped for the hardships
and risks associated with starting your own business. If so, it is better to accept the situation and find a job role that suits you and where you can also make a difference to the environmental impact of that business. There are likely to be many opportunities in the next few years for people with environmental skills and experience to help other businesses minimise their environmental impact. You can still work for someone else whilst achieving success and feeling satisfied. You can choose the path that best suits you but just because you have not been able to begin a business on your own does not mean you have failed.

**Not satisfied with the three screened business ideas?**

If you still, passionately, believe that you want to start your own business, but you have not found the right business idea, you can rest for a while and, after a week or two or longer, read this Training Manual again from Chapter Three, and begin a new search for other business ideas.

Before you find the business idea that suits you best, you often need to spend more time, do more work and obtain more information. This decision will affect the rest of your life, so it is important you make the right choices. As you move toward your goals, you will gather more knowledge, experience and skills. All of these will help to improve your ability as a successful business person and will help to make sure your green business idea is a success.

You should now complete the final exercise of this Training Manual and then start the action plan for your green business idea to take you forward. When beginning your action plan, it is very important that you commit to specific actions and time scales. If you just leave things open ended, it is unlikely you will achieve them.
Exercise 23: Summarise your green business idea

My business idea is: 

The type of business is: 

**Business to consumer**  
Retailer  
Service provider  

**Business to business**  
Wholesaler  
Manufacturer  
Service provider  

My products or services will be: 

My customers will be: 

The customer needs I will meet are: 

The skills, experience and knowledge I have for starting such a business are: 

I choose this business idea because: 

This business idea will help to address the following environmental issue(s): 

**EXERCISE 23 CASE STUDY**

This exercise is where you summarise your own green business idea. This is the summary for the organic food distribution business idea that has been generated by one of the participants, Ms C, that we have followed through the programme.

<table>
<thead>
<tr>
<th>My business idea is:</th>
<th>Organic food distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The type of business is:</td>
<td></td>
</tr>
<tr>
<td>Business to consumer</td>
<td>Business to business</td>
</tr>
<tr>
<td>Retailer</td>
<td>Wholesaler</td>
</tr>
<tr>
<td>Service provider</td>
<td>Manufacturer</td>
</tr>
<tr>
<td></td>
<td>Service provider</td>
</tr>
</tbody>
</table>

**My products or services will be:**
Distribution of all types of organic food in the town and surrounding areas.

**My customers will be:**
- Local government offices
- Hospital
- Schools and colleges
- Catering companies
- Fast food outlets
- Restaurants

**The customer needs I will meet are:**
- An opportunity to source wholesome, high quality food that is certified organic and which comes from reputable sources. The food will be seasonal and, being organic, the food will not have been contaminated with chemicals and artificial fertilisers.
- The business will also provide an outlet for the growing number of farmers in the area who are looking for new markets and who want to move away from high input, mechanised and industrialised farming.

**The skills, experience and knowledge I have for starting such a business are:**
- I am a mother and I know about preparing good quality food for my family. I understand about the need for organic production and the need to move away from intensive, high input farming.

**I choose this business idea because:**
- It meets a need for customers and provides an outlet for farmers and it is in line with my needs in starting a business. I can begin in a small way and test the market by linking up with the local farmers’ cooperative to supply my needs and they will hold the stock for me. If I can find one caterer or restaurant to take my produce in the first place and prove my ideas, I can grow the business from there.
- Starting in this way should fit with my needs to continue to look after my son and the house.

**This business idea will help to address the following environmental issue(s):**
- I will help to reduce the use of chemical fertilisers, herbicides and pesticides on agricultural crops which are being eaten by people. This reduces emissions of greenhouse gases because oil is used to make the chemical inputs. I will also reduce emissions by making my deliveries as efficient as possible. By promoting organic farming, I will also help the sustainability of the farmers I buy from and the food I supply will be more wholesome and healthy than mass produced crops from industrial farms.
After completing this summary, Ms C went on to compile her action plan. The outcome from the training programme was that Ms C concluded that she needed more time and experience before she began her new green business. However, on her return to her home, she discussed all the ideas with her husband and with friends and business contacts. She returned several times to the Green Business Options Manual and checked and refined her ideas. She spoke with her local farmers’ cooperative and a number of other food wholesalers. Ms C also spoke with a number of key information providers and then undertook some part-time temporary work with the local hospital catering department, where she was able to use her influence and knowledge to persuade them that they should be purchasing more local food and that they should try to make it organic if possible. She agreed with the catering manager that she would start to find appropriate sources of supply and on the basis of this interest, she took the big step and began her own business to supply the hospital.

Since she was able to demonstrate her success with the hospital, other institutions in the town began to take an interest and Ms C now has a successful business providing high quality, organic produce to a number of organisations in the town where she lives.
### ACTION PLAN

Now generate the action plan for your green business:

<table>
<thead>
<tr>
<th>Actions to be taken</th>
<th>How to do?</th>
<th>Who will do?</th>
<th>Target completion date</th>
<th>Expected results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Exercise 24: Generate your action plan

Well done. You have now completed this training programme. We would like to wish you good luck with starting your own green business and we hope you are very successful.
Introduction to appendices

The appendices to this manual comprise two sections – some reading material and some case studies. The reading material appears first and the case studies can be found at the end of the section.

The purpose of including this additional reading material with the Green Business Options Programme is not to provide you with comprehensive information on the topics selected but to stimulate different ideas about green businesses that you could begin. Please use the reading material to highlight areas of the environment and sustainability that interest and excite you and which are worthy of further consideration in relation to your green business. When you have decided on a sector that interests you, you may need to undertake more research to identify the specific opportunity that you can exploit as a green entrepreneur.

Appendix 1 – Biodiversity
Appendix 2 – Climate Change
Appendix 3 – Resource Depletion
Appendix 4 – China’s Water Crisis
Appendix 5 – Organic Farming and Permaculture
Appendix 6 – Building Energy Efficiency Retrofit
Appendix 7 – Life Cycle Analysis or Assessment (LCA)
Appendix 8 – Environmental Impact Assessment (EIA)
Appendix 9 – Bioremediation and Phytoremediation
Appendix 10 – Case Study 1; Thin Bamboo Makes for a Major Industry
Appendix 11 – Case Study 2; “Ecostar”, Business Opportunities in Old Equipment
Appendix 1: Biodiversity

Biodiversity refers to all organisms in the Earth’s biosphere, i.e. animals, plants, microorganisms, and their genes and living environment. It consists of three levels: genetic diversity; species diversity; and ecosystem diversity.

Biodiversity is about the variability of organisms in the living world. It refers to trees, insects, mammals, corals, amoeba, fungi and all aspects of flora (plant life), fauna (animal life) and the dynamic interactions between them. The UN Conference on Environment and Development (UNCED) which took place in Rio de Janeiro, Brazil, in 1992 defined biological diversity as:

“...the variability among living organisms from all sources, including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.” (UN, 1992, Article 2)

However, how many species are involved is not known. Scientists have yet to discover and identify all the species on earth. According to the United Nations Environment Programme (UNEP) and the World Conservation Monitoring Centre (WCMC) just 1.75 million species have so far been identified out of an estimated possible total of 14 million.

Biodiversity is unevenly distributed around the world. The most species-rich terrestrial ecosystems are tropical forests. Although they cover less than 10 per cent of the earth’s surface, they could contain as many as 90 per cent of the planet’s species. The areas of greatest biodiversity in China can be found in Guangdong, Guangxi, Fujian, Sichuan and Yunnan.

Biodiversity provides raw materials for industry, such as rubber, oil, aromatic oil and fibres. Also some medicinal herbs make it possible for us to treat some difficult and complicated diseases.

Currently dozens of living species disappear from the world every day due to the environmental pollution and destruction, such as deforestation, destruction of vegetation, indiscriminate fishing and hunting, excessive and indiscriminate logging. This is a great loss to the Earth’s resources because once a species is gone, it is gone forever. The extinction of a species indicates not only a loss of natural resources for humans, but also the possibility of causing disappearance of other species through the food chain. Many people and organisations have called for the conservation of biodiversity. Many
conservation projects are in action.

Conserving genetic, species or ecosystem biodiversity may provide you with potential green business opportunities.

Note:
Appendix 2: Climate Change

The world’s population has now grown to more than 7 billion and we have, at our fingertips, unprecedented technological capacity. The combination of these factors means that humans have now become a force of nature, able to trigger changes in immense ecosystems – changes which could rebound, threatening our own livelihoods and those of future generations.

Climate change is the prime example of this process. Global warming is caused by greenhouse gases being released into the atmosphere where no international borders exist and where the origins of the emissions has little or no relevance. The most important greenhouse gas, carbon dioxide, is emitted a number of different ways, including in energy production and transportation, associated with the burning of fossil fuels such as oil, natural gas and coal. These have jointly formed the basis of industrial development over the last 200 years. Industrial production, based on cheap and plentiful energy has enabled recent generations to enjoy luxuries of life never before experienced. For many people, the private car has become a symbol of freedom and new opportunity and being able to move freight around in lorries, ships and aeroplanes enables raw materials, parts and finished goods to be moved around countries and between countries quickly and to very specific destinations.

The far-reaching effects of climate change are now becoming more apparent to both scientists and to people in their daily lives. More extreme weather patterns, bringing heatwaves, droughts and floods are increasingly common. The rate of change in the climate is unprecedented and the change is almost certain to reach levels that severely challenge environmental management and the capabilities of international governance. Dealing with the consequences of climate change will require new institutional strategies and forms of cooperation and a willingness to deal with longer time frames in decision making.

For those who still doubt the evidence of climate change, around 99 per cent of the world’s climate scientists now agree that human-induced climate change is taking place, today. Atmospheric carbon dioxide levels are higher than at any time in the last 650,000 years and climate models are now generating output consistent with observations on the ground. The melting of polar ice caps, thawing of northern permafrost and the retreat of glaciers match expectations for greater impact in polar regions. More frequent occurrence of drought and heatwave disasters is consistent with the predictions of changes and across the globe, birds, butterflies and other species are
changing their ranges in response to climate signals. When the models project forward, they indicate that there will be more warming, rising sea levels, shifting regional patterns of temperature and precipitation.

Some of the worst consequences of climate change can still be avoided but only by making much deeper reductions in emissions than have been agreed so far. The first round of the Kyoto Protocol committed the industrialised nations among the signatories to a 5 per cent reduction. However, EU environment ministers estimate that a reduction of around 80 per cent will be required to prevent dangerous climate change. Reducing emissions to this extent will require massive changes in the world’s carbon-based economy and our current inefficient use of energy. Many of the required technologies already exist and there are many opportunities to improve and expand on their use.

Changes by individuals and small businesses are an essential starting point and knowledge and technologies exist to support substantial improvement. But the scale of the challenge goes far beyond the level of our personal commitment. We require major changes in the design of efficient buildings, transportation, energy and other systems and this is where there are many opportunities for green entrepreneurs to develop and market new ideas and technologies to make these types of change easier to undertake and manage.

The challenges of climate change are immense but as a consequence, the opportunities for helping people, businesses and countries to overcome the effects are equally immense.

**Note:**
Appendix 3: Resource Depletion

Whilst it is acknowledged that climate change is a massive challenge for all the people of the world, the intense focus on this issue has masked some of the other issues that we face. One of these is the speed with which we are using non-renewable resources which means that, in a relatively short time, in terms of the age of the earth, we will run out of many of the resources we need to maintain the lifestyles that we currently enjoy. To illustrate this issue, we will look at two examples, oil and phosphates.

**Peak Oil**

Our oil reserves have taken between 90 and 150 million years to form and yet we have consumed more than half of these reserves in around 150 years. The world consumes around 85 million barrels of oil each day (about 40,000 gallons per second) and demand continues to grow. Oil (and natural gas, which was formed at the same time and in a similar way to oil) is a finite natural resource subject to depletion. This means that production begins in any country or region after reserves are discovered and ends when the reserves are exhausted. The peak of production is passed when approximately half the total has been taken.

The peak of oil discovery was in the mid 1960s and in 1981, the rate of use passed the rate of discovery of new reserves with the gap between discovery and production widening ever since. Despite many uncertainties in relation to the reporting of oil reserves, it is evident that the world is now entering a period when this resource begins to decline due to depletion. The exact date of peak oil production is probably irrelevant when the real issue is how the human race comes to terms with the transition to a period of declining oil production.

One consequence of man's addiction to oil and the imminent decline in production has been the rush to find and exploit reserves in ever more difficult and dangerous places. There is currently a rush to explore the potential for additional oil reserves in the high arctic where this has been made possible by melting of sea ice due to climate change. It is ironic that the ability to explore for reserves in this area has been made possible by burning oil and other fossil fuels and that if additional reserves are found and exploited, they will contribute further to the changes in the climate (see appendix 2, above).

The high arctic is a very fragile ecosystem and another issue of major concern is the potential for oil leaks or spills. The damage caused by an oil spill in that area would be significant. Some work done by NGOs has already shown that the systems put in place
to avoid and contain any spill by some of the companies carrying out the exploration are inadequate.

The same pressures lead to the exploitation of 'unconventional' sources of oil and other fossil fuels such as oil shale, 'tar sands' and shale gas. These resources are also much more difficult and expensive to exploit and can lead to other serious environmental and social issues.

Perhaps the major consequence of peak oil is, however, that as it becomes more difficult to exploit existing reserves, as new reserves become scarcer and as the quality of the oil found declines, the price of oil will increase. The price rises we have seen since the global financial crisis in 2008 are not likely to be reversed. There may be short-term fluctuations but the trend for oil prices will continue to be upwards. This will have major implications for the global economy as the economies of most of the world's countries are based on access to (relatively) cheap oil.

Around 17 per cent of the world's energy is used for producing food. Oil is used to manufacture fertilizers, pesticides, packaging and to distribute the food to consumers. More than 90 per cent of energy consumed across the world is derived from fossil fuels. They drive transport, sewage management and the defence industry as well as the production of plastics, water, pharmaceuticals and electricity. The question we need to ask as oil becomes more expensive is how we can manage a transition to a world economy that does not rely on oil but that makes use of alternative technologies.

We need to develop progressive policies to reduce consumption of oil and we need to put further research into green technologies to replace diminishing oil. However, this is also an opportunity as well as a threat – we can take this opportunity to talk about the sort of post-oil world we want to create and begin to put the building blocks in place.

**Peak Phosphates**

Worldwide, 158 million tonnes of phosphate rock are mined each year, mainly for use in the production of agricultural fertilisers but, like oil, the supply is finite. Recent analysis suggests we may reach 'peak phosphate' production in 2033 after which, supplies will decline and the resource will become increasingly scarce and expensive. Phosphorous is an essential nutrient for all plants and animals. It forms part of the genetic material and is used for energy transfer within the cells of living things.

An adequate supply of phosphorous is essential to plants for seed formation, root development and plant maturity. It is second only to nitrogen as the most limiting
element for plant growth and it cannot be substituted in food production. Under natural conditions, the phosphorous taken up by growing plants is returned to soils in plant residues and from the urine, excrement and carcasses of the animals that have grazed the vegetation. In cultivated agricultural systems some of the phosphorous taken up by the crop is removed in harvest and then eaten directly by humans or fed to livestock. Therefore it is necessary to return the phosphorous to the soil in a form that is immediately available to plants, or to be stored for later release. Historically, phosphorous was returned to agricultural land through the application of animal manure and human excreta. More recently, especially in industrialised agricultural systems, phosphorous is provided by artificial fertiliser produced from phosphate rock. Without this, it is estimated that the production of wheat from conventional agricultural systems may decline from current levels of around 9 tonnes per hectare to less than 4 tonnes per hectare.

Crops used in non-organic, conventional agricultural systems have been bred to rely on high levels of artificial fertiliser to give high yields. So, the availability and cost of phosphorous is one of the key factors that will limit crop production in the future. In 2009, China was the world’s largest producer of phosphate rock, producing around 35% of the 158 million tonnes that were mined worldwide and the country holds one of the biggest known reserves. The government recognises the strategic importance of phosphate fertilisers and since 2008 has imposed a tariff on exports. Despite the massive reserves of this resource held by China, if use can be minimised, the resource will last longer and will become of greater importance to the country over time.

Whilst the reserves of phosphorous in China are sufficient for the foreseeable future, there are significant environmental impacts from the mining of the rock and the production of fertilisers. Most fertiliser is produced by dissolving phosphate rock in sulphuric acid to produce phosphoric acid but for each tonne of phosphate processed in this way, five tonnes of a by-product, phosphogypsum is produced and due to naturally occurring uranium and radium in the ore, this by-product is toxic and radioactive. In addition, the mining, production and trade in artificial fertilisers is dependent on cheap oil supplies. The process is very energy intensive and the emissions of carbon dioxide and contribution to climate change are significant as a result.

In all, the production of artificial phosphate fertiliser is not sustainable. Organic methods of production, where naturally occurring phosphates and other plant nutrients in crops are recycled by incorporating crop residues and manuring the land, using both animal
manure and human excrement are more sustainable. Adhering to a diet low in meat and dairy products can also help to minimise the amount of mined phosphate needed because the efficiency with which phosphate input is converted to dietary phosphorous is much higher in vegetable based products than in livestock products. If eating a meat-based diet, eating meat that has been raised on unfertilised grassland (that is, with no input of inorganic phosphate fertilisers) will be much better in terms of conserving this resource than if the meat has been fed on artificially fertilised grassland or grains from arable systems.

At the global level, the relative inefficiency of a meat-based diet can be understood in the context of the shift away from mixed farming with the effect that a significant proportion of animal manure is not returned to arable land. It has been estimated that globally, nearly half of the phosphorous in animal manure is lost to landfill, water courses or onto non-arable land.

These two examples, oil and phosphates, are just examples of the finite resources of the world that we are exploiting and depleting very quickly. There are other examples and as a society we will have to address them. There are real opportunities in relation to resource depletion for new green entrepreneurs to develop alternative systems and processes to overcome this increasingly important issue.

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- http://www.peakoil.net/

(Both websites accessed Friday 21 October 2011.)

- Soil Association, 2011. A Rock and a hard place – Peak phosphorous and the threat to our food security.
- Soil Association, Bristol, England

Note:
Appendix 4: China’s Water Crisis

China is suffering from a water crisis but this is not a uniform problem across the whole country. The southern and northern parts of China face different types of water shortage. The North is mainly characterised by a shortage of water volume, whereas the South mainly features shortages of water of sufficient quality. A major infrastructure development, the South-North Water Diversion scheme will take water from the moist basin of the Yangtze River and send it along three channels, each more than 600 miles long to the dry lands north of the Yellow River. The project will take 50 years to complete and will cost around RMB 400 billion. However, it is also important to realise that big infrastructure projects of this nature may also cause environmental damage.

According to statistics:

- The gross industrial output will suffer a loss estimated at about RMB 200 billion per annum due to water shortages
- Each year, the agricultural industry loses the equivalent of RMB 150 billion as a result of the same problem.

Global warming or climate change is aggravating the impact of environmental problems. For instance, the outbreak of blue algae in Wuxi Taihu Lake in May 2007. The direct cause of this outbreak is the discharge of organic waste and other pollution to the lake as a result of agricultural development, urbanisation and industrialisation in the areas around the lake. However, the cause is inseparable from climate problems including the warm winter in the previous year and the reduction in precipitation in that year.

The authorities in the area have made a number of improvements to the discharge policies to the lake and to the infrastructure around it to ensure better treatment of the waste that is discharged. This has included the diversion of fresh water from the Yangtze to the lake to dilute the pollutants. A decrease in the Nitrogen and Phosphorous levels in the water and in the eutrophication index (a measure of the likelihood of algal growth) is the result. However, cleaning up the lake is a long-term project and may take up to 20 years. Although efforts have been taken to develop less polluting industry in the area, much of the pollution still comes from agricultural production.

Chicheng County is about 170 km away from Beijing but is a major supplier of water to the capital city. Rice growing has been the major source of income for farmers in Chicheng for many years but this was banned in 2006 due to concerns over water scarcity. The ban on rice farming, which rendered more than 6,000 ha of rice fields
redundant, has improved the quality and quantity of water available in the county and has allowed them to supply an extra 20 million m³ to Beijing each year. Farmers have been encouraged to grow corn but the revenue from this crop is significantly less than from rice and the corn crop is more susceptible to the regular droughts that affect the area.

The ban on rice farming that has led to improvements in water quality has also improved the environment in the area to the extent that the area is becoming attractive to tourists and some farmers are actively developing accommodation to meet the growing demand.

There are many potential business opportunities in managing water use. Water conservation and more effective capture of rainwater could be areas worth exploring by participants in the Green Business Options programme.

Note:
Appendix 5: Organic Farming and Permaculture

Organic farming is a production system in which farmers do not apply chemical fertilizers, herbicides, pesticides or growth regulator to crops. They do not give feed additives to livestock and do not use genetically modified organisms and their products. Organic farming establishes and restores the biodiversity of the land and works with nature to ensure the agricultural production process is sustainable.

When the principles of organic farming were laid down, the emphasis was on soil conservation and fertility but since the 1960s, concern about the increased use of pesticides, herbicides, artificial fertilisers, animal welfare, loss of biodiversity and the growth in the use of non-renewable resources have influenced the development of organic farming. Food scares such as Bovine Spongiform Encephalopathy (BSE), sometimes called 'mad cow disease', in western countries has also increased interest in organic systems of food production.

Organic farming is an approach to farming where the aim is to create integrated, humane, environmentally and economically sustainable production systems. The principles followed are generally:

**Soil fertility and crop production**

Shallow ploughing, manuring and crop rotations which include nitrogen fixing plants are used to maintain soil fertility without the use of artificial fertilisers.

**Pest and weed control**

Herbicides are not allowed and only a few pesticides can be used, under strict conditions. Pests and weeds are controlled by preventive measures such as habitat management, crop rotation, choice of varieties and mechanical cultivation.

**Livestock nutrition and welfare**

As far as possible, livestock are land-based and supported from the farm's own resources with a minimum of bought-in feed. Animal health is based on preventive management and choice of breeds.

**Conservation**

In general, organic farmers are required to maintain habitats for wildlife. Because of the environmental benefit that organic farming can deliver, many countries have developed
policies that promote organic farming.

Organic farming can help resolve a series of problems brought about by modern agriculture, such as soil erosion and deterioration of soil quality. The extensive use of pesticides and fertilizers pollutes the environment, consumes energy, and leads to a decrease in biodiversity as well as reducing overall soil fertility. Because of the lower level of expensive inputs, the cost of organic farming could be less than that of conventional farming, whereas the prices paid by consumers for organic products could be 20 per cent to 50 per cent higher. It is, however, more labour intensive than conventional farming.

Organic foods refer to all agricultural and associated products which are produced and processed according to international organic agriculture production standards and certified by independent organic food accreditation institutions. These include grain, vegetables, fruits, dairy products, livestock and poultry products, honey and fisheries products. With an increase in environmental awareness, the scope covered by organic certification has gradually widened, it now also includes textiles, leather, cosmetics, and furniture.

Permaculture is a system of living that was first developed in Australia but which has now become a worldwide movement. Permaculture is a portmanteau word, made up from 'permanent agriculture' and 'permanent culture'. It is the conscious design and maintenance of agriculturally productive ecosystems which have the diversity, stability, and resilience of natural ecosystems, the harmonious integration of landscape and people — providing their food, energy, shelter, and other material and non-material needs in a sustainable way.

Whilst you should remember that Permaculture is about wholesale changes in lifestyle, in the context of Green Business Options, one of the important areas to consider is that of extending the principles of organic agriculture and considering the 'food forest' concept.

Forests are generally considered to be lush, abundant expanses of pristine wilderness, teeming with life, a richness of biodiversity and awe-inspiring to behold. Trees and plants intertwine, filling the spaces and making the best possible use of space, light and soil.

Forests exist without the intervention of man. Food forests replicate this scenario but in a managed system. In a food forest, everything is edible. By understanding how
forests grow and sustain themselves without human intervention, we can learn from nature, copy the systems and patterns to model our own forests — ones filled with trees and plants that produce food. We can design and construct the most sustainable food production systems possible; perfected, refined and cared for by nature. Food forests are a proven concept and may provide some inspiration for anyone embarking on a new, green business in the agricultural and food production sector.

The illustration below should give you an idea of the different elements of a food forest or 'forest garden'. In a permaculture system, these different layers in the forest garden would all be grown on organic principles, without the input of artificial fertilisers or other chemicals. The use of the different types of plant maximises the use of the land surface, the light and the space, making a very productive system. If the crops are selected carefully, each can provide support and protection for others.

If the forest garden is also combined with livestock such as chicken and pigs, in small and sustainable numbers, nutrients are recycled and the land is rendered more productive.

In some ways, this type of system of food production would mark a return to the more traditional types of system found in many parts of the world and which have sustained populations effectively up to the present.
References:

  (Both accessed Sunday 23 October 2011)
  (Accessed Monday 24 October 2011)

Note:
Appendix 6: Building Energy Efficiency Retrofit

Business opportunity:

The construction industry is growing rapidly with the development of the national economy and urbanization. Construction-related energy demand is also increasing. The Chinese government attaches great importance to energy-saving in buildings. It has issued a series of related policies, laws and regulations in order to promote the development of building energy efficiency.

1.5 billion sqms Target Allocations for the Energy-Saving Transform for the Heating System in the Northern Areas of China:

Policy requirements:

The Ministry of Housing and Urban-Rural Development (MOHURD) and the local administrations published a series of standards about energy saving to regulate the construction industry and to promote the concept of building energy efficiency. Local governments could stipulate a standard with higher requirements than the national standards. For example, the standard stipulated in 2005 by the Beijing government in "Beijing's local standards for public buildings energy-saving standards" required 65% of the energy-saving rate.

Beijing, Shanghai, Tangshan, Tianjin and Shenzhen were first selected as the pilot cities in the different climatic zones for implementing the building energy-saving programmes. Also, Tangshan is one of the pilot cities for implementation for the "Existing Building Energy Efficiency Retrofit". Recommendations are made for insulation for buildings exterior walls and roofs and for indoor and outdoor heating systems.

Demonstration of energy saving in buildings is not only applied in a city. It can also be used in one individual building to showcase new energy-efficient technologies and applications. Examples are the Olympic Village, Beijing and Expo, Shanghai. The China Merchants Property Developing Co. Ltd established a 800,000 sqms comprehensive construction project from 2007-2013 in four stages. With the application of solar water heating equipment, high efficiency chillers, low-thermal effect, energy-saving lighting, electrical equipment and energy-saving technology, the project make effort to reduce the annual carbon dioxide emissions from 35,000 tons to 28,000 tons.
Support by local governments:

The central and local governments have special funds for energy saving, supporting the pilot programme and to stimulate market transformation. MOF and MOHURD provide financial support for the following aspects for building energy saving:

- Financial support to the existing BEE retrofit including taxation refund to enterprises and companies involved in promoting the BEE;
- Finance for the pilot cities of Shanghai, Beijing, Tianjin and Shenzhen to ensure that buildings would save 65% of energy consumption;
- Allocate money for drafting of regulations for public buildings and to establish an inspection mechanism in the pilot cities;
- Developers of the demonstration projects who applied technology to reduce 65% of the energy consumption are entitled to apply for funds for programme operation.

Also at the local level:

- The Tang Shan local government has covered 50% of the expenses for BEE retrofit since 2008;
- The Tian Jin Local government reimburse RMB50,000 for each of the BEE retrofit pilot projects;
- The authority of Anhui City give preferential taxation treatment to enterprises which have invested in energy saving technology, or enterprises working in the building energy saving area.

Significance of BEE:

Building energy consumption accounts for 25% of the total energy consumption. Retrofit of existing buildings is one of the crucial components of China’s response to saving energy, reducing emissions and measures taken to mitigate climate change. There are around 40 billion square meters of existing buildings. Most of those constructed before 2006 cannot meet the energy saving standard and it will take more than 30 years to retrofit the existing buildings. An additional two billion square meters of buildings have been constructed annually in recent years. An increasing number of newly constructed buildings meet the energy saving standard. Take the city buildings as an example. As of 2008, among the 18 billion Sqm buildings, only 16% (around 2.85 billion) are energy efficient buildings.
Challenges:

- Developers are not interested in the BEE retrofit
- There is a shortage of professional technicians; only 20% of the technicians have received relevant training
- There is no relevant legal document issued to support the local standard in this area, plus there have been no regulations drafted for the inspection and supervision of the BEE retrofit
- Construction Workers usually work in areas of high mobility, low skills. Only 20% of the Construction workers have professional certificate.

Note:
Life Cycle Analysis (LCA) is a method for evaluating the impact on the environment brought about by a product during its entire life cycle, namely from the acquisition of raw material, product manufacture, usage through to disposal after product usage. This method is regarded as a kind of “cradle to grave” analysis of the product.

According to the definition of the International Organization for Standardization (ISO), “Life cycle analysis refers to an overall evaluation of the impact of the input, output and potential environmental impact in the life cycle of a product system.” After the 1990s, due to the promotion of the “Society of Environmental Toxicology and Chemistry” (SETAC) and Europe’s “Society for Promotion of Life-cycle Assessment Development” (SPOLD), this method has received widespread application worldwide.

The life cycle analysis process of SETAC:

- First step, define the evaluation purpose and evaluation scope.
- Second step, forecast the details of the input and output in the entire life cycle process of the product, fill in checklist.
  The checklist analysis of the life cycle process includes:
  - Acquisition and processing of raw materials
  - Transport, sales, usage, storage and repeated utilisation of products
  - Final disposal after use
  - Inputs include the raw materials and energy
  - Outputs include waste water, waste gas, waste slag and other substances released into the environment.
- Step three, use the data obtained from the checklist analysis to review the impact of the production process on the environment.
  This process is called impact evaluation of life cycle. It reviews the actual and potential impact of the raw material and energy used in the production process, as well as the effect of waste discharged into the air, soil or water courses on the environment and human health. The checklist analysis does not directly evaluate the impact of input and output on the environment, it only provides material for impact evaluation. Impact evaluation will transform the data obtained from checklist analysis into descriptions of the impact on the environment.
- Finally, carry out further analysis on the results of the impact evaluation.
The purpose of evaluating the possibility of improving environmental quality aims at reducing the environmental impact brought by the entire life cycle process. This process is called improvement evaluation of the life cycle.

**Note:**
Appendix 8: Environmental Impact Assessment (EIA)

You will have seen from the discussion of Environmental Impact Assessment (EIA) in Chapter 6 of Green Business Options that EIA is a way of anticipating the potential impact of a proposal and it can help in making a decision about whether to move forward with the proposal or not. This decision can be based on an understanding of the environmental consequences of the proposal. In practice, the EIA is primarily applied to development projects but in this case, it has been used to anticipate and consider the potential impact of your proposed green business and how any impacts can be minimised or overcome.

The distinguishing feature of an EIA when compared to other environmental management tools is that it anticipates potential issues and damage. That is, it attempts to predict the likely environmental effects of a proposal and provide a basis for the decision makers to respond to the information. The word, 'predict' suggests that there is uncertainty associated with the EIA and from the exercise you undertook, you will see that this is the case. You cannot possibly know all the potential impacts of a new green business at this early stage but it is instructive to try and understand where the impacts may occur. Experience with EIA as a tool and knowledge of environmental systems are often sufficient to enable the decision-maker to make reasoned estimates of the likely significant effects of the proposal. Alternatively, the knowledge that there is likely to be an impact of uncertain magnitude may be enough to suggest that some part of the proposal should be changed or that the precautionary principle should be applied and the proposal should be abandoned.

EIA can highlight when a project or proposal:
- Is likely to result in irreversible environmental change
- Causes adverse effects on valued ecosystems, landscapes or other environmental features
- Could result in adverse health effects on a community
- Provides an opportunity for environmental or social improvements.

This information can provide an opportunity for the decision-maker to use the information to improve the environmental performance of a project and, in doing so, improve the sustainability of the proposals.
The EIA can be used in a number of ways:

**As a design tool**

The EIA can be used to influence the design of a project during the planning stages. The early identification of environmental problems provides an opportunity for these to be reduced or eliminated by the redesign of the project rather than having to retrofit ‘end of pipe’ solutions when the project has been implemented.

**To improve certainty in decision-making**

Using EIA as a tool to contribute to the design of a project can be a way of ensuring that any environmental issues that are likely to be an obstacle to implementation are identified early and eliminated by changes to the design or reduced to acceptable levels.

**As a tool for providing information**

An important reason for undertaking an EIA is to provide information to the decision-makers about whether a project should go ahead. The environmental information may be just one of many factors taken into account but in the case of a green business option, it should have a significant influence on the final decision.

You have used the EIA as an early assessment of the eventual environmental credentials of your new green business but you can probably see from this brief description that undertaking Environmental Impact Assessments for other new businesses and other projects could, potentially, be a green business option for you.

**Note:**
Appendix 9: Bioremediation and Phytoremediation

Bioremediation is the use of biological organisms to solve environmental problems such as contaminated groundwater or soil. Phytoremediation is the use of green plants to remove pollutants from the environment and render them harmless. So, phytoremediation is a form of bioremediation as green plants are biological organisms.

In a non-polluted environment, bacteria, fungi and other microorganisms constantly work to break down organic matter. If an organic pollutant such as oil contaminated this environment, some of the microorganisms would die, while others capable of eating the organic pollution would survive. Bioremediation depends on the natural processes and works by using or enhancing the ability of 'pollution-eating' organisms to grow rapidly and enable them to break down the organic pollutant at a correspondingly faster rate. In other cases, specialised bacteria may be added to help with degrading contaminants. Because oil is an organic material, bioremediation is often used to help clean up oil spills.

A benefit of bioremediation is that it is a technique for cleaning up pollution that uses the same biodegradation processes that occur in nature and, because of this, depending on the site and its contaminants, bioremediation may be a safer and less expensive solution than the alternatives that include incineration or landfilling of the contaminated materials. It also has the advantage of being able to treat large areas of contamination in place so that large quantities of soil, sediment or water do not have to be dug up or pumped out of the ground for treatment.

The three main types of bioremediation are:

**Biostimulation**

Nutrients and oxygen - in a liquid or gas form - are added to contaminated water or soil to encourage the growth and activity of bacteria already existing in the soil or water. The disappearance of contaminants is monitored to ensure that remediation occurs.

**Bioaugmentation**

Microorganisms that can clean up a particular contaminant are added to the contaminated soil or water. Bioaugmentation is more commonly and successfully used on contaminants removed from the original site, such as in municipal wastewater treatment facilities. This method may not be very successful when done in-situ because it is difficult to control site conditions for the optimal growth of the added microorganisms.
**Intrinsic Bioremediation**

This technique is also known as natural attenuation. This type of bioremediation occurs naturally in contaminated soil or water. This is often seen in petroleum contamination sites. Research is going on to find out if intrinsic bioremediation happens in areas with other types of chemical contamination. Application of this technique requires close monitoring of contaminant degradation to ensure that environmental and human health are protected.

All three types of bioremediation can be used at the site of contamination (in situ) or on contamination removed from the original site (ex situ). In the case of contaminated soil, sediments, and sludges, it can involve land tilling in order to make the nutrients and oxygen more available to the microorganisms.

Bioremediation will not, however work for all types of contamination. Scientists have yet to completely understand all the mechanisms involved in bioremediation, and organisms introduced into a foreign environment may have a hard time surviving. It may not be feasible at sites with high concentrations of chemicals that are toxic to most microorganisms. These chemicals include metals such as cadmium or lead, and salts such as sodium chloride.

More research needs to be carried out to completely understand the complex microbial processes which make bioremediation possible, especially the bioremediation of metals. Scientists are also trying to understand why some microorganisms are better at degrading one kind of chemical than another. The development of better in-situ bioremediation strategies are also being studied since they are cheaper to carry out and are less disturbing to the environment. Currently, in situ treatments are problematic because naturally existing external conditions are too difficult to control (such as dense soil, cold conditions). Methods for better delivery of nutrients or microorganisms in situ and ex situ are being developed.

Because bioremediation uses the resources available in nature to clean up contamination, it usually means lower costs compared to chemical treatment processes and it is also less disturbing to the environment. However, because it is a natural process, it requires time.

Where bioremediation using fungi, bacteria or other micro-organisms is not feasible, for example in cleaning up areas contaminated by heavy metals, phytoremediation may provide a solution. As indicated above, phytoremediation is the use of green plants to remove pollutants from the environment and render them harmless. It can be used to
clean up metals, pesticides, solvents, explosives, crude oil, and contaminants that may leak from landfill sites (called leachates).

Certain plant species — known as metal hyperaccumulators — have the ability to extract elements from the soil and concentrate them in the easily harvested plant stems, shoots, and leaves. These plant tissues can be collected, reduced in volume, and stored for later use.

Phytoremediation has a number of advantages:

- Environmentally friendly, cost-effective, and aesthetically pleasing;
- It can be used to clean up a large variety of contaminants;
- Metals absorbed by the plants may be extracted from harvested plant biomass and then recycled;
- May reduce the entry of contaminants into the environment by preventing their leakage into the groundwater systems.

But inevitably, phytoremediation cannot be the solution to all problems. The disadvantages are:

- It relies on the natural cycle of plants and therefore takes time;
- The contamination needs to be within reach of the plant roots, typically three to six feet underground for herbaceous plants and 10 to 15 feet for trees;
- Some plants absorb a lot of poisonous metals, making them a potential risk to the food chain if animals feed upon them.

Research into phytoremediation is also finding ways to grow crops on marginal land and so enhance the productivity of these areas for agriculture and forestry. Being able to produce a wider range of crop species can make a major contribution to the efforts to cultivate marginal, stressed soil environments.

One added opportunity from this research is also the potential for 'biomining'. This is the use of plants to mine valuable heavy-metal minerals from contaminated or mineralized soils, as opposed to decontaminating soils. It is envisaged that the crops would be grown as hay and they would be cut and baled after taking in enough minerals. They could then be burned and the ash sold as ore. Ash from alpine pennycress grown on a high-zinc soil in the United States for example, yielded 30 to 40 percent zinc — which is as high as high-grade ore. Electricity generated by the burning could partially offset the costs of biomining.
Given that they are used to remediate heavily contaminated areas, we also need to ask if these techniques are safe. Bioremediation is very safe because it relies on micro-organisms that naturally occur in soil. These micro-organisms are helpful and pose no threat to people at the site or in the community. No dangerous chemicals are used in bioremediation. The nutrients added to make micro-organisms grow are commonly used fertilizers and because bioremediation changes the harmful chemicals into water and harmless gases, the harmful chemicals are completely destroyed. However, a site undergoing bioremediation should be constantly monitored, using soil and groundwater samples, to ensure that the technique is working.

In the case of phytoremediation it is important to study whether the plants grown to clean up the pollution can be harmful to people. The plants and air should be tested to make sure that the plants do not release harmful gases. Some insects and small animals may eat the plants used for phytoremediation and scientists are studying these animals to see whether the plants can harm them. Further research is also being undertaken to determine if these animals pose harm to the larger animals that eat them. In general, as long as the plants used for phytoremediation are not eaten, they are not harmful to people.

**References:**

A number of sources were used to compile this introduction to bioremediation and phytoremediation, including:

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(All sources were accessed on Friday 21 October 2011.)

**Note:**
Appendix 10: Case Study Number 1
Thin Bamboo Makes for a Major Industry

Motive for starting a business:
He Jie was born in Pingchang County in Bazhong region, Sichuan province. He studied Chinese in the university as undergraduate, and economy as postgraduate. After obtaining a doctoral degree from Beijing Film Academy, he joined CCTV to work in the field of strategic planning. In the eyes of other people, He Jie had carved out a brilliant career. Nevertheless, He Jie was not satisfied with his job, he hoped to start business in the future by himself, and do some challenging things in which he was interested in.

Business idea:
But things are easier said than done. The first difficulty He Jie confronted was what kind of business to start. One day, when He Jie was watching TV at home, one program about successful business startup by making charcoal with bamboo aroused his interest. After watching the program, He Jie found it hard to calm down for a long time. His first thought was that there was a large quantity of bamboo in his hometown. He could also do something by using such resources.

Understanding Green Business opportunities:
He Jie displayed no impatience in starting a business, he first used the Internet to obtain preliminary understanding about relevant information on bamboo products such as bamboo charcoal, bamboo laminated board. Then, he contacted friends working in the International Network for Bamboo and Rattan, and made a detailed inquiry on the development of domestic and oversea bamboo industry. After that, He Jie also visited Zhejiang and Fujian where the bamboo industry was very developed, and personally...
visited many enterprises specializing in the production and sales of bamboo products. In order to more accurately grasp market information, he also returned to his hometown Sichuan to communicate with bamboo growers and the local agricultural and forest departments.

Field survey and analyzing the market potential:

Through extensive market investigation, He Jie discovered that China boasts rich bamboo resources; the output of bamboo industry has topped RMB 70 billion. Bamboo not only features fast growth and high yield, but also has wide application. Using unused land to plant bamboo facilitates the preservation of mountain and forest, using bamboo material to process various bamboo products can save huge volume of timber; the processed bamboo charcoal features excellent absorption capability, and can be used for treatment of urban river sewage and household air purification. Bamboo industry is a green industry, with the improvement in people’s awareness in environmental protection, the market demand for green products increases continually. Meanwhile the state government also has introduced many policies to encourage the development of green environmental protection industry.

Business start-up:

In 2005, He Jie quit his job in CCTV, and returned to his hometown Pingchang County to start a business. He set up Sichuan Southwest Bamboo Eco Development Co Ltd to engage in the planting and processing of bamboo, in order to bring along farmers to participate in the development of bamboo industry. Pingchang County is a key state-level county for poverty alleviation, there are many mountain ranges in its natural surroundings, which is suitable for growing bamboo.

There are also many disused bamboo groves. Based on the local bamboo resources in huge volume in Sichuan, Southwest Bamboo Industry Company introduced new high yield superior bamboo varieties, so as to cultivate bamboo resources locally, open up processing plants to produce bamboo laminated board and bamboo charcoal sewage treatment products.

Business model:

He Jie regarded bamboo as an industry for continual operation ever since the day of the establishment of Southwest Bamboo Industry. His aim is not only to develop recycling economy and eco-economy in local area, but also to strive to create a kind of green
eco-oriented long term effective mechanism for increasing revenues for local people. Southwest Bamboo Industry has set up “Pingchang County Yanyangchu Bamboo Cooperative”, by adopting the pattern of “Company + Cooperative + Farmer household” as the key means, while bringing along over 4,000 farmer households to develop existing bamboo groves. The Company also utilizes barren mountain slope terraces as well as retired, fallow and abandoned land (left behind by the flow of farmers migrating to cities to seek jobs) to plant high yield bamboo. The cooperative provides farmers with seedling resources, technical guidance, training of processing technology and market information; the Company guarantees the bamboo farmers’ earnings by signing guaranteed purchase contract between the cooperative and the farmers. Southwest Bamboo Industry now has 50 staff members; it improves farmers’ labour skills, promotes employment and increases farmers’ revenues through the development in the local area.

**New products:**

At present, the Company has completed a seedling breeding base which also serves as a planting technology model park, the Southwest Bamboo Germplasm Science & Technology Park. It owns 440 mu bamboo seedling base, and operates 3,020 mu bamboo grove and one bamboo product processing plant, which produces bamboo laminated board and bio-modified bamboo charcoal, and plans to introduce bamboo vinegar product into the market. The Company’s customers include Asia’s largest wood pulp enterprise Sinar Mas Group, and the world’s largest furniture enterprise IKEA. The Company also has invested and constructed “Southwest Bamboo Museum” in Chongqing. The Company also plans to cooperate with the International Network for Bamboo and Rattan, and set up global bamboo industry research and development centre in Chongqing, through which it will acquire comprehensive information on global bamboo product development, product design, and market channel, in order to promote the Company’s bamboo industry for better development.

**Link with the local government policies:**

Ever since the inception of Southwest Bamboo Industry, He Jie has made active efforts to win government support. Through effective interaction between the Company and the government, today, Pingchang County where the Company is located has been listed as a key county for bamboo industry by Sichuan Provincial Forestry Department; the bamboo industry has been listed by the local government as an industry for key development in the “Eleventh Fiver Year Plan”. In the next three years, the Company is expected to encourage 20,000 farmer households to join the bamboo planting,
processing industry. The long-term target of Southwest Bamboo Industry is to dedicate itself to becoming a world leading bamboo resource cultivation and bamboo product manufacturer, through cultivating and developing bamboo resources, fulfill the target of “replacing wood with bamboo”, promote the wealthy life, production development and eco-excellence of local residents, and make contributions to protecting the environment.

Note:
Appendix 11: Case Study Number 2

“Ecostar”, Business Opportunities in Old Equipment

Original business ideas:

In the early 1990s after graduating from Nanjing Forestry University, Gao Guoqiang decided to do business and become the boss of his own business. He discovered that with the rapid development of the market economy, the demand for document copying by many businesses was increasing day by day. Nevertheless, the price of a copying machine at that time was so high that only some big companies could afford it. More small and medium sized enterprises would have to rely on external copying shops to provide copying services. Gao Guoqiang realized copying is a large market, and decided to open a copying shop by himself.

Minimize the start-up costs:

However, he soon discovered a great difficulty - copying equipment. Copying machines were very expensive and he did not have enough ready funds. Despite his eagerness to start his business, Gao Guoqiang was at his wit’s end. Once when he was chatting with a friend, he heard his friend said that he had bought a second hand car to satisfy his driving passion, then it occurred to Gao Guoqiang that since he could not afford new copying machine, why not buy a second hand one. So he finally bought a second hand copying machine, and opened his own copying shop.

Competitors:

Thanks to Gao Guoqiang’s conscientious work and attentive services, at the beginning,
his business was very brisk. However, the good days did not last long, he soon discovered that the number of copying shops also increased very quickly, and soon there were many competitors on the market. These competitors one after another used low copying price to grab market share. Faced with fierce market competition, Gao Guoqiang did not cut price to take part in the competition just like most copying shops did. He carefully analyzed market conditions and realised if his own copying shop also lowered prices, it might not necessarily enable it to emerge as a winner in the competition, because his funds were limited. Lowering prices would inevitably drag down profits, and it would not be long before rent and staff salary would become his problems. Nevertheless, if he did not take part in the competition, the business would soon lose market and face bankruptcy in the end.

**New business idea:**

Gao Guoqiang thought that such fierce competition was not necessarily a bad thing. Perhaps he could discover a business opportunity from the competition. Once, his copying machine was out of order, and he called a good friend who worked in a copying machine production factory for help, but his friend only came after several days waiting. He learned from him that, because new copying machines were very expensive, many copying shops all bought second hand copying machine, and machinery breakdowns occurred very frequently, so he was busy with repair work. It suddenly dawned on Gao Guoqiang that the biggest problem at his business startup was exactly the desire to buy a copying machine at premium quality but at a low price, this might be a good market; why not change competitors into customers? Then, Gao Guoqiang visited many copying machine dealers, and learned that the high price of new copying machine was due to the fact that the majority of copying machines were imported from abroad. Meanwhile, he also discovered that in overseas markets, thanks to mature technology in the production of copying machines, many enterprises often upgrade their equipment. Gradually one business idea began to take shape in his mind, namely importing second hand copying machine at low price, which were then processed for re-manufacture, so as to provide premium quality and low price copying machine for domestic enterprises.

**Reuse & Recycling:**

Gao Guoqiang carefully analyzed this idea. First, the market had tremendous demand for copying machine with premium quality and low price. Secondly, overseas second hand copying machines were low in price, so that his cost could be low and the profit margin could be large. Thirdly, he himself had operated a copying shop, which enabled him to have certain understanding of the copying sector. Finally, he also discovered that there
was no business engaged in copying machine re-manufacture in China, which means he had no competitors. Nevertheless, there were also many difficulties; the biggest problem was that copying machine re-production required superior technology ability. He consulted that friend who knew copying machine repair technologies; his friends said that he could recruit skilled workers for him.

**Consolidating the business model:**

In 2004 the Company changed its name into Nanjing Ecostar Office Solution Co Ltd, and successfully registered the “ECOSTAR” trademark. This brand has now become a famous brand in the domestic re-manufactured printing and copying equipment industry. At present, it is the leading enterprise in China’s copying machine recycling re-manufacture industry.

**Contributions to the green economy:**

Re-manufacture directly uses the parts of the products for production, so that most of the materials (about 85-95 per cent) and energy (about 85 per cent) in the original manufacture of the product are retained. Therefore, the re-manufacture industry can fulfil the re-utilization of resources, and save huge volume of materials and energy, reduce pollution, and lower the user's cost in purchase and usage.

**Note:**