

The report of how sustainable development is affecting the organizations. And, its development movement creates its business opportunities.

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(Module: D13SP Sustainable Practices in FM)

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Assignment Information:

“The sustainability Agenda is developing faster than any other part of the business agenda and ... the relevant understanding and skills are likely to be necessary conditions for success in the 21st century business world”

Livio Desimone, chairman 3M

The number of business leaders citing sustainable development as the major new challenge of the next century grows daily. They are alive to the significant new opportunities it will provide to win competitive advantage and add shareholder value. They know the successful business of the future will be those that have embraced the concept of sustainable development.

As the facilities manager for your organization you are required to write a report of recommendation to the board of directors. In your report you should critically analyze the above statement, citing a number of key and relevant sources which support your argument for, or against the presented opinion. Your report should also discuss some of the fundamental ways in which an organization could address the sustainability agenda, and present an outline plan implementing a sustainability policy.

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Introduction: When Industrial Revolution stimulated technical development and introduced mass production into our societies, the traditional production that relied on a single person or family as units of craftsmanship faded its colour. New invention and machinery automation drove people left their tradition unit into the commune production. From the day of Industrial Revolution begin to present, people have become small components of the society. Least amount of individual persons can survive outside the society. The development of industry and economic have already differentiates the people into three classes. They are the rich who are the capitalist and plutocracy and own the organizations. The rich dominate most of the resources through their organizations. The middle class is the 9 to 5 people who are the knowledge workers responsible for maintain the proper running of the organization. The proletarians who usually are labour or unskillful workers are responsible for frontline production. If this phenomenon keeps on going like that, the final result we shall see is injustice between rich and poor. Poverty becoming seriously amount the middle class and the proletarians. As Miss Maja Dercar (2010), the first prize winner of The Vinyl 2010 Essay Competition has said in her essay, “the developed world living in affluence and fear losing its abundance.” This phase has reflect the developed world has its own problems that their citizens so fear that they are losing their quality of living. And suggesting the direction of their sustainable development should be in the area of the balance of prosperity and resources within the developed world. The other winner, Mr. Francesco Falcone (2010) just has another concerning the hostile confrontation between the different parties, such as trade unions and organizations as much as environmental crisis. The humanity and intimates within the commune would be diminished as the result. This is the prime potential problem existing in the modern world and it is about to doom. This is their expecting direction of sustainable development.

Then, how about the developing world? Many of our people would suppose to simply kill poverty and disease. In fact, this is not that simple. There are hints can be found in the prime minister, Tony Blair’s eyes (2008). Tony Blair has started his speech by introducing our world is in danger in two directions. First, the countries are competing on the development of massive destruction arms while some other countries are allowing the growth of terrorism. The second is the poverty and environmental degradation most affected by climate change. He further emphasis in his speech that the essence of the sustainable development in the fringe of economic development, social justice and environmental improvement must go hand in hand. Stavros Dimas, the European Commissioner for Environment (2007) has performed his speech “EU leadership in energy for sustainable development” implying that the Industrial

Revolution aroused two-third of global greenhouse gas emissions that severely affect food production in Africa. This adverse affect will not cease in the present early half century. Since, our global energy demand is still increase to 60% by 2030. As a whole, the third world is suffering both poverty and severe climate change. Further the blaming for the one side rapid economic growth by ignoring other developing countries in suffer, the percept prime cause of the pollution is cost-free. There would be no peace and security within our planet when we still allow our climate change. The fine way to tackle terrorism is prevailing injustice and poverty in the third world (Tony Blair, 2003).

In fact, sustainable development is not only limited to environmental protection, energy conservation and better working environment. Sustainable development should be further interpreted as living quality, security and resources conservation. Living quality of the developing world should be stepped up while the developed world should be maintained in level that they are happy. Security is that we do not racial differentiation and wipe out injustice. When we talk about the resources conservation, it is as simple as using less energy each year. In this issue, there is a very brilliant conversation between the interview of Bjorn Stigson (2008), a successful businessman representing 200 international companies asking about how to response to the challenge of sustainable development. He replied, "If we want to alleviate poverty then you need economic growth and the economic growth will not happen unless we have access to energy and that energy is normally fossil fuel energy and that fossil fuel is creating climate change. So, the big balancing act now internationally when we talk about how we deal with climate is to find this balancing act between development, poverty alleviation and dealing with climate change."

Why our future successful business should embrace with concept of sustainable development? This question is simple. A good business should be founded on good place for business. Everyone knows there would be no business when the countries are with poverty, government in corruption, people found unsecured, energy shortages and wars. Or, even terrorism can be found everywhere in the country. Business would not work no matter it happened in the developed world or third world. That is why many organizations still investing every penny to the developing world in order to assist them. When they find their way to earn their living, they get rich. They buy. When they have education and better allocation of wealth and opportunity, we have market and business opportunities. And, that is why some giant organization like Royal Philips Electronics N.V., they develop wood-burning stove for the third world. It can deduct 90% of smoke in order to prevent excessive emission of volatile toxic

substance. The consumer does not recognize the benefit of this products but their marketing plan is intensely focusing on training and education by building up their awareness. Clean water equipment by using UV purification is another Philip's product to the third world is another environmental friendly products. They further embedded their R & D department in those regions. The organization is preparing for the future third world to mature by assisting and educating them. In time, they will be first to reap when the market mature. Since, the organization has already built a trust with these people. According to Miss Indra K. Nooyi, the president and CEO at PepsiCo speech on 18th December 2006, she described that India has become such an attractive destination for foreign investment. However, she further said, "It is not well know today, but when PepsiCo. Launched its business in India, we undertook some pioneering efforts. We began working directly wit thousands of farmers in farmers in Punjab. We shared technology, including introducing new tomato varieties that have tripled yields."

Those businessmen, they invest in the developing countries not merely because of their ethics. On the contrary, they are all long for constructing a favorable business environment and future profit. Just like our successful businessman, Mr. Li Ka-shing (2008) has said in his speech titled 'The Art of Giving' that the social progress requires courage, hard work and perseverance; more importantly, they know that a fair and equitable society is built on trust and integrity.

That is why most of the international organization has addressed sustainable development as their company strategy. Since, an organizational profit policy mainly pays attention on increasing the productivity without any action taken to sustain the resources our planet has. Sooner or later, we will suffer the contrary effects of declining productivity, dually also have an adverse impact on poverty (United Nation, 2004).

The Agenda 21 in the other word is the direction that implied where the organization in the future should go in order to success.

Executive Summary

Our organization has possessed over two hundred properties within South East Asia. And, some of our properties are more than 60 years while the others are elite type properties complex with shopping malls and residential buildings. Those elite type properties have just in use for not more than ten years. In the past, sustaining the function of the facilities in buildings as basis requirement could satisfy the markets.

Since, our properties are distributing in the different regions of South East Asia, the sustainable facilities management crenulated in standard. Moreover, our sustainable management system should be in the same objective and policy in every area.

Under our knowledge of agenda 21, the sustainable development is also about making sure that these environment, social and economic benefits are available to everyone, not only for the privileged few. Our quality of life is not an expendable, especially for our forthcoming generations (sustainable management, 1999). Our future business will stand on the firm foundation of this issue. We believe the facilities management with sustainable practice will lead our organization to a success. It also improves the quality of the city life. At the same time, we hope that our organization will bring about little help to our blue planet becoming bluer. Moreover, it is believed that this change is a necessary. Since, forthcoming strict legal requirements about this issue would be implemented within the countries.

Our Sustainable Facilities Management is the direction of the activities not only within the built environment but the consequent effect minimization surround the built location. It also gives direction of how to manage the properties and workplace under the influence of the energy conservation. Due to our future direction is reducing the waste generation from our business activities, side business related to recycle products will be our crucial analysis the possibility of introduces to the markets. Upon the corporate level, strategy and operational objectives will be formulated and conducted in order to give clear framework to the personnel to perform their daily work in a safe and efficient manner. And, facility manager has the responsibility to sustain our properties in a high value through the improvement of services quality. We also hope that some of our aging properties could be conserved at an elegance style and with advance technology within.

Sustainable development should be within the range of property strategy, space and energy management to waste management. In order to maintain our different kind of properties in regions, we should firstly modify our strategy plan. Since, the plan is the crucial resource control tool for the Facilities Management Department. With an updated strategy plan in hand, we have clear parameters for preamble the facility activities and our future recycles products business. All business activities will be analyzed if they are away from the sustainable facility management plan's strategy.

7 stages for implementing of the sustainable management system:

We shall take seven phases to undergo the sustainable management system as follows:

1. Management commitment and Establish the goals and objectives that concerning historic structures modification and sustainability of new structures. An organizational statement should pinpoint not only to sale performance but also the energy control of the facilities, waste management and recycle products research and development.
2. Identifying and ensuring the legal compliance and other requirements.
3. Development of the targets and programmes.
4. Implementation and Operation of the Sustainable Management System.
5. R & D, Auditing and Review
6. Sustainable Management System Acknowledgement.

Management commitment

The consideration of the sustainable management should be within the following issue as follows:-

1. Cost saving through the energy conservation and suitable material procurement method.
2. Marketing opportunities by re-cycle product development in long term cycle.
3. Research and Development Group to assist estates and product development.

Identifying and ensuring the legal compliance and other requirements

At this stage, it is to identify the local legal requirements affecting the organization and the early possible opportunity to address any compliance matters. It is also suggest to further analysis the agenda 21.

Development of objective targets and programme

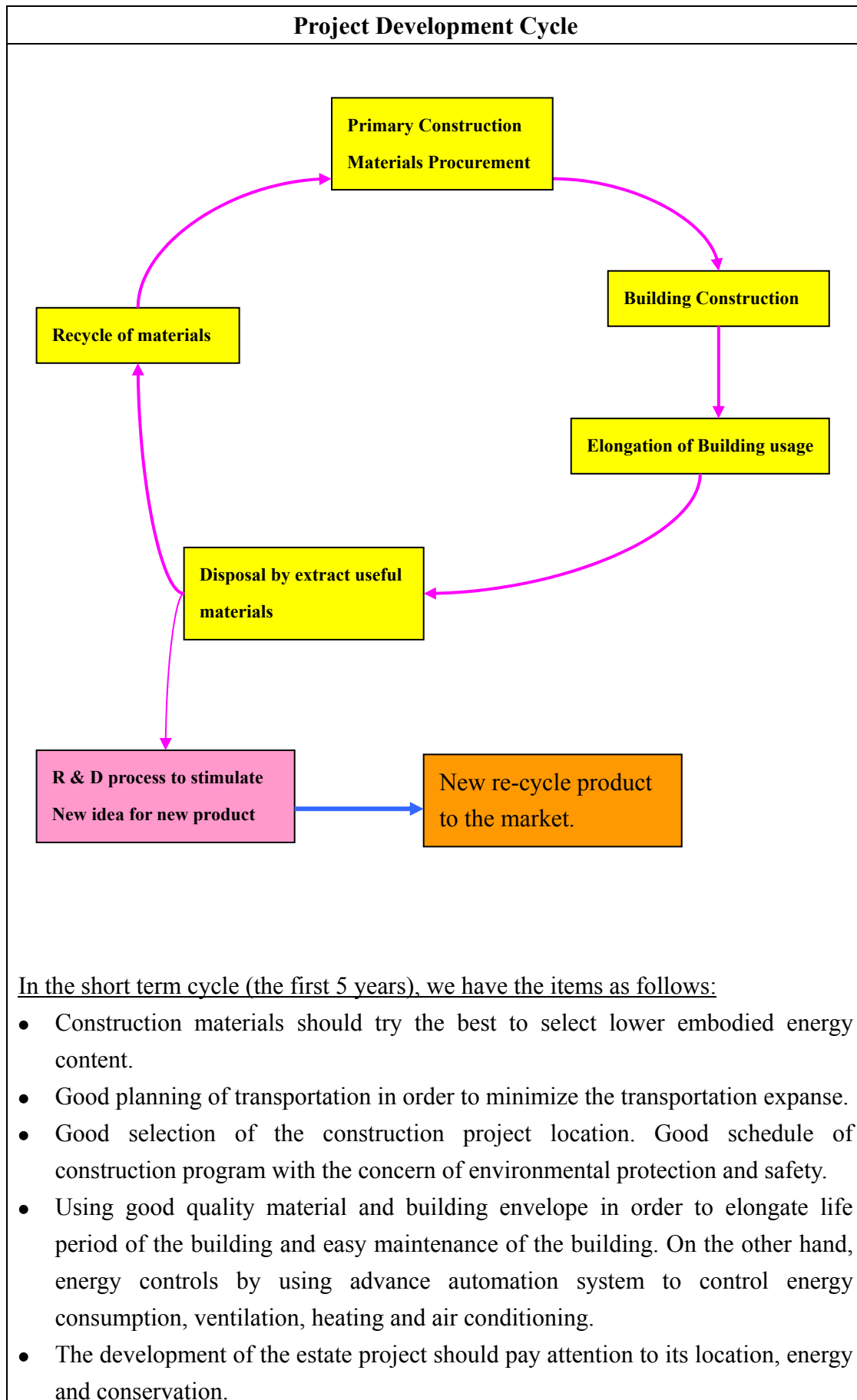
Our goals within the forthcoming five years period, we suggest our organization should cut down at least 20% of our present our energy consumption. As a result, our organization can reduce our expanse at least US\$1,234,598 to the year of 2013. We also recommend our future project development will set criteria of the building development design of elite type superstructure addressing with both the internal living environment and external environment impact. Our future development of elite type housing will try our best not to break down the historic building adjacent if our procurement location do included with historic building. Those construction groups as a result become the landmarks within the social community. New superstructure group design tends to bring in quality of human life and energy conservation.

Implementation and Operation of the Sustainable Management System.

Besides there are policy, goals and objectives, our time frames of implementation the sustainable facility management as below:-

1.	Long term cycle:	10 to 15 years to attain complete sustainable facility management which bring about the quality of life and energy conservation to the building complex with the address of historic building improvement. Dual core business of the recycle products is mature.
2.	Medium term cycle:	5 to 10 years period, our newly design construction should comply with the objective to bring the quality of life and fully energy conservation.
3.	Short term cycle:	Present to 5 years, electrical energy cut down and elongate the facilities usage and other action should be taken to enhance sustainability: • Reduce the use of the electric energy. • Review and closely monitoring of the procurement method. • Protection of the historic properties.

In order to fulfill our term cycle, material procurement is one of the crucial issue for the organization. In this aspect, we suggest to use Life Cycle Assessment, LCA (Weir, 1998) as the main method selecting usage and maintenance of material and facilities. The LCA will be interpreted by implying suitable elements. The diagram as shown below is called Project Development Cycle:-



- Setup Research and Development centre which responsible for analysis the possibility of transform waste like materials and facilities into prototype products.
- Analysis the possibility of the further develops waste like materials in fine product and introduce to new market.
- 4R in re-cycle process. They are
 1. Reuse waste as sources.
 2. Recycle to reduce the disposal cost.
 3. Repair before replacement.
 4. Re-integrate the waste like parts into new prototype products for research and development purpose.

Good location choosing on building project development is very important which a crucial influence to the future building value is. It is suggested that we should purchase such land for development better to concern its potential rise in value. The other concern is whether the land investment cost is too high. On the other hand, there should be adequate transportation to the area. The estate development should also address our marketing positioning and image. Micro-climate is also one of the final concern that affecting the design of the superstructure. The design of the superstructure influence how much direct sunlight received as a result leading to energy conservation? Historical structure is a precious that we do not have to make it goes down. These kinds of structures give light to innovative architectural design making our elite estate more valuable. Let us see an example below:

Photo 1: this is the redevelopment project. The project itself comprise of one 1923s three stories with a linkage of an advance residential building. The historical building has already been changed into an elegance restaurant.



Photo 2: The lower level of the resident building is a shopping mall. There will be social community and a place of relaxation for our local citizen.



Photo 3: What a relaxation walk along the historical building's classic pedestrian walkway.

To my point view, the location of the building complex is good. It also possesses the purpose of the energy conservation although there are advance technologies built-in.

The architectural designs give us some kind of paradox between the old and new. The building complex gives us a feeling a cool and iron like isolation. Aesthetic but not elegance. The envelope of the new building may be better constructed in Art-deco style.



On the other hand, the high rise superstructure part of this estate complex has possessed balconies. It is the naturally ventilated open-plan. This type of the design can surely reduce the energy consumption which relied on natural wind for air circulation.

In this first five years, there should be a fully energy policy commitment in order to copulate the foot step of sustainable architectural design. The design itself should

address the Annual Energy Consumption level and the district degree dates contribution. Those above factors may affect the building's appearance, quality of engineering services, and the occupancy pattern. This is on the other hand influencing our organizational image and market positioning in the market worldwide.

The superstructure itself is also a concern suggesting that advance building technology should be adapted large grid and less structural column. It can provide more space area and accept more sunlight inside the superstructure.

The forthcoming 5 to 10 years of Research and Development on the re-cycle product (the medium term cycle).

With the interesting topics when the sustainable management activated within the organization, the productivity of the core business will be some sort reduce. Since, part of the profit will be distributed to the investment of R&D of new recycle products during the medium term cycle. Or, a little expanse carries out waste management.

However, it is no question that our organization would grant a good image from the public. New recycle products may help to develop a new business opportunities in the third world.

It is suggested that the R & D budget obtain from profit of the core business during the medium term cycle (2% from the profit sum).

Tradition (information from the Project Supervision and Control, unit 4-11, Heriot-Watt University)

$$\text{Productivity} = \frac{\text{Financial Output (Monetary value)}}{\text{Labour Input (man-hours)}}$$

Modified formula

$$\text{Productivity:} = \frac{\text{Profit Output}}{\text{Labour Input (man-hours)}}$$

Modified formula with sustainable development

$$\text{Productivity:} = \frac{\text{Profit Output- 2\% of Profit Output}}{\text{Labour Input (man-hours)}}$$

The concept of re-cycle product develop is based on waste or waste like parts re-integration in order to produce new products. The definition of waste is the consumption of resources for activities which do not add value to the service that is rendered to the customer (SEEDO, 2002). Waste has no value at all. However, perception of substance as waste or waste like material is depended on the organizational technology level and individuals evaluation.

In the other words,

Wastes value = \$0

When the waste is disposal, Waste cost = embodied energy (MJ/Kg) X treatment fee per unit (Kg/US dollars) + storage fee + transportation fee + waste taxes.

That means waste disposal has to pay.

When we use 4R re-cycle process through research and development, we have no waste cost.

The recycle product cost = R&D expanse + waste value + manufacturing cost.

And, there is no involvement of raw material procurement cost. Waste value = \$0

The actual recycle product cost = R&D expanse + modification cost.

The research and redevelopment of recycle product should be simple and innovative at first.

Waste Cost > The recycle product cost

Let us take an example as follows:-

In the building construction site and estate maintenance project, we have many automatic emergency lights. That emergency light should be replaced after a period of

time. All of them will be disposal. In fact, they can be re-integrated into other products with cheap cost.

There is a picture of the successful prototype in the following page:



This is the prototype of the recycle product of a desk lamp with emergency light function. The lamp is using remote control to operate it.

The cost of the recycle lamp prototype = remote control electronic equipment (us\$10)+ all direction lamp (\$4.5) + R & D fee (\$20)

Total of the prototype with R & D fee = us\$34.5. It would be cheaper if mass production.

The way to evaluate both the properties and recycle products business in the long term cycle

In the long term cycle (10 to 15 years afterwards), it is time to have a major review and comparison the productivity between the properties and recycle products. We believe the future world wide corporations will tends to develop dual core business

include waste transformation production. And, we believe that our dual core business is mature after all.

R & D, Auditing and Review

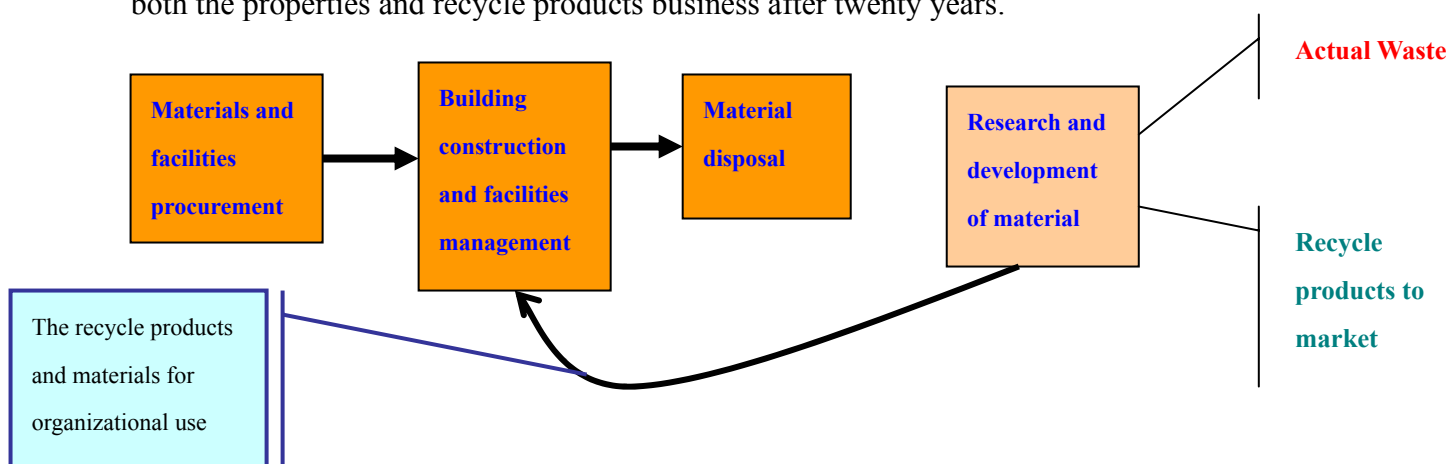
1. The percentages of landmark construction under our corporation
2. The living quality of our estate worldwide.
3. The compare of the energy conservation between the period of short term cycle and long term cycle.
4. The ratio distribution of usage 4R re-cycles process in the treatment of waste and waste-like materials. Differentiate which one of the Rs influence the recycle products and its productivity the much.
5. Differentiate if there are any increases of our properties value.

Up to this period, we expect the organization is fully compliance of the sustainable facilities management.

Conclusion

Most of our leaders in our world believe we should embrace sustainable development in order to survive. We set up our sustainable plan to make our company adopt the sustainable management system within 20 years afterwards.

On the other hand, waste recycle products manufacture will be a potential business in the future. Least organizations have ever intended to engage this kind of investment. It has risk certainly but it's related to the future survival of our organization. It is also a mammoth profit in the future. However, everyone knows we cannot change business nature rapid and invest large amount of money into this recycle products. So, we suggest the organization should distinguish into three period business developments. As a result, the organization will have its ability to manage dual-core business with both the properties and recycle products business after twenty years.



The concept of the dual-core business

In the first 5 years (short term cycle), our architectural design will have a change in attention to energy conservation and living quality. The location of the elite type estates is another crucial concerning issue. Historical structure would be at the best preserved in order to establish a landmark of the commune. The next 5 to 10 years (medium term cycle), there would an establishment of the research and develop sector to analysis the possibility of the recycle products from our construction wastes and outdated facilities. It is suggested 3% of the profit will be distributed to this development. It is in anyway affect the profit and productivity of the core business. A close monitoring of the impact is a necessary. The new sustainable facility management at this stage is only a trial. The new management is only half mature.

The approach of the long term cycle from the tenth to fifteenth years, we believe our sustainable facilities management is mature. The dual-core business will run smoothly with profit. There will be market disposition aroused that makes some of the organizations go down. Harsh regulation protected our environment appears. Still, there must be review and audit of the business to ensure the business in the right direction.

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Appendix
(Sustainable Development Plan of the
forthcoming Five Years)

Problem-solving, innovative thinking and active employees will be explored through each regional education for sustainable development contexts								
Priority #1								
Outcomes	Strategies/Activities	2008-2009			2009-2010	2010-2011	2011-2012	2012-2013
		Planning	Begin	Implement				
Employees will achieve the organizational mandated environmental protection literacy including energy conservation policy and programme, basic knowledge social studies	Tutors will implement related education for sustainable development tutorials in the conference room using the documents prepared by City Polytechnic University.							
	The employees will understand the relationship between living and non-living matters of our habitants and communities.							
	The employees and senior management will join in activities that show their understanding of sustainable development.							
	Performance, concert/plays will pinpoint to education for sustainable development will be issued to our elite estates and other social community areas as appropriate.							
	Organizational members will use computer-based resources including appropriate websites, CD ROMs and audio-visual resources to reinforce sustainable construction, energy conservation and ecological literacy.							
	Consultants will highlight appropriate sustainable literacy and meeting with our							

[illegible]

• The design department will identify sustainable procedures in facilities related to consumption of water.	• Energy efficient appliances will be our procurement policy to be first concern to purchase in our offices and staff rooms.									
	• Computers with energy saving will be explored.									
	• Control for turning off lights and staggering the turning on the equipments will be conducted.									
	• Promotion to that energy saving construction design would be awarded.									
	• Innovative in Energy and Environmental Design will be considered.									
• The organization will support 'green estates'	• Plumbing fixtures will be upgraded to water saving models.									
	• Water facilities will be reviewed if any possibility for more water saving.									
	• Estates based garden planting program will be concerned within each properties development.									
	• Increase the use of recycled paper.									
	• Usage of environmental friendly cleaning and building products.									