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2009

Bachelor of Commerce Best Business Research Papers

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Original citation:

Casey, T. (2009). Small but mighty: Environmental sustainability in Singapore. *Bachelor of Commerce Best Business Research Papers, 2*, 23-34.

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ABSTRACT

This research paper's objective is to identify the ways in which Singapore is a global leader in environmental sustainability. Focusing on water conservation, reclamation and waste management, this paper describes the initiatives that Singapore has successfully implemented, the ways in which it has done so, and suggestions on how other developed countries, such as Canada, can become more environmentally responsible through the integration of government initiatives and policies. Results indicate that Singapore is successfully meeting its various goals, and is striving to further its development of initiatives in an effort to continue to be a global leader in environmental responsibility.

INTRODUCTION

Although environmental sustainability is recently on the list of priorities for governments of the most developed countries, it is a priority that often gets neglected despite the severe warnings of the irreparable environmental damage given by many highly-educated environmentalists. There are many reasons that environmental sustainability is not receiving the undivided attention it deserves from government policy makers, but in the end it all comes down to one: money. Being environmentally sustainable not only involves an initial capital outlay, it also takes time to show financial benefits. This delayed pay-off is inevitably an unattractive quality, especially next to alternative forms of resource usage which can bring both companies and countries timely wealth. With the current conditions of the weakened global economy, it is has become increasingly difficult for environmental sustainability to remain a top priority.

The time has come for countries to stand up and take notice of what other countries are doing in the name of environmental sustainability, such as Singapore. Singapore has become a global leader in environmental sustainability through resource management and waste reduction. By following of Singapore's responsible example, a great deal could be done to preserve what is left of the environment that has borne the brunt of severe human abuse over past years. With the average ecological footprint of residents of high-income countries ranging between four and 10 hectares per person, and with the global economy stretched incredibly past the earth's carrying capacity, drastic changes must be made to the ways in which resources are used and waste is managed (Valente, 2007).

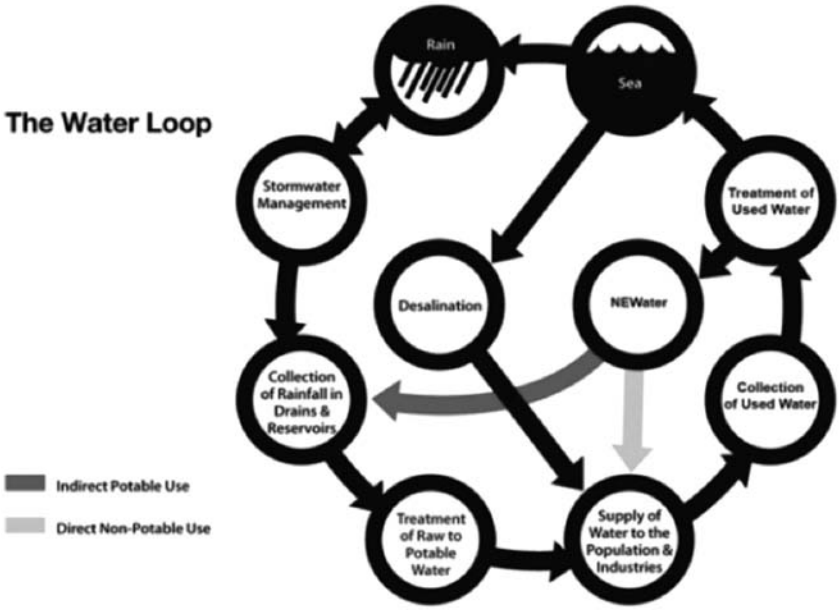
Singapore is a sovereign city-state with a population of approximately 4.7 million people, and a land size of approximately 700 square kilometres, making Singapore the smallest of all Southeast Asia's nations (Central Intelligence Agency, 2009). Singapore, after separating from Malaysia, became an independent republic in 1965. Since that time, falling into the "small but mighty" category, Singapore has moved to fifth place on the list of the world's wealthiest countries, and subsequently the tenth most expensive in which to reside (Wikipedia, 2009). Due to land and population size, a significant challenge is presented to Singapore in the use and management of resources and waste.

In response to these challenges, Singapore has developed extensive cutting-edge technologies which have dubbed it a global leader in environmental sustainability. There are several strategies and technologies that Singapore has employed; most significant are those related to water usage and conservation, and waste management.

WATER CONSERVATION

In 1961, Singapore signed a one-hundred-year agreement with Malaysia through which water, a significant amount of Singapore's supply, would be sold to Singapore by Malaysia at $0.03 per 1000 gallons (Branca, 2009). This fixed price is locked in contractually for the full one-hundred-year term, and does not rise as inflation does. Naturally, this has caused a great deal of friction between Malaysia and Singapore, and when the contract expires in 2061 there is a good chance that Malaysia will be unwilling to renegotiate a new contract. To reduce its dependence on Malaysia, and in an effort to be environmentally sustainable, Singapore has gone to great lengths to both conserve its current water resources, and to create more of a resource through a technology it has created called NEWater. In addition to imported water, and NEWater, Singapore obtains some water from desalination, and a large portion from rain-water reservoirs (Branca, 2009).

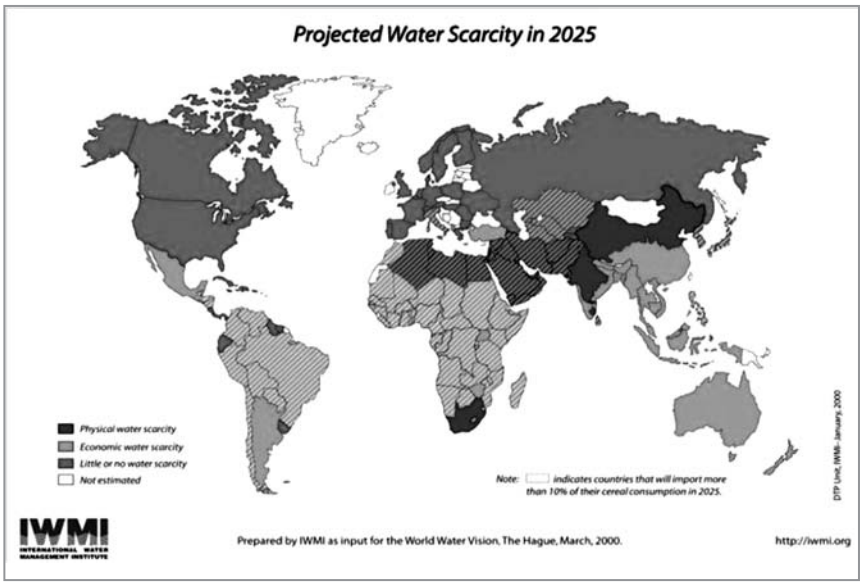
Figure 1: Water Usage in Singapore (Public Utility Board, 2008)



NEWater is the brand name that has been given to Singapore's "reclaimed" water, meaning that it is "potable" water that has been recycled from waste water. Potable water can be defined as "water that is safe to drink. Potable water is free from pollution, harmful organisms and impurities," (water-technology.net, 2009). Currently, Singapore has three water reclamation plants that can hold a total capacity of 20 million gallons of water each day. About six per cent of these 20 million gallons of water is used for indirect potable use. This means that it is mixed in with the potable water Singapore brings in from Malaysia, and accounts for about one per cent of the water Singapore requires each day. However, the rest of the 20 million gallons that is not used for potable purposes is used for industrial purposes that do not require potable water (Public Utility Board, 2008). While this is not currently a significant amount, it is expected to increase as the technology becomes more advanced.

Although NEWater is safe to consume, and technically potable, there is still a psychological stigma that the public has attached to consuming reclaimed water. This is why the small amount that is used for potable purposes is diluted with the traditionally-filtered potable water at the reservoir site. It is expected that over time, as the technology becomes more widely recognized and accepted, the general public will become more comfortable with consuming NEWater. The use of NEWater reduces the amount of waste that is produced by the country; it also reduces Singapore's reliance on Malaysia, or any other nation, for a limited resource so crucial to its population's existence.

Figure 2: Water Scarcity (NationMaster, 2000)



Water consumption is a perfect example of the epidemic of the resource funnel; life supporting resources such as water are on the drastic decline, while the consumption of such resources is steadily increasing (Fig. 2).

Singapore's Public Utility Board (PUB) has created several initiatives to encourage water conservation throughout the country. Appropriately, the PUB's tagline is 'Water for All: Conserve, Value, Enjoy'. Their two main goals are (1) "ensure a diversified and sustainable water supply, which includes local catchment water, imported water, NEWater, and desalinated water," and (2) "to engage the People-Public-Private (3P) sectors to conserve water and take ownership of water resources," (International Water Management Institute, 2000). As these two goals are interdependent, it is obvious that they will not be easy to meet. However, with Singapore's known strength in implementing processes and procedures, there has been a great deal of success related to striving to meet the goals of the Public Utility Board.

Commercial Segment

The non-domestic, or commercial, segment of Singapore accounts for roughly half of the country's daily water consumption. One such initiative is the Water Efficient Buildings (WEB) program, which encourages companies to adjust the water usage in their buildings to achieve water efficiency status. This is done through the use of water efficient fittings, and monitoring by the company's management of water consumption. Companies are strongly encouraged to recycle and reuse water wherever possible, and to use NEWater for non-potable purposes rather than using unnecessary potable water. As a result of the PUB's efforts in this program, there are currently over 1,200 WEBs located in Singapore. In addition, the PUB has a Water Efficiency Fund. This fund is used to assist companies in creating ways to manage their water demand and consumption, to adopt water conservation methods, and to develop processes alternative to those which require water. This fund illustrates the dedication Singapore has to reducing its consumption of water, and subsequently, its environmental impact. While financing is one of the strongest barriers limiting companies from focusing on environmental sustainability, the Water Efficiency Fund destroys such barriers, and enables companies to more easily adopt environmentally sustainable initiatives. Furthermore, the PUB has created the 10 Per Cent Challenge program which, as the name suggests, challenges companies in Singapore to reduce their water consumption by 10 per cent. This is achieved through water conservation equipment, as well as monitoring and resource management. Not only does this program benefit the environment, it also cuts down on a company's operational costs by reducing its utility bills (Singapore Government, 2008a).

Domestic Segment

As previously mentioned, the commercial segment of Singapore accounts for roughly half of the country's water consumption, which leaves the other half to the domestic segment. Through a variety of conservation and awareness programs, Singapore has managed to reduce its domestic water consumption between the years 1995 and 2007 from 172 litres per capita per day to 157 litres, respectively (Singapore Government, 2008b). One of these programs, again created by the Public Utility Board, is the 10-Litre Challenge. Similar to the non-domestic 10 Per Cent Challenge, this initiative challenges Singaporeans to reduce their water consumption by 10 litres per day through a variety of methods. First, there are easily accessible tips on how to do this on a website made available by the PUB. Secondly, similar to the WEB program, there is a Water Efficient Homes program through which PUB officers visit high-consumption households to install water-saving devices, free of charge. This program also offers advice on residential water conservation practices. Although it is currently only a suggestion, effective July 2009 it will be mandatory for all domestic households (newly built or undergoing renovations) in Singapore to adopt the use of dual-flush, low-capacity flushing cisterns, thus reducing the amount of unnecessary water wasted through sewage. In addition, a voluntary labelling scheme is in place to give consumers accurate, detailed information on the water efficiency of an appliance, or other water-consuming products, at the point of sale. This is in attempt to educate consumers on the efficiency of products available to them. While this is currently a voluntary practice, certain products will be given mandatory labelling requirements, come July 2009, while others will join them once there is more choice for consumers for those particular products (Ibid).

WASTE MANAGEMENT

It is no surprise that Singapore, through a strictly regimented recycling policy, has implemented one of the most well-organized, efficient waste management systems in the world. There are three main channels through which waste is managed, which include incineration plants, recycling plants, and Singapore's one and only landfill. As it stands, 54 per cent of Singapore's total waste output is recycled into alternative uses, leaving 43 per cent to be incinerated, and a mere three per cent to end up in the landfill. There are currently four incineration plants located throughout Singapore, and as mentioned, only one landfill. This is largely due to the fact that land is scarce in Singapore, which has resulted in the pressing need for an alternative in the management of waste, such as incineration and recycling. Incineration does produce ash which ends up in the landfill; however, the resulting ash is a 90 per cent reduction in volume from the amount of waste that is initially incinerated. Additionally, the heat that is generated from the incinerators is used to generate electricity throughout Singapore, which is responsible for approximately two per cent of Singapore's total electricity usage (Ministry of Environment and Water Resources, 2009).

There are several ways in which the Singapore government works to reduce waste. Educational programs have been created in an effort to engage and inform the public and companies on how to reduce waste and why waste reduction is important. Another successful program that has been adopted throughout Singapore is the monthly "Bring Your Own Bag" campaign. Through this campaign, usage of environmentally harmful plastic bags is discouraged to the point of unavailability on one day of each month. On this particular campaign day, vendors all over the country restrict their distribution of plastic bags, which not only encourages Singaporeans to bring their own bag, it makes it a necessity. This is the kind of policy implementation which leads to the success in which Singapore has experienced. Additionally, in the food and beverage industry, a voluntary packaging agreement was created in efforts to cut down on waste generation at its source, and to encourage the implementation of best practices between companies in the food and beverage industry.

RECYCLING

Directly correlated to Singapore's waste reduction strategies are those related to recycling; greatly reducing the amount of waste generated, and subsequently the need for its disposal. For the domestic sector, recyclables are collected on a door-to-door basis, and recycling bins are also made available for every five blocks of public housing, making recycling an easy task for any household. Waste recycling programs have also been introduced into schools to teach children the importance of waste management at an early age. Recycling awareness for the general public is encouraged and maintained through national campaigns such as Recycling Day and Clean and Green Singapore (Singapore Government, 2008c).

In the commercial sector, the largest waste product is related to food waste. Currently, roughly nine per cent of the country's food waste is recycled or incinerated (Fig.3), and its goal is to raise that figure to 30 per cent by the year 2012 (Wong, 2009). Enough electricity is being generated to power more than 3,000 four-room public housing flats with the percentage of food waste that is currently being incinerated. Restaurants, and other members of the food and beverage industry, are becoming increasingly aware of the detrimental implications of food waste, in addition to the cost benefits that result from its re-use. In the future, if companies begin to incinerate their own food waste, they can use the energy by-product to cut down on their electricity bills, saving thousands of dollars, if not more, each and every year. Companies are making food waste recycling a top priority, as part of corporate social responsibility, which adds transparency to their business operations, and encourages concerned consumers to conduct business with them. Some companies are pushing for government legislation to ensure that all companies recycle properly, to the best of their ability, which will no doubt drastically reduce the amount of waste which makes its way into the incinerators or landfill (Ibid).

Table 1: Waste Management and Recycling Rates in Singapore (Eugene, 2008)

Waste Type	Total Waste Disposed of (tonne)	Total Waste Recycled (tonne)	Total Waste Output (tonne)	Recycling Rate (%)
Food Waste	507,700	51,200	558,900	9
Paper/Cardboard	583,900	619,000	1,202,900	51
Plastics	584,800	75,000	659,800	11
Construction Debris	19,000	759,300	778,300	98
Wood/Timber*	118,400	127,800	246,200	52
Horticultural* Waste	133,500	91,100	224,600	41
Ferrous Metal	68,500	668,000	736,500	91
Non-ferrous Metals	16,700	75,600	92,300	82
Used Slag	7,200	520,000	527,200	99
Sludge	124,600	0	124,600	0
Glass	59,500	5,800	65,300	9
Textile/Leather	104,100	6,000	110,100	5
Scrap Tyres	3,500	22,000	25,500	86
Others (stones, ceramics & rubber)	234,600	14,000	248,600	6
Total:	2,566,600	3,034,800	5,600,800	54

** Includes 70,000 tonnes used as fuel in cogen plants*

THE SINGAPORE GREEN PLAN 2012

A prime example of Singapore's dedication to environmental sustainability, as well as its commitment to meet and exceed environmentally sustainable goals, the Ministry of Environment and Water Resources has developed a plan of action. This detailed and ambitious plan, currently titled "The Singapore Green Plan 2012," outlines an extensive number of goals which, as the name suggests, are intended to be met by the year 2012. Created in 2002, this report is thoroughly updated every three years to identify the status of each of the outlined objectives. Through this three-year study, which involves 10 months of research, the ministry is able to see which goals are on track to be successfully achieved by 2012, and which are not. This analysis allows the government to make adjustments to policies, procedures, and initiatives in order to meet these goals in the allotted time frame. The report outlines six key focus areas, two of which are interrelated with this paper. They are the following:

1. Reduce Singapore's per capita domestic water consumption from 162 litres per day in 2004 to 155 litres per day by 2012; and

2. Partner the 3P sectors to generate greater awareness of the importance of conserving, valuing and enjoying water and develop a sense of shared ownership of our water resources (Ministry of the Environment and Water Resources, 2006).

It is through the tri-yearly update of this ambitious report that the ministry develops environmentally sustainable initiatives in order to aid in the realization of its set goals. As previously mentioned and directly related to the water conservation goal, the ministry is implementing an initiative demanding compulsory dual-flush, water-saving cisterns to be installed in all buildings that are either being built, or are undergoing renovations, by the end of the year 2009. While this may not be initially welcomed by the public, it is evident that the Singaporean government is firm on remaining aligned with the original goals set out for this plan, and is willing to implement decisions such as this in order to achieve them. According to the website of the Ministry of the Environment and Water Resources "various targets have been set under the SGP2012 and six Action Programme Committees (APCs) had been set up to develop and oversee the implementation of action programmes in support of these targets" (2006b).

The goals related to waste management have also been re-evaluated, for which the Ministry of the Environment and Water Resources has developed progress initiatives. Two of these initiatives have already been put in place: to develop a voluntary packaging agreement with companies involved in the packaging supply chain, and to work with companies in the retail sector to reduce the use, and waste of, plastic bags. The successful implementation of both initiatives displays the strength and discipline that Singapore possesses when striving to meet its goals. It would be easier for the ministry to turn a blind eye, and adjust the outlined goals, rather than the actions being taken to meet them. However, Singapore's dedication to environmental sustainability prevails, and the country continues to strive for success in all areas of protecting and conserving the environment.

The three-year studies are conducted with thorough research and a variety of sources. These sources include: Internet surveys from the public, roundtable events where concerns and issues are discussed in detail by key characters in the environmental industry, public forums, and public exhibitions educating the public on the key focus areas of the Green Plan. All of the information collected through these various sources are acknowledged and taken into account when initiatives are developed to better meet the goals outlined in the plan. This highly-detailed, vigorous plan is a direct demonstration of how Singapore has become a strong global leader in implementing environmentally sustainable initiatives (Ministry of the Environment and Water Resources, 2006c).

BENEFITS OF ENVIRONMENTAL SUSTAINABILITY

Striving for environmental sustainability, Singapore is not only working to preserve the existence of the human race, it is also putting itself in a position to experience great financial benefit. By continuing to invest in research and development, and through strength in system and policy integration, Singapore will ensure that it is, and continues to be, a global leader in the strategy and implementation of environmentally sustainable practices. As a result, Singapore is an attractive location for businesses in the industry of sustainable development to infiltrate. It could draw interest and expertise from a global standpoint, which could result in the development of further ground-breaking sectors of sustainability. Additionally, it will situate Singapore as a global hub of innovative and sustainable solutions, which can be applied both locally and globally.

A great deal of benefit is derived from environmental sustainability for companies that participate in greening their business operations and reducing their environmental impact. By adopting environmentally sustainable business practices, firms are responding to three of the main drivers of the Sustainable Value Framework: Pollution and Consumption, Civil Society and Transparency, and Footprint and Climate Change (Fig.4). Although this is advantageous for the environment, there are also many direct benefits for the companies themselves, taking into account their triple bottom line. Some of these benefits are the following:

1. Firms can create value by reducing the level of material consumption and pollution associated with rapid industrialization
2. Firms can create value by operating at greater levels of transparency and responsiveness, as driven by civil society
3. Firms can create value through the development of new, disruptive technologies that hold the potential to greatly shrink the size of the human footprint on the planet. (Valente, 2007)

Table 2: Sustainable Value Framework (Ibid)

	Internal Today	External Today	Internal Tomorrow	External Tomorrow
Drivers	Pollution & Consumption	Civil Society & Transparency	Foot print & Climate Change	Population, Poverty & Inequity
Benefits & Payoff	Cost & Risk Reduction	Reputation & Legitimacy	Innovation & Repositioning	Growth Path & Trajectory

PLANNING

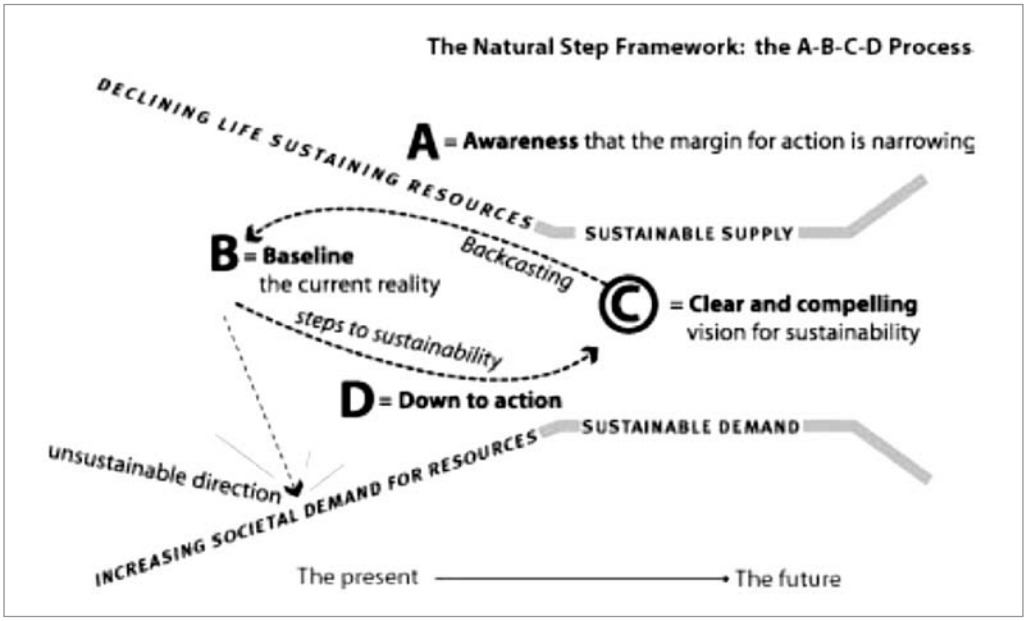
Singapore appears to be using what is known as the A-B-C-D (Aware-Baseline-Clear-Down to Action) Model for Planning in Complex Systems (Valente, 2007).

Awareness is the first step to the above model and is critical to its success. Without educational awareness, the stakeholders, being the general population and the business community, may not be willing to dedicate their efforts and participation to environmental sustainability. Singapore is actively working to create awareness of the need for environmental sustainability through a variety of campaigns and initiatives, as previously mentioned. Singaporeans are therefore constantly reminded of the dire need for resource and waste management, and the successes of the campaigns can largely be contributed to the education and awareness that has been provided and reinforced to the public on a regular basis.

As outlined by *The Natural Step*, there are four principles that must be met in order for a society to be truly sustainable:

1. Eliminate our contribution to the progressive build-up of substances extracted from the Earth's crust
2. Eliminate our contribution to the progressive build-up of chemicals and compounds produced by society
3. Eliminate our contribution to the progressive physical degradation and destruction of nature and natural processes
4. Eliminate our contribution to conditions that undermine people's capacity to meet their basic human needs. (2009b)

Figure 3: ABCD Model for Planning in Complex Systems (Natural Step, 2009)



The Baseline is the next stage of the model, calling for a society to assess which of the four principles of sustainability are being met, and which are not. This is where inventory can be taken to become aware of where the society currently sits, making it possible to create effective and realistic goals to get it to where it wants to be, also known as back-casting. As previously mentioned, the Singapore Green Plan 2012 outlines a list of environmentally sustainable goals to achieve, and conducts three-year studies which allow behaviour modifications to be made, in order to ensure the realization of these goals. As a result, Singapore is always aware of its baseline, satisfying the second stage in the A-B-C-D model (Ministry of the Environment and Water Resources, 2006a).

A clear and compelling vision is essential to the execution of any goals, especially when motivating millions of people to strive for their achievement. This is also being done through the Singapore Green Plan 2012, outlining to the public the current sustainable state of the country, as well as the desired sustainable state. Additionally, through reinforced educational environmental information, the population, both domestic and commercial, are motivated to keep their country a beautiful, clean, and sustainable place in which to reside. Not only does this action plan, with regular researched updates, provide the public with useful information about the environment in which they live, it gives a transparency to the Singapore government, keeping it accountable to do what it says it will do. Thus, this clear and compelling vision not only motivates the population of Singapore, it also motivates the government to adhere to its commitments to the environmental well-being of Singapore.

Getting down to action is the final stage in the model and by far the most critical. Without this stage, stages A, B, and C are only words and intentions. Again, through the Singapore Green Plan 2012, priorities are set to ensure that the intended goals are met, resulting in a truly sustainable society. Through this Green Plan, the priorities are adjusted with the three-year assessments, to make sure the country is on track to meet its goals. It is at this stage that the strategies are decided, as well as the tools and actions that will be used to implement these strategies. Singapore is without a doubt taking action to meet these outlined goals, and is a strong example to other nations, demonstrating how environmental challenges can be overcome with dedication and perseverance.

FUTURE PLANS FOR SUSTAINABLE DEVELOPMENT

According to Cheryl Loh, Assistant Director of Corporate Communications for the Ministry of the Environment and Water Resources, "the 'Singapore Way' is a highly pragmatic approach to development. [Singapore seeks] the most viable and cost-effective methods of achieving environmental sustainability outcomes. (They) focus on measures that are practical, effective, and will make impactful contributions to environmental sustainability. Going forward, [they] will continue to experiment and make investment decisions in green technology taking into account economic viability and effectiveness," (Loh, 2009). Of course, the effectiveness and successful implementation of future initiatives and goals which Singapore will develop strongly depends on the dedication and participation of the country's population. However, being that the ministry's main motivator is the quality of life for the population of Singapore, initiative implementation could be easily welcomed by the public. In terms of future goals and priorities with environmental sustainability, strategies will have to be modified in order to adapt to the current global challenges faced by nations worldwide. Cheryl Loh says, "looking ahead, there is a need to do even more for sustainable development as both the international and domestic contexts have changed. Within Singapore, higher economic and population growth will exert pressures on [their] limited land resources and [their] environmental quality in the years to come. Development pressures worldwide have already translated into rising resource prices such as energy and food. Global environmental challenges such as climate change are also key concerns on the international agenda"(Ibid). Once the goals of the Singapore Green Plan 2012 have been reached, a new plan will need to be developed with new goals and key focuses. According to Cheryl Loh, the three areas of focus for this future action plan will include: resource management, pollution control, and the quality of the physical environment (Ibid). From these three priority focuses, specific goals and initiatives will be developed in the same way that the Green Plan 2012 was developed. This includes public surveys, roundtable events, public forums, and public exhibitions. It is through their commitment and education of the public that Singapore will have a strong chance at achieving their future goals to the same level of efficiency and effectiveness as they are achieving their current goals.

IMPLEMENTATION IN OTHER COUNTRIES

The success experienced by Singapore, pertaining to environmental sustainability, is astounding. The country's dedication to conserving the environment is to be admired by other countries worldwide. However, admiration alone will not change the way other countries treat their own precious environments. Environmental responsibility is regarded as a priority in most developed nations, including Canada.

However, the speed at which change and action are taking place is insignificant compared to that of Singapore and, more importantly, to the rate at which the world's limited resources are disappearing. Achieving a truly environmentally sustainable society requires extreme dedication and financial investment. These requirements are a strong deterrent for most governmental bodies, but it is imperative that this mindset is changed before it is too late. Canada has also developed an action plan, entitled Environment Canada's Sustainable Development Strategy 2007-2009, similar to that of the Singapore Green Plan 2012. However, this plan is significantly less aggressive and active compared to that of Singapore's (Environment Canada, 2006). Canada's plan focuses more on small initiatives that can gently nudge Canadian society in the direction of environmental sustainability, rather than establish detailed goals to achieve by a certain date. For example, as previously mentioned, in efforts to reduce water consumption, Singapore has introduced both the 10 Per Cent and 10-Litre Challenges, and is implementing further initiatives such as mandatory dual-flush cisterns, and compulsory labelling for water-consuming products. These goals and initiatives are clear-cut, allowing for the opportunity of assessment on a regular basis. At the same time, however, Canada's efforts to reduce water consumption include ensuring that "water is safe, clean and secure for people and ecosystems and is used sustainably," (Ibid). This goal is far too passive and vague to obtain any significant water conservation.

Figure 5: Key Success Factors

It is evident that there are key success factors that countries, such as Canada, should be aware of and be working towards achieving. First, education, both of the public and policy makers, is essential to motivating the desire for change. From this education comes awareness, which has the ability to instil passion to become environmentally sustainable. Effective planning is another key factor that needs to be modified in order to achieve sustainability; the goals must be clear, concise, and binding, so the government will do everything in its power to meet them. By publishing detailed goals to the public, the government will be more likely to commit to their success, due to the resulting transparency. Finally, action is the most important success factor. Without strong action, plans and goals are of no significance. Although it requires dedication, both physically and financially, it is necessary for this action to be taken to ensure a clean, healthy environment for tomorrow.

CONCLUSION

Being that the health of the environment directly affects not only the quality of life, but life itself, environmental sustainability should be of great concern. Nevertheless, it is a priority that seems to be continually pushed aside by nations worldwide due to the capital outlay and financial dedication it often requires. Singapore, however, has emerged as a global leader in environmental sustainability. Through a detailed and ambitious action plan, the Singapore Green Plan 2012 continues to reach its outlined goals related to water conservation, water reclamation, waste management, recycling, and many others actions.

There are many benefits associated with environmental sustainability to countries and companies, such as those related to the Sustainable Value Framework. Reaching the goals outlined in Singapore's Green Plan requires a great deal of planning, which is currently being done through the A-B-C-D Model for Planning in Complex Systems. Singapore's future plans will include additional ambitious goals, with a focus on resource management, pollution control, and the quality of the physical environment. In order to achieve environmental sustainability, other countries must develop clear and concise action plans to effectively work towards reaching their established goals. This can be achieved through education, awareness, planning and, most importantly, action. Countries such as Canada could learn a great deal by observing the environmental responsibility that Singapore has successfully adopted, increasing the possibility of a thriving, healthy environment for generations to come.

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