

# **ENVIRONMENT AND SUSTAINABLE DEVELOPMENT :**

**A Developing Nation Perspective (Papua New Guinea)**

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## **INTRODUCTION**

The rubric "Environment and Development" is a hot topic in our times and the two concepts are recalcitrant ones that embrace their own justifications. The disagreement between environment and development cannot be avoided. Regardless of where and how one perceives the rubric, a gain for the environment can be a loss to development, and vice-versa. Apparently, it is unrealistic for both items to be achieved simultaneously. No matter how one envisages them, one commodity has to be relinquished for the other. These are choices that need to be made and the preferences chosen largely depends on perceptions, values and needs. There have been two major directions that have evolved in terms of global environmental and development policies. The first set of global measures has been directed toward the separate treatment of environment and development respectively. This sort of approach can be envisaged currently as self interest-oriented as opposed to prior approaches, which occurred due to lack of knowledge of the interrelationship of the environment and development. The second set of developments has been the ones, which comprise a collective treatment of the two items. Practically, there is usually a shift back and forth between the two enterprises within a specific time and locality. To understand the workings of both approaches, let us first examine a brief historical account of some of the major happenings.

Due to environmental pollution and destruction and the adverse consequences brought about by development, nations met in 1972 for the United Nations Stockholm Conference on the Human Environment (UNCHE) to set common principles to inspire and guide peoples' of the world in the preservation and enhancement of the human environment.<sup>1</sup> The Stockholm Declaration of the United Nations Conference on the Human Environment was unanimously voted for by 103 nations and none were in opposition with the exception of twelve nations abstaining.<sup>2</sup>

Later in the 1970s a contrary situation evolved with the developing nations' proposal of the Charter of Economic Rights and Duties of States. Obviously, this was an indication of preferences for economic development among the developing nations when they mobilized and drafted the Charter of Economic Rights and Duties of States. This charter was adopted by the UN General Assembly in 1974.<sup>3</sup> The UNCHE with the restrictions it placed upon domestic industries such as agriculture, forestry, fisheries, and other development projects in order to protect and conserve the environment and natural resources seemed to place heavy burdens on the young economies of the

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1 Preamble of the *Stockholm Declaration of the United Nations Conference on the Human Environment* (UNCHE) (1972); also see Kambu, Alphonse. "Human Rights and Environmental Protection in PNG" (unpublished paper, on file) (1998), p.1; the move to set common principles was triggered by environmental destruction which were consequences of past struggles for economic development.

<sup>2</sup> Guruswamy, Lakshman D. et al. *Supplement of Basic Documents to International Environmental Law and World Order A Problem-Oriented Coursebook* (1994), p.1264.

<sup>3</sup> See Birnie, Patricia W and Alan E. Boyle. *International Law and the Environment* (1992), p.3.

developing nations.<sup>4</sup> Economic development became their foremost priority compared with the environment regardless of the establishment of the Stockholm Declaration of the United Nations Conference on the Human Environment. The adverse impact on the economic situations of the developing nations pushed for the drafting of the Charter of Economic Rights and Duties of States.

In the instances above the two instruments evidently indicate the contradiction between and the shift to and from environment and development. This was primarily because, despite the overlapping nature of influences environment and development can have on each other, these past global conferences failed to address the issues jointly.

From the 1980s onwards as the realization of the inter-relatedness of environment and development accelerated, new global environmental policies and instruments promoted by the developed nations to integrate both environment and development were chartered. The relevant developments include the ones that follow. The first one is the World Conservation Strategy of 1980, which was introduced by the International Union for Conservation of Nature (IUCN) and directs attention toward the sustainable utilization of species and ecosystems. Secondly, in 1982 the UN General Assembly adopted the World Charter for Nature, which was aimed at coupling conservation and protection of the environment with sustainable productivity of resources. Third, in 1987, the World Commission on Environment and Development (WCED) called for an integration of sustainable development with increased global cooperation.<sup>5</sup> Later in 1992, the

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<sup>4</sup> See *ibid*, p. 3.

<sup>5</sup> *Ibid*, p. 4.

world met in Rio to further draw attention on the integration of the concepts for the collaboration of the world to set guidelines to meet the demands of the emerging environmental and related issues.

The intention here is to survey how sustainable development could best be accommodated into society. For this task to be given effect, there are certain clarifications that need to be made. The emphasis is placed on first, clarifying the ambiguity in the meaning of the concept and second, establishing the pre-conditions that are necessary for sustainable development to be given meaning.

## 1. DEFINITION OF SUSTAINABLE DEVELOPMENT

There is no one definition to the concept of sustainable development. The most common definition is provided by WCED (the Brundtland Commission) in its report published in *Our Common Future* (1987). It defines 'sustainable development' as: "development that meets the needs of the present without compromising the ability of the future generations to meet their own needs".<sup>6</sup> This definition of the concept of sustainable development was later adopted at the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro.

Sustainable development defined in *Our Common Future* may not necessarily have equal implications for all nations and peoples of the world. Due to varying interpretations of the concept that exist it is easy for misconceptions to arise. Specifically, where sustainable

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<sup>6</sup> WCED. *Our Common Future* (1987), p. 43; also see Weiss, Brown. et al, *International Environmental Law and Policy* (1998), p. 53.

development becomes used interchangeable with other phrases, such as sustainable growth, sustainable use, and sustainable economy. These phrases, as observed below, do not equate the phrase 'sustainable development'.

Individuals and groups have made attempts to clarify sustainable development. Below are accounts illustrating some clarification given by Professor Ben Boer and *Caring for the Earth*. They have criticized others' usage of the phrase as being vague. First, *Caring for the Earth* perceives that the definition provided in *Our Common Future* can be interpreted merely as sustainable economic development, which can disregard concerns for ecosystems.<sup>7</sup> The definition provided by *Caring for the Earth* thus states:

The term has been criticized as ambiguous and open to a wide range of interpretations, many of which are contradictory. The confusion has been caused because "sustainable development," "sustainable growth" and "sustainable use" have been used interchangeably, as if their meanings were the same. They are not. "Sustainable growth" is a contradiction in terms: nothing physical can grow indefinitely. "Sustainable use" is applicable only to renewable resources: it means using them at rates within their capacity for renewal. "Sustainable development" is used in this

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<sup>7</sup> See Lyster Rosemary. Sustainable Development Lms in China READINGS Vol. 4; Sustainable Development Law in Australia (1997) at 18 Ben Boer. "Institutionalising Ecologically Sustainable Development: the roles of National, State and Local Governments in Translating Grand Strategy into Act" in 31 *Willamette Law Review* (1995), p. 317.

Strategy to mean: improving the quality of human life while living within the carrying capacity of supporting ecosystems. A "sustainable economy is the product of sustainable development. It maintains its natural resource base. It can continue to develop by adapting, and through improvements in knowledge, organization, technical efficiency, and wisdom."<sup>8</sup>

However, Professor Boer further disputes the definition provided by *Caring for the Earth* as "problematic in that it is anthropocentric and utilitarian" of nature. He, on the other hand, favors the interchangeable use of sustainable development with "ecologically sustainable development" and its definition provided by the Australian Government. Such a definition mentions that it is "development that improves the total quality of life, both now and in the future in a way that it maintains the ecological process on which life depends".<sup>9</sup>

With regard to the definition of sustainable development, it is not surprising to identify the existence of varying interpretations that therefore cause confusion. Apparently, the perceptions, values and needs concerning a same issue may not mean the same thing to various groups of people in different environments. Thus this will naturally lead to many definitions. Regardless of which definition may be the practice, how it is used in practice ordinarily indicates the true definition of the concept. There will always be different definitions of the concept so long as the needs of the numerous societies are different.

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<sup>8</sup> See Lyster at 20, note 33.

<sup>9</sup> Ibid, p. 24.

## 1. THE UNDERLYING PRINCIPLES OF SUSTAINABLE DEVELOPMENT

It is believed that ecologically sustainable development can be achieved through the consideration and integration of various principles including (1) Intergenerational Equity, (2) Intragenerational Equity, (3) the Precautionary Approach (Principle), (4) the Conservation of Biological Diversity and (5) the Internalization of Environmental Costs.<sup>10</sup> These principles are gaining increased recognition both at the international and domestic environmental and development strategy levels. Various nations have integrated and applied these principles in various ways as principles that can be found in terms of policies and objectives or applied in law. Papua New Guinea (PNG) recognizes the concept of sustainable development as a policy by stating it in the preamble of its Constitution.<sup>11</sup> The Republic of Philippines has employed the concept in a much stricter sense. The Philippines has been one of the first countries to legally enforce the concept of sustainable development and specifically the principle of intergenerational equity successfully in its courts.<sup>12</sup>

### *(1) Intergenerational Equity*

The principle of intergenerational equity concerns the sharing and

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<sup>10</sup> See Lyster, pp. 24-26.

<sup>11</sup> Brunton, Brian et al., *The Annotated Constitution of PNG* (1985), pp. 19-21. The fourth of the five National Goals and Directive Principles is dedicated to the environment and natural resources of PNG; also see Kambu. "Human Rights and Environmental Protection in PNG" (1989), pp. 3-5. The National Goals and Directive Principles are nonjusticiable.

<sup>12</sup> See *Minors Oposa v. Secretary of the Department of Environment and Natural Resources*, 33 I.L.M.173 (1994).

enjoying of the environment and natural resources between and among the present and future generations. It is beginning to become common practice to understanding that the current generation is the guardian of the future generations they have a duty to ensure that the environment and natural resources are used and replenished for the future. Briefly said, the future generations have a right to equally enjoy the state of environment and the bulk of natural resources we the current generation accumulate today.

There is an intensifying debate over the issue of conferring rights to future generations. There are debates ranging from the perspective of morality and religion to social justice and those in between, such as, intragenerational equity, the nature of the right and obligations of individuals and states, the right to development, philosophical perceptions of mankind, definitional implications of the subject matter and many more. Some advocates are for the conferring of rights to future generations, whereas others oppose the idea. The current position on the conferring of rights to future generations is that most of the international community in one way or another has recognized the rights of the unborn at least in principle. An illustration of this can be found in the numerous bilateral and multilateral agreements, international declarations and resolutions, national constitutions, domestic legislation and policies. Even PNG recognizes the principle through the signing of numerous international agreements that contain the concept as well as integrating it into its domestic legal system and policy frameworks under the banner of 'sustainable development'. The following is an illustration of a few major agreements or declarations that mention the rights of future generations relevant to PNG. In the beginning of the Convention for



the Protection of the Natural Resources and Environment of the South Pacific Region it states: "*Conscious of their responsibility to preserve their natural heritage for the benefit and enjoyment of present and future generations.*" In UNCED: the Convention on Biological Diversity (CBD) states future generations in the definition of sustainable use. "*Sustainable use means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspiration of present and future generations*". A third one is Principle 3 of the Rio Declaration on Environment and Development. It states: "*The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.*"<sup>13</sup>

As far as giving teeth to intergenerational equity is concerned, for many, there is yet a long way to go. As observed earlier, the Republic of Philippines has in fact employed the concept in its courts, but in this case, the environmental circumstances had reached their worst levels, which triggered such strict actions to be taken. PNG on the other hand has not yet reach a stage where strict measures are due. Thus, for now, exploitation of the environment and natural resources is deemed to continue. Environment and development are two luxuries. When one realizes that it lacks one of the luxuries it will strive to attain what it lacks while sacrificing the other.

## ***2) Intragenerational Equity***

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<sup>13</sup> See Anguis, Emmanuel, et al. (eds), *Future Generations and International Law* (1998) pp. 167-76

Intragenerational equity is the belief that all peoples of a generation have equal rights to enjoy the resources of the earth. This leads to the fight for the right to development and to utilize the world's resources. The principle is founded on the inequality between the poor and the rich nations, whereby there is an unfair distribution of wealth among the people today. It is perceived that through pursuing economic development it will assist the poor to raise their standard of living to that of the rich (the developed nations) in order for all to work together on an equal stance. The idea of sharing wealth among all peoples, or of shifting wealth (technology, food, medicine, etc.) from rich to poor nations has also evolved.<sup>14</sup>

### ***3) Precautionary Approach (Principle)***

Precautionary approach is a German legal concept, which has merged with environmental policy and law making in the 1980s<sup>15</sup> to fill in the gap existing in scientific uncertainty. Scientific knowledge is subject to change upon receiving new scientific information to confirm risks. While scientific understanding is absent precautions have to be taken in human activities to avoid unexpected risks. Later in the Rio Declaration the approach has been taken up and incorporated as one of the principles--Principle 15.

Natural resources and other development activities sometimes involve unpredictable detrimental health and environmental results. This principle is associated with the decision-making process involving

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<sup>14</sup> See Lyster, p. 25.

<sup>15</sup> See O'Riordan, Timothy & James Cameron (eds.). *Interpreting the Precautionary Principle*, p. 31.

which particular developments to pursue and which ones to avoid. Such decisions are based on the degree and extent of the kind of harm that would occur due to the pursuance of the activity. Sometimes the causes of environmental degradation and its consequences can be directly related to the lack of precaution. The precautionary principle primarily exists so that in the decision-making process, the consequences of the development activity could be not only weighed and unnecessary harm be avoided, but also save undue costs.

#### ***4) Internalization of Environmental Costs***

Internalization of environmental costs is the idea of paying for the use of a public good, which in this case is any of the elements of the environment, such as air or water. Such a consideration must be taken into account in the decision-making process. The motive behind this is that it would help preserve the quality of the environment in that those who use the public good would fear to bear the costs. Therefore, this would lead them to take extra care in the use of the environmental goods. The means in which this can be achieved would be through restricting environmental costs and externalities, pollution charges, use of permits and licenses to control the nature of economic activity<sup>16</sup> and others.

#### ***5) Conservation of Biological Diversity***

Conservation of biological diversity is an important aspect of sustainable development. It has become evident that many animal and

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<sup>16</sup> See Lyster, p. 27.

plant species (approximately 1000/year) have become extinct due to human activities or in their natural cycles. This principle exists as a reminder to humans to assess their proposed activities by taking into account the impact it would have on the wildlife that live in the area. Environmental impact assessment is one program that helps determine the extent and type of harm either to be done or to be avoided. Furthermore, preservation of wildlife in their natural habitats and zoos is another means of protecting species from becoming extinct. Conservation measures such as keeping animals in zoos or establishing botanical gardens for plant species is beneficial (ex situ). However, the most preferred strategy would be to conserve species in their natural habitat (in situ).<sup>17</sup>

## 2. ULTERIOR MOTIVES OF SUSTAINABLE DEVELOPMENT

During the 1992 Earth Summit in Rio, there was a division between the developed nations and the developing nations. The developing nations argued that the developed nations have exhausted the natural resources within their jurisdiction from over-exploitation and caused tremendous environmental pollution and destruction. From the exploitation, the developed nations have personally gained wealth and established an improved standard of living, which they currently enjoy, while simultaneously creating environmental chaos for the entire world to bear. The developing nations claimed that now the developed nations were telling the developing nations that they could not be

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<sup>17</sup> Among the options that exist and seen to be beneficial for conserving biological diversity are in situ and ex situ. See Weiss, Brown et al., *International Environmental Law and Policy*, pp. 934-6.

entitled to utilize their environment and natural resources in the same manner as the developed nations did and, at the same time were asking the developing nations to share the natural resources as well as the environmental problems they had created.

Even with this disagreement, the developed nations cleverly and successfully convinced the developing nations to compromise with them on the various conventions and declarations, while some of the 'superpowers', such as the United States of America, conspicuously did not sign the conventions, such as the Convention on Biological Diversity readily.<sup>18</sup> Thus, the developing nations have consented to share their natural resources with the developed nations and also to share the existing environmental pollution and destruction caused by the developed nations.

Such a consensus between the two groups was grounded on various conditions that the developing nations initiated. Some of the factors include national sovereignty over use of natural resources, responsibility (for past environmental destruction) should not be borne by the developing nations, integration of sustainable development with sustainable national economy, funding by the developed countries of sustainable development programs as well as the funding of the

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<sup>18</sup> See Schreurs, Miranda A, and Economy, Elizabeth C. *The Internationalization of Environmental Protection* (1997) pp. 48-52. The US played a vital role in the initiation of the negotiation for the CBD, but withdrew as negotiations continued. Its reasons for withdrawal include the influence the signing would have on the domestic economy, employment, and clashes with its domestic legal regime.

implementation of the various agreements. These factors can be found in China's five principles, which it used throughout most of its global negotiations in the 1990s with regard to global environmental issues and were adopted by the developing nations when China evolved as their leader in 1991.<sup>19</sup>

What the developing nations did not and still do not foresee in the implications of sustainable development and the programs that arrived is that developed nations are saying they will help the developing nations manage their environment and natural resources through their funds, programs, strategies and principles. The funds used by the developed nations to support programs in developing nations are surplus finances and can be afforded by them (developed nations). Furthermore, they declare that the developing nations have sovereign rights over natural resources within their respective jurisdictions, but the developed nations still continued to develop the resources. When in fact the developed countries are using the tactic of sustainable development to tell the developing nations to watch over the resources at a sustainable rate; while they (the developed nations) would come and harvest them to use and sustain their own people's living standard.

This statement is made because of the magnitude of investment and the development of natural resources carried out in developing countries by the developed nations. Take PNG, for instance. Who is developing the natural resources and at the same time causing mass destruction to the environment? It is the resource developers from

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<sup>19</sup> See Schreurs, pp. 30-36.

developed countries, mainly Australia. This is very hypocritical and demoralizing of the developed nations. They preach one thing and practice another. Even in the case when the developers of natural resources are from the developing nations, it is only a few, privileged people who benefit. Therefore, it appears to be that both the developed and developing nations "are functioning under a common denominator of complete exploitation of natural resources by the accumulation of riches in the hands of a few".<sup>20</sup> Thus this can be perceived as further exacerbation of the already existing environmental pollution and destruction rather than an improvement.

How possibly could the developed nations with their principles and practices help solve the environmental dilemma of developing nations and theirs when they themselves have not solved the environmental pollution and devastation in their own jurisdictions? How will they solve the obstacle when they are the ones continuing to exploit the environment and consuming the natural resources of developing? These are some of the questions that need to be critically answered when taking into account the concept of sustainable development for integration into systematic programs in developing nations. The concept should be pursued in the light that most of its benefits should be enjoyed by the resource owners, who in most cases are the developing nations.

### ***a) Sustainable Development for Whom?***

Inevitably, sustainable development that is aimed at maximizing

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<sup>20</sup> See Brown, Noel Jand Pierre Quiblier (eds.), (UNEP) *Moral Implications of a Global Consensus-ETHICS & AGENDA 21* (1994), p. 50.

wealth to induce a higher living standard and concurrently conserving the environment is a phenomenon that can be enjoyed only by a few. In this discussion it is the developed nations and a handful of people in the developing nations who would benefit from it. In other words, the developing nations and the poor, along with their natural resources will continually be sacrificed for the benefit of the developed nations and the rich. According to known facts, the rich comprises 25% of the total world's population. Most of the people in this category come from the developed nations with the exception of a few rich people from the developing nations. This fraction of the population is believed to consume approximately 80% of the world's natural resources. Further, they put out 90% of the world's waste. Sustainable development that benefits only a few both within and outside a country can be clearly labeled as "development racism".<sup>21</sup> This is no exception for PNG and other developing nations when considering the current development of natural resources.

In the observations above it can be seen that the present generation has a duty to secure, in guardianship of the future generations, the environment and natural resources in a state that would serve them impartially. Is this possible in a world where there exists an unfair distribution of wealth and resources, poverty, hunger and starvation, and relevant problems that disables the disadvantaged to even live at

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<sup>21</sup> International Movement Against all Forms of Discrimination and Racism (IMADR) (Banton, Michael (Ed)). *Peoples for Human Rights. IMADR Yearbook (1991)* p. 15. "Development racism" is defined as a belief that in the process of national development certain minority ethnic groups can be sacrificed in order to fulfill the national objective of economic growth through accelerated industrialization, and to guarantee the stable development of the world economy.



least one more day? Whose future generations are we talking about in this state of the world? Apparently, not the future generations of the poor and the developing countries. This boils down to the future generations of the strongest and the richest (25%) who come from the developed nations and the top few percent of the wealthy in the developing nations.

In my view, sustainable development can only arrive if people are on equal terms, which is far from reality. Therefore, principles such as intergenerational equity and, more specifically, the part concerning the rights of future generations appears to be both idealistic and unrealistic. Conferring rights upon a group of people who do not yet exist, but have been created out of mere illusion, and conferring them rights seems improper and does injustice to the underprivileged of the current generation. In fact it is the underprivileged who need more immediate attention. How can one preach of equity when it does not exist in its primary stages? When most of the world's resources are controlled only by a few not only the future of people from developing nations, but also the current generation is in jeopardy given the current state of affairs. It is highly disputable whether there will be any future generations of the poor and the underprivileged peoples.

Furthermore, it must be taken to heart that the fitness and survival of the present generation determines the future of humanity. Therefore, for future generations to emerge, the current generation must be healthy to procreate a future generation. For this to come about, certain essential pre-conditions, such as the eradication of the unfair distribution of wealth, poverty, hunger and starvation and disease need to be brought to realization before talking about future generations in

particular and sustainable development in general. These are fundamental issues of justice that need to be addressed. In other words, the developing nations have to reach a level where they must be on equal grounds with their counterparts of the developed and industrialized world before talk about equity and sustainable development.

In order for developing nations to reach an equivalent level with developed nations two options could be considered. First, the developed nations are obliged to share their wealth with the developing nations and assist them to reach a level equivalent to the one they enjoy today. That is in the form of sharing technology, medicine, food and other wealth they possess. Moreover, an intensive employment of the intragenerational equity must evolve. Second, if the sharing of wealth between the developed and developing nations fails, then a '*sustained economic growth*'<sup>22</sup> is the way to go and will be encouraged for the developing nations. These will help promote the developing nations in their struggle to reach a level equivalent to that of the developed nations.

Again it is key for pre-conditions to be considered and hurdles cleared before any secondary matter can be met. Without equity between and among the present generations,<sup>23</sup> sustainable

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<sup>22</sup> See Weiss, Brown. et al., *International Environmental Law and Policy* (1998), pp. 56-7 for further details concerning sustainable development and sustained economic growth. From the developing nations' standpoint it is conceived that the former favors developed nations' interests while the latter is a consequence of the former, which the developing nations push for so long as the current inequalities they endure prevails.

<sup>23</sup> Presently, there are at least 4 generations living in the world.

development will fail because the developing nations who appreciate development more as a primary urgency than anything else will reject conserving the environment and choose sustained economic growth. Such a choice triggered by the lack of assistance from developed nations will only lead to lack of cooperation and further environmental degeneration. This situation then draws me to conclude that intragenerational equity<sup>24</sup> is the way to go, if sustainable development is to be given effect. Without lessening the inequalities sustainable development will amount to mere rhetoric.

### **3. SUSTAINABLE DEVELOPMENT FOR PNG**

For whatever personal gains that inspired the developed nations to introduce the concept of sustainable development, the concept also has a good side to it. It was the pursuance of unsustainable development in developed nations and its adverse consequences that has led them to take action and at the same time has reminded the developing nations to manage and utilize their natural resources in a sustainable manner. Therefore, the integration of the concept of sustainable development locally must be perceived as a worthwhile concept that will benefit the people, both the present and future generations (immediate generation) at least within a country. PNG has in fact integrated the concept due to various commitments it has made particularly in the Constitution, the series of environmental legislation and the various regional and global environmental agreements it had signed. Observing most of PNG's policy frameworks for the development of natural resources they speak of the concept of sustainable development

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<sup>24</sup> See Agius et al. pp. 46-8 for an enlightenment on the principle of intragenerational equity.

and for the wise use of the country's resources that would benefit both present and future generations. The 20<sup>th</sup> Waigani Seminar held in 1993 as a follow up of the UNCED in 1992<sup>25</sup> illustrates the strong integration of the concept.

The issue now is how would PNG go about managing sustainable development given its current state of socio-economic, political and relevant affairs. How would PNG accommodate strike a balance between the environment and development when poverty in terms of capital is a big issue, or proper management is lacking, or when the concept of sustainable resource management at least in practice in PNG (indigenous practice) is different from the introduced concept, and when the development of resources is only benefiting a minority of the people? Furthermore, international financial institutions such as the World Bank (controlled by the developed nations) does offer to finance sustainable development projects mostly in the forestry sector, but only on grounds that PNG except the terms and conditions which are set by the bank. This situation drives PNG into paying back loans most of the time, which always keeps it in continuous debt. Given all these and other obstacles, ways and specifically pre-conditions need to be established in order to accommodate the concept of sustainable development.

The following are options that should be integrated systematically when considering management of sustainable development in PNG. Given the current socio-economic and political regime, I for one perceive that without capital, nothing much can be accomplished. This

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<sup>25</sup> See Gladman, Darren, et al. (eds.). *From Rio-Rai: Environment and Development in Papua New Guinea Vol I. From Hearts and Mind* (1996), Preface i.

is a factor also relevant to sustainable development and a fact that cannot be denied. To gain economic wealth, there has to be a sustained economic growth. This wealth has to be generated from within through the development of natural resources. At most times outsiders carry out development of natural resources, and as a result capital keeps flowing out. For this to be limited, the sovereign rights over natural rights should be given teeth in the sense that bigger shares of the benefits remain within. If this is not possible, securing funds from institutions such as Global Environment Facility (GEF)<sup>26</sup> can be an option. Once funds are secured, responsive policies relating to current issues that would affect sustainable development should be in place. To accommodate sustainable development it should mean that first steps need to be taken first. Simply, an investigation of pre-conditions and a clearance of barriers to allow for sustainable development should be established. Of the pre-conditions, what must be on the top of the list would be education, promoting awareness and disseminating information through all forms of channels. The mass media should play a vital role in this task. Integrating environmental education into the curriculums of schools would be another. The local governments, through their community announcements, can also contribute. All forms of associations, including church groups, women's groups and NGOs should take an active role in educating people and disclosing information of the concept and the issues that surround it. This will lead to the second factor, which is participation and participation is unlikely without knowledge and information. Without the participation

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<sup>26</sup> The Institution was established in 1990 to finance developing countries to take actions against four global environmental issues. They include global warming, biodiversity loss, pollution of international waters and depletion of ozone layers. See Robert O Keohane et. al. (eds.), *Institutions for Environmental Aid*, p.55)

for whom the concept is meant, it is worthless. The people must be invited and made to feel a part of the issue. Another factor, which has not been given much coverage in Rio, and, if considered would contribute tremendously to sustainable development is the indigenous sustainable practices.<sup>27</sup> The next option is to seek alternative means of energy through the utilization of scientific knowledge. Finally, the means to encourage proper management and to fight corruption in both the public and private sectors is a necessity element. An arrangement of all these factors into a framework is essential for the success of sustainable development.

## CONCLUSION

There is no substantial solution to remedy the disagreement between environment and development unless we choose to make radical changes to our lifestyles by eliminating inter alia the consumption of goods that emit CO<sub>2</sub> gases and the like. However, such a change is unlikely and the problem is here to stay. Sustainable development has been one way that only evolved recently with the aim of setting a balance between environment and development. There are still uncertainties about the concept and it needs to be further clarified. It is not surprising with the variances in the meanings because distinct environments mean different things to different people. Therefore, what might be rational is fitting sustainable development to function

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<sup>27</sup> See Brown, et al., *Moral Implications of a Global Consensus Ethics and AGENDA 21*, pp.49-51 Documents and proposals prepared by the Indigenous leaders for submission and consideration at the UNCED were given minimum regard. Only Chapter 26 of the Agenda 21 states the interests raised by indigenous people, but lacks serious commitment.

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within the natural and physical circumstances of a given socio-economic and political regime along with its use to satisfy the current needs. Sustainable development must be one of a practical nature to the people in different societies. Above all, the concept of sustainable development can only be fruitful when the pre-conditions have been established, such as maximizing capital wealth through sustained economic growth and by establishing equality among the current generation through a fair distribution and transfer of wealth. Sustainable development cannot be given effect when pre-conditions (intragenerational equity) are absent. A systematic framework arranged only in sequence of importance will give sustainable development its true meaning.

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