

Solar Panels at St. Peter's: The Vatican Embraces Sustainability

Frank R. Cantelmo, Ph.D.
Associate Professor and Assistant Chair
Department of Biological Sciences
St. John's University
&
Environmental Advisor to the Holy See

Renewing the Campus
Sustainability and the Catholic University
October 10, 2009

What do we mean by Sustainable Development?

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

Definition that was first used in a UN sponsored document entitled the Brundtland Report (1987)

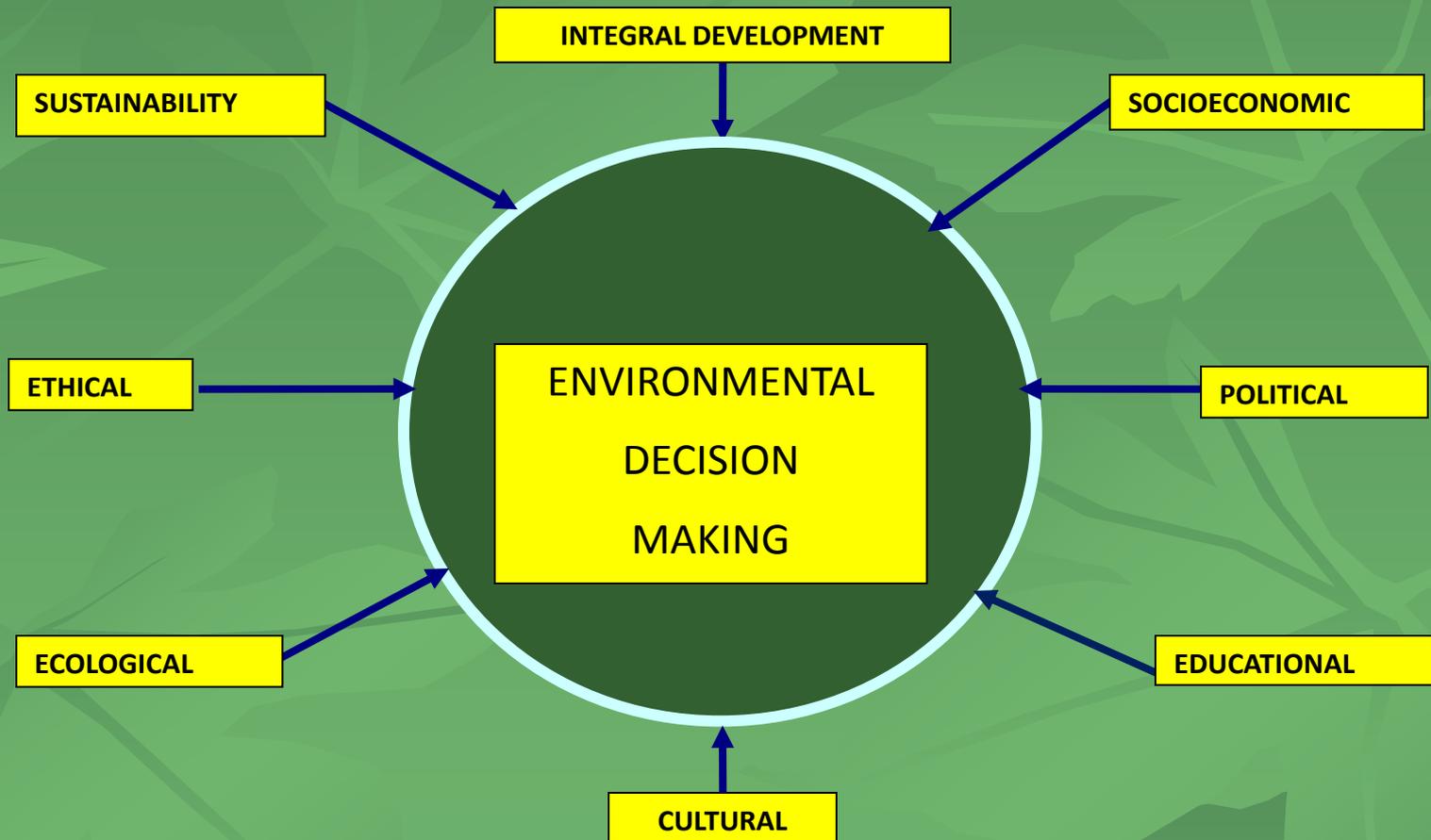


Copyright © The McGraw-Hill Companies, Inc. Permission required for reproduction or display.









Pope Benedict XVI has earned the title of the “Green Pope”

Pope Benedict consistently emphasizes humanity’s responsibility to care for the planet.

In a recent Encyclical Letter (June 29, 2009), Pope Benedict emphasized that the “environment is God’s gift to everyone, and in our use of it we have a responsibility towards the poor, towards future generations and towards humanity as a whole.....human beings legitimately exercise a responsible stewardship over nature....”

As far back as 1990, Pope John Paul II also emphasized that environmental concerns were a “moral issue” He stated that people have a “grave responsibility to preserve the earth’s order for the well-being of future generations.”

Currently, the Vatican is the world's only sovereign state that can claim to be carbon neutral. How?

Solar Panel Installation Projects

Hungarian Forest Ecorestoration Offsets

Solar Panel Installation Projects

Installed 2700 solar panels on roof of 10,000 seat Paul VI Auditorium. These solar panels will provide approximately 300 megawatts of energy per year. Provides for all the cooling, heating and lighting needs. This will reduce carbon dioxide emissions by 225 tons per year and save 80 tons of oil. Other buildings are currently being considered for solar cell installations.

By 2014, the Vatican will have built the biggest solar plant in Europe at the village of Santa Maria di galeria, approximately 11 miles north of Rome. The 740 acre solar array will provide sufficient power to meet the needs of 40,000 households.

Pope Benedict's Home in Bavaria is also a Solar-Power Generator

Workmen installed 580 square feet of solar panels on the roof of the Pope's home near Regensburg, Germany. The project was donated by local workmen. The Pope approved the project as long as no church funds were used.

The project is expected to produce a surplus of power which will be sold back to the German electricity grid. The expected income of \$3,500 per year will be given to associations that offer job training to disadvantaged youths.













**El Dorado Irrigation
District**



CSU Northridge, CA



Hofkirchen, Germany 2.375 MW



Semitropic Water District, Central California



Hungarian Forest Eco restoration Offset s

The Holy see has recently accepted a donation by KlimFa, a climate solutions company, to plant a forest in Hungary.

An entire section of a national park in central Europe will be reforested.

Over the next ten years, 10,000 hectares (25,000 acres) will be restored and reforested with native mixed forest species.

These lands will be strictly protected and will enhance biodiversity, water quality, flood control among many other benefits.

The new Vatican climate forest in the Hungarian National Park System is expected to offset the Vatican's annual carbon dioxide emissions.

The Holy See's Permanent Mission to the United Nations

Archbishop Celestino Migliore, apostolic nuncio of the Holy See's permanent mission to the United Nations.

In an October 25, 2006 statement to the United Nations General Assembly meeting on sustainable development and climate change Archbishop Migliore stated that

“The environmental consequences of our economic activity are now among the world's highest priorities”

“The world's economy continues to rest basically upon its relationship to nature”

“Environmental concerns have to be understood as the basis upon which all economic and even human activity rests”

Environmental Responsibility: A Moral Imperative

<http://www.holyseemission.org/index2.html>

*Statement from the Holy See
On Sustainable Development*

Connection with Vincentian Mission

**Remarks by Archbishop Migliore before the
Second Committee on Sustainable
Development**

**62nd Session of the General Assembly
29 October 2007**

The Plan of Implementation adopted at the conclusion of the 2002 World Summit on Sustainable Development in Johannesburg repeatedly reasserts that the three components of sustainable development including economic development, social development and environmental protection are interdependent and mutually reinforcing pillars.

The Holy See believes that protecting the environment implies a more positive vision of the human being.

The individual is not considered a nuisance or a threat to the environment, but one who holds oneself responsible for the care and management of the environment.

In this sense, not only is there no opposition between the human being and the environment, there is established an inseparable alliance, in which the environment essentially conditions man's life and development, while the human being perfects and ennobles the environment by his or her creative activity.

So what , if any, progress have we made?

**Millennium Development Goals
Reports from 2005 to 2009**

Available at:

<http://www.un.org/millenniumgoals/>

MDG PROGRESS REPORT ON GOAL 7 Ensure Environmental Sustainability:

Carbon dioxide emissions continue to rise

From 1990 to 2006, carbon dioxide increased from 21.9 billion metric tons to 28.7 billion metric tons. There has been a significantly greater percent increase in developing regions 6.8 billion metric tons to 13.8 billion metric tons compared to developed regions 11.2 to 12.2 billion metric tons.

Reducing deforestation could play a key role in lowering carbon dioxide

Net global loss of forests from 2000 to 2005 is 7.3 million hectares compared to 8.9 million hectares in previous decade.

Extraordinary progress has been made in ozone depletion

From 1986 to 2007, there has been a 97% reduction in consumption of substances that deplete the ozone layer. However, damage to the ozone layer will persist for some time.

MDG PROGRESS REPORT ON GOAL 7 Ensure Environmental Sustainability:

Safe drinking water and basic sanitation services

1.6 Billion have gained access to safe water since 1990. Will meet our goal. But 1.0 Billion still do not have access to safe drinking water and 2.5 Billion still lack basic sanitation services. Despite health risks, 1.2 billion people practice open defecation.

Biodiversity continues to decline on land and sea

Currently, only 22% of our fisheries are sustainable compared to 40% in 1975.

Billions of individuals lack the basic necessities of life.

Approximately 2.4 billion lack adequate cooking and heating facilities. Another 1.6 billion have no electricity



**Statement by the Holy See Delegation
United Nations Forum on Forests 8th session
New York, 1 May 2009**

Mr. Chair-The Holy see would like to take this opportunity to offer a few brief remarks concerning women and youth living within forest systems. Unfortunately, and far too often, women are in subservient positions and do not have equal access to forest technology and capacity building.....

Since there are few other sources of fuel for cooking, women and youth have to routinely travel into the forests in order to collect fuel wood.....

**•Statement by the Holy See Delegation
United Nations Forum on Forests 8th session
New York, 1 May 2009**

when young girls and women leave their villages and go deeper into the forest to collect fuel wood, they dramatically increase their chance of being harassed, raped or experience other forms of violence.

The Holy see takes special note of this deplorable situation.....the Holy See would respectfully like to call attention to this crisis in the final UNFF resolution.....



MICHEL BONANNEE

ERIK BJ

JOHN BAZILL

FRED MANUEL BUSTLE RIO

IWAN EROLIS

VINCENT KASULI SEYA MAKINDO

USA

JOSÉ SO

Sustainable Development Updates

*International Institute for Sustainable Development
(iisd) Reporting Service*

<http://www.iisd.ca/>

Thank You!

Discussion / Questions