



How Can Christian Industries and Institutions Practice Environmental Care?

Christians, as God's witnesses on earth, have a mandate to protect, care for, and, where possible, restore God's creation. This mandate must forcefully impact Seventh-day Adventists because of their theological and practical commitment to the observance of the seventh-day Sabbath as an eternal memorial of God's creative and redemptive activity. So how should this mandate of environmental care affect the way Adventists operate their industries and institutions?

Getting Started

The first step is to recognize the need to practice environmental care. We live in a world comprised of interconnected ecosystems. All human activities interact with these ecosystems, and therefore our choices and actions affect the envi-

ronment. God holds us responsible for our choices. Therefore, environmental stewardship means making wise choices and taking responsibility for those choices. For environmental stewardship to be meaningful, effective, and efficient, it needs to be undertaken in a managed and sustainable fashion. In other words, we need guidelines to direct our choices, and policies to define the terms of the guidelines. To enable environmental stewardship to become a reality, the board and senior managers must agree to allocate resources to environmental care and the development of environmental policy for their institution or industry.

Most managers and members of institutional boards have not been specifically educated in matters pertaining to caring for the environment, and some may lack the scientific background to understand the technicalities of complex

environmental care plans and models. Therefore, it is imperative that qualified and experienced environmental consultants be contracted to help plan and implement environmental policies.

Developing an Environmental Policy

Resources for developing a corporate environmental stewardship policy are readily available on the Internet and in published literature.¹ When developing an environmental policy, it is helpful to consider and list environmental concepts and issues that are relevant to the nature of the institution, the local environment, and the culture of the local population.

One universal principle is that *our world is a created gift from God*. It is an interconnected web, and we can no longer regard ourselves in isolation

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from others. Our individual actions either contribute to or detract from the overall global health of our planet.

Another universal principle is that our planet does not have limitless resources. Its atmosphere and oceans contain a limited volume, and the forests and the algal mass in the oceans are finite resources. Therefore, we need to be discerning and prudent, and limit our consumption of the planet's resources and our production of trash.

Another concept to emphasize in corporate planning and decision-making is environmental education. Institutions must commit sufficient resources to implement effective stewardship programs. Unless we introduce programs that educate employees and church stakeholders to be accountable for caring for the environment, these policies will be ineffective. Such programs focus on the specifics of achievable environmental stewardship in the day-to-day operations of the institution.

Planners must also evaluate damage that may have already been done to the environment and local community by past operations. Then strategies and programs can be designed to minimize, mitigate, or restore any adverse environmental impacts caused by the organization's operations, including the way we provide services to the community. News about both impacts and mitigation efforts should be systematically communicated to the community as well as to employees, students, and constituents. Methods of communication can include media releases, signage, regular articles in newsletters, and specific training programs. While all programs of change require effort, recognizing achievements and celebrating milestones can play a very important role in ensuring continuing environmental awareness and compliance. Planning "environmentally friendly" celebrations should be a mandatory part of any environmental program. It

is also essential to evaluate environmental performance through periodic reviews and audits to ensure that the conduct of the institution and its staff, students, and employees is consistent with environmental policy principles.

Environmental policies must also stipulate how they will promote the efficient use of resources. They must set reasonable, achievable resource reduction targets, including strategies and methods for reducing the consumption

stitutional boards can begin to set goals and timelines to achieve sustainable environmental outcomes. Sufficient time should be allowed for both individual and corporate operations to adjust to changes, which should be rolled out gradually but steadily according to a well-defined strategy. Sufficient time must also be allotted to educate both staff and stakeholders regarding the reasons for the changes and the benefits to the institution. Involving staff and cor-



of water, energy, and other resources.

Waste disposal is a significant area of environmental concern. Environmental policies must include principles and guidelines for implementation that ensures the proper handling and disposal of all waste, including minimizing the creation of waste products and the use of non-renewable resources. Recycling targets should also be put in place.

Setting Goals and Timelines

Once an environmental policy has been established, administrators and in-

porate stakeholders in discussions relating to goal setting and timelines usually ensures better compliance and smoother transitions.

Environmental care programs usually involve significant costs and may, at first, seem to put the institution at a disadvantage with respect to marketplace competition. However, as part of our Christian duty and witness to care for the environment, these costs need to be factored into the overall operational costs. And over time, some environment programs may actually save money for the institution.



Environmental Management Systems

Effective environmental care involves effective management. This does not usually mean the management of the environment as such, but rather the management of an institution's or corporation's interaction with, or impact on, the environment. A number of tools and standards provide objective criteria for environmental management systems. One of the most widely used tools is the International Organization for Standardization ISO 14001 standard.² Another is the European Union Eco-Management and Audit Scheme (EMAS).³ Some of these systems can be quite onerous for small institutions and schools. A more manageable step-by-step approach can be found in the Green Dragon Environmental Management Standard.⁴ Another phased standard that can be more suitable for smaller institutions and schools is BS 8555.⁵

Christian institutions need to be particularly thorough in their compliance with federal, state, and local government environmental laws and regulations, and scheduling regular audits of operations to ensure that no shortcuts are taken. For Adventist institutions and schools in developing nations, the "love your neighbor" principle can be used as the guiding philosophy, even when local and state laws do not require environmental compliance. Thus, institutions should corporately commit to this principle by assessing the needs of local communities and ensuring that their practices do not harm the local community. In addition, Christian institutions should do whatever they can to reduce their carbon footprint⁶ and ecological footprint,⁷ and compare their environmental policies with those of other institutions and organizations.

One of the fundamental issues managers and school administrators face in the area of environmental care revolves around maintenance of existing infra-

structures and estates. However, maintenance programs also offer the opportunity for improvement in design and planning operations to make them more environmentally friendly. For this purpose, although qualified engineers and architects can be consulted, many general ideas can be obtained from "Permaculture" design guidelines. "Permaculture" is a design system that seeks to make environmental sustainability user friendly and practical, in order to maximize everyday compliance with

duce a yield;

- applying self-regulation and feedback;
- using and valuing renewable resources;
- minimizing waste;
- using small and slow solutions;
- using and valuing diversity;
- using landscape edges;
- creatively using and responding to change.

Basic principles, such as those stated



Workers install the hardware used to mount hundreds of solar panels on the gymnasium roof at Hawaiian Mission Academy, which expects its campus to be fully solar powered during the 2013-2014 school year.

sustainable behaviors.

Permaculture design aims to:

- rebuild natural capital;
- care for self, kin, and the community; and
- share, by redistributing surplus, and by limiting consumption and reproduction.

Permaculture's principles include:

- studying the environment to learn how best to interact with it;
- catching and storing local energy using solar panels, wind turbines, and water wheels;
- designing work programs that pro-

above, can and should be applied both at the corporate and individual levels.⁸

Areas of Environmental Care: The Adventist Advantage

In addition to the current wealth of information and resources, Seventh-day Adventist institutions also have the advantage of the inspired counsel of Ellen G. White. Perhaps the most pertinent of her counsels is her elucidation of the eight components of natural health: pure air, sunlight, abstemiousness, rest, exercise, proper diet, the use of water,



and trust in divine power.⁹ These components are also essential for the health of the environment and can be used to create a balanced environmental-care framework that sets Seventh-day Adventist institutions apart. These principles can be expanded as follows:

Air Quality

Clean air is essential for the health of living organisms. Humans create air pollution through the burning of fossil fuels (creating toxic exhaust and particulate matter from combustion of gasoline and diesel fuel in vehicles, and coal and gas in electrical generating plants), manufacturing, burning waste materials, creating dust, allowing various chemicals to escape into the air, and by smoking tobacco. Humans also cause air pollution *indirectly* when we buy goods and services that use energy in their production and delivery.

Taking measures to reduce emissions and lower our rates of consumption obviously help keep the air clean. However, humans can make a significant contribution to cleaning the air and producing fresh oxygen by planting trees and plants, which absorb some of the pollutants in the air and produce oxygen to replace what has been used by electrical power generation, motor vehicles, and respiratory processes. For example, every kilowatt hour of electricity consumed uses up the oxygen that 19 small trees take one week to produce.¹⁰ Trees can also absorb excessive noise and help moderate air-temperature changes. Oxygen-producing shrubs and small trees can be used as fences, as barriers in parking lots, to shade walkways, and to add beauty and variety to industrial and institutional landscapes. The more trees, shrubs and flowers we plant, the more fresh oxygen we will have and the closer we will come to restoring the environment to that which God created for our original parents (Genesis 2:8, 9).

Indoor air can become polluted from chemicals used in the manufac-

ture of furnishings, carpets, and paints as well as from tobacco smoke and poorly maintained air-conditioning systems that create “sick-building syndrome.”¹¹ Air-conditioning units consume large amounts of energy and associated resources. Dependence on these units can be reduced by creating shade and natural evaporation by planting strategically located trees to cool the air circulated through open windows in summer. In winter, the solar energy from the sun’s rays can be used in conjunction with improved insulation to reduce heating costs.

Sunlight Management

Sunlight provides light for vision, but also for health. Sunlight regulates the circadian rhythms that control our blood pressure, blood sugar, sex hormones, and mood. Sunlight also provides cleansing benefits in the form of ultraviolet light, which kills germs and mold and helps purify running water. These rays also help the human body produce vitamin D, a powerful anti-cancer chemical that is essential for healthy bones and protection against heart disease.¹² Sunlight also provides heat, light, and energy, with the latter being available for electricity generation via the installation of solar electrical panels. By incorporating building designs that utilize natural daylight for light and heating, and by building grid-feeding solar panels, overall energy consumption can be reduced. The health and wellbeing of employees can be enhanced by providing outdoor areas where they can get the benefits of sunlight while sheltered from adverse weather during lunch and break times.

Conservation

Conservation is a fundamental principle of environment care. Conservation aims at reducing waste and other negative impacts on the planet. It in-

volves minimizing what we consume and throw away. Practical applications can be as simple as reducing the amount of energy and resources consumed on a daily basis. In fact, it can be fun to join with colleagues and students to brainstorm about ways to reduce daily consumption of resources.

Practical environmental savings can also be achieved at the corporate level. Ways of accomplishing this include choosing furniture from recycled or sustainable plantation timbers; buying uniforms made from hemp (a very sustainable crop that can be grown without fertilizers or pesticides); purchasing fuel-efficient fleet vehicles; recycling paper, bottles and cans, and cardboard; using reusable or recycled packaging; and printing/photocopying on both sides of the paper. A June 2011 *Business Insight* report pointed out that for a 330 ml can of soft drink, packaging was responsible for more than 55 percent of the product’s carbon footprint.

Managing Rest

The need for rest applies to the environment as well as to humans. I have already referred to the weekly Sabbath rest which is a time when we, as Adventists, usually travel less, close our schools and factories, and schedule only essential services in our hospitals and institutions. Besides providing renewal for humans, this simple obedience to one of the Ten Commandments helps reduce consumption of energy and other resources, thereby decreasing our negative impact on the environment. The biblical sabbatical year, however, provides a greater challenge in terms of implementation. Our institutions and farms can still practice crop rotation of gardens and fields—leaving a portion fallow each year as part of a seven-year cycle.

The same seven-year principle can be applied to environmental goals. Thus, projects can be set up with timelines of six years or less, with the seventh year



reserved for the celebration of the achievement of environmental goals. The sabbatical year was meant to be a time of learning (Deuteronomy 31:10-13), and this principle can be applied to promoting care of the environment in a special way during the last year of the cycle. This not only increases community awareness of the environment and the Creator, but can also be a time when extra corporate and personal attention can be given to caring for the environment, as well as to projects aimed at repairing environmental damage—by focusing on restoration.

Ensuring a Balanced Lifestyle

Personal exercise activities can contribute to environmental care in many ways. We can choose to use public transportation or bicycle and walk to and from our destinations. Institutions can provide recreational facilities, such as volleyball areas and walking paths; and establish exercise-awareness programs, such as issuing pedometers to employees and encouraging everyone to strive to achieve goals such as 10,000 steps or more per day. Staff and students can be divided into teams, with the team that accumulates the most steps being awarded a prize, such as a paid outdoor activity or a recreational clothing voucher. Personal exercise is essential to maintaining wellness, and healthy people place fewer demands on health-care systems, thereby reducing the associated environmental costs in terms of energy, water usage, and carbon footprint.

Planners can schedule exercise programs that directly benefit the environment, such as tree planting and community gardens. Staff can be allocated paid time to participate as teams in these projects. Institutions can plant fruit and vegetable gardens and encourage staff to sign up to tend them. These can be fun times for the team, and the produce can be donated to needy families in the community. Ac-

tivities such as community help programs (mowing lawns for handicapped and elderly people, or doing some laundry for a single mother on welfare) can help keep staff fit and make a difference in the community. Typically, the corporate budget allocated to these types of projects is approximately three hours of paid time per month.

Food and Nutrition

At first consideration, it is not obvious that nutrition can play an important

times more pesticides than a vegetarian diet, with the differences largely attributed to the environmental costs of meat production.¹³

Seventh-day Adventist institutions and industries can promote awareness of the environmental benefits of vegetarianism, as well as the health and longevity benefits. Vegetarian recipes can be collected¹⁴ and e-mailed to staff and employees, along with company news, environmental reports, and workplace safety updates.



part in caring for the environment, but it is actually a significant factor. There seems to be a growing consensus among researchers that a plant-based or vegetarian diet is more environmentally friendly than a diet that includes meat and fish. A Loma Linda University study published in 2009 found that on the basis of 11 common food items constituting either a vegetarian or non-vegetarian diet, the latter was more costly to the environment. The researchers found that a non-vegetarian diet required 2.9 times more water, 2.5 times more energy, 13 times more fertilizer, and 1.4

Water Usage

Contamination of drinking water and of Earth's oceans is one of the most important environmental concerns facing our planet. In many regions, sewage ends up either in rivers and reservoirs used for drinking water or in the oceans. Planning and designing systems to collect, conserve, or recycle water and reduce emissions of sewage, animal excrement from farms, and other wastes can play an important part in environmental care.

In developed countries, excessive and



unnecessary water use is a growing concern; thus, an evaluation of an organization's water usage or water footprint can lead to an awareness of the need to develop and implement water conservation programs.¹⁵ On the other hand, encouraging employees to drink more water instead of tea, coffee, or soft drinks can lead to improvements in personal health, as well as savings in the environmental resources used to prepare, package, and transport tea and coffee to the workplace—not to mention the many cups and containers that can be saved.

Honoring God

Caring for our environment in a way that brings honor to God requires diligent forethought and careful planning. It involves learning about creation and how to become wise and faithful stewards. To achieve this goal, Adventist institutions will have to change the way we do business at both the individual and corporate levels. For changes to be effective and sustainable in the long term, measurable, achievable goals must be established and monitored. These changes must be based upon a vision and the determination to care for God's creation in a way that is a positive witness to our neighbors.

Love for God and Humankind: The Motivation for Environmental Care

While the Old Testament and the writings of Ellen G. White provide brief but useful guidelines for environmental care and stewardship, the motivation for environment care is underpinned by two fundamental principles that Jesus taught: to love God with all our heart and soul and mind, and to love our neighbor as ourselves (Mark 12:29-31). The Earth belongs to God (Psalm 24:1). If we truly love Him, we will take care of the planet He has entrusted to us. We also have an obligation to our fellow human beings, of whom around 925 million are undernourished as a result of natural disasters, conflict, poverty, and

exploitation of the environment. By caring for the environment, we are also helping to care for our neighbor. ✍

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