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Leadership Development and Management of Environmental Non-Governmental Organizations

Koushen Douglas Loh
*Texas A&M University
United States of America*

1. Introduction

The Overview section depicts the emerging power and the role of the 3rd Sector in general and environmental non-governmental organizations or NGOs in particular in advancing environmental causes. A history of their coming-into-being and their evolution triggered by “Silent Spring” is introduced. Possible future role of environmental NGOs in effecting changes toward a better environment is discussed. This section sets the tune for further elaborations on how an environmental NGO may best develop its structure, leadership, programs and management scheme.

1.1 Historical background

"Non-governmental organizations" or NGOs, as we know them today are generally thought to have come into existence in then industrialized European countries and in the United States around the mid-nineteenth century (WANGO, 2008). In the United States, Founded in 1892, Sierra Club is probably the oldest NGO with an environmental focus in the States. A century or so later the importance of NGOs was officially recognized by the United Nations (UN). The term came into use in 1945 by UN to differentiate in its Charter between participation rights for intergovernmental specialized agencies and those for international private organizations (Mostashari, 2005). At the UN Congress in San Francisco in 1968, a provision was made in Article 71 of the Charter of the United Nations framework that qualified NGOs in the field of economic and social development to receive consultative status with the Economic and Social Council. At the UN, virtually all types of private bodies can be recognized as NGOs. They only have to be independent from government control, not seeking to challenge governments either as a political party or by a narrow focus on human rights, non-profit-making and non-criminal.

The non-profit-making qualifier is an important attribute of NGOs. Often they are also referred to as Non-Profit Organizations or NPOs. NGOs or NPOs are regarded as a force for good by virtually all nations in the world. As a whole, they are considered as the “Third Sector,” while the government and the private sector are the 1st and the 2nd sector, respectively. Their unique role is usually recognized and defined legally in a country they operate in. For example, those who qualify and meet specific requirements stipulated by the Internal Revenue Service (IRS) of the United States are typically called the 501 (c) (3)

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organizations. A 501 (c) (3) entity has a tax-exempt status, a privilege that allows it to dispense its financial resources to do more good to the society. Qualified activities include: Religious, Educational, Charitable, Scientific, Literacy, Testing for Public Safety, to Foster National or International Amateur Sports Competition, and Prevention of Cruelty to Children or Animals (IRS, 2008). Virtually all reputable NGOs with an environmental focus, or Environmental NGOs for short, in the United States, are registered with the U.S. government as 501 (c) (3) entities. Examples include the Natural Resources Defense Council, the Environmental Defense Fund, and the Sierra Club, just to name a few.

Recent decades have seen an increase in the number, role, and functions of environmental NGOs. The one, single most notable watershed event took place in 1962 when Rachel Carson published "Silent Spring." Her book depicted how destructive such chemicals as DDT are to the environment. Her alarm touched off a national debate in the United States. It set in motion a course of events that would result in the ban of domestic production of DDT in 1964 and the creation of a grass-roots movement demanding protection of the environment through state and federal regulation. Carson's writing initiated a transformation in the relationship between humans and the natural world and stirred the awakening of public environmental consciousness (Carson et al., 2002). Her inspiration triggered the sprouting of many environmental NGOs, e.g. the coming-into-being of the Environmental Defense Fund in 1967 and the Natural Resources Defense Council in 1970. These and other NGOs have become champions for the environment.

1.2 Post "Silent Spring" era: the character defining moment of the environmental NGOs

Today, environmental NGOs are playing increasingly vital roles in directly impact and influence environmental issues on the international, national, and local levels. The environment emerged as a new critical international issue in the 1970s. Concerns such as the depletion of natural resources, climate change, and harmful pollutants began to gain awareness in the public's mind. In the United States, the environmental movement emerged from incidents and individuals reacting to governments who might be slow, unable or unwilling to address issues and problems. The long and winding road toward the "Clean Air Act" typifies how the environmental movement in general and the NGOs in particular have been defined their unique character - environmental advocacy.

In 1923, leaded gasoline was introduced to the market to enhance engine performance of automobiles. Although the harmful effects of lead to health are increasingly recognized, auto makers fight mandatory emissions control for their cars. In 1967, Congress finally passed a bill called "Air Quality Bill of 1968," the first federal legislation aimed at reducing pollution. Without setting standards, imposing hard deadlines, and providing enforcement, though, it failed to accomplish its goals. It was, however, a good first step that provided a framework for more effective legislation down the pipeline.

In 1970, Senator Gaylord Nelson (D-WI, 1963-1981) found inspiration in the 1969 anti-war movement and proposed a large-scale demonstration on behalf of the environment. He organized and founded Earth Day, the first mega-scale grassroots environmental rally. On April 22, 1970 millions of participants across the country simultaneously voiced their environmental concerns. The idea was big enough to make headlines across the country in major news outlets, which report on the planned event in the preceding months. A masterpiece was the one printed on the New York Times, which reads: "Rising concern about the environmental crisis is sweeping the nation's campuses with an intensity that may

be on its way to eclipsing student discontent over the war in Vietnam ... a national day of observance of environmental problems ... is being planned for next spring ... when a nationwide environmental 'teach-in' ... coordinated from the office of Senator Gaylord Nelson is planned (Hill, 1969)." Sen. Nelson said years later, "We had neither the time nor resources to organize 20 million demonstrators and the thousands of schools and local communities that participated. That was the remarkable thing about Earth Day. It organized itself." This first-ever Earth Day event indeed expedited the 1970 Clean Air Act, the first of its kind of legislation in the world that placed concrete measures to combat air pollutions.

As 1970 drew to a close, Congress passed ground-breaking rules to curb pollution. Its principal provisions are:

1. Establishing National Ambient Air Quality Standards (NAAQS). The law requires that EPA identify and set standards for pollutants identified as harmful to human health and the environment.
2. Primary and Secondary Standards. The Clean Air Act establishes two categories of air quality standards: Primary standards set limits to protect public health. Secondary standards set limits to protect against public welfare effects, such as damage to farm crops and vegetation.
3. Leaded gasoline phase-down. The law requires leaded gas to be phased out by the mid-1980s – one of the single most important and successful environmental health initiatives of the last century.

The impact of the Clean Air Act is enormous. By 1995, the percentage of U.S. children with elevated blood-lead levels has dropped from 88.2% in the 1970s to 4.4%, according to data compiled by the Centers for Disease Control and Prevention (CDC). In fact, almost all the pollutants that contribute to the National Ambient Air Quality Standards have significantly decreased since 1970:

Carbon Monoxide: 31% decrease
 Sulfur Dioxide: 27% decrease
 Particulate Matter* (PM-10): 71% decrease
 Lead: 98% decrease

*Particulate matter – particles in the air – include soot, smoke, dirt, and liquid droplets.

Though not one of the six criteria pollutants, volatile organic compounds, such as dry cleaning fluids and paint thinners, which contribute significantly to photochemical smog production and certain health problems, have also declined some 42% from their 1970 levels (Rowell, 2003).

It is worthwhile noting, that, since its birth in 1970, the Earth Day movement has evolved into the Earth Day Network. To date (2010), the network has a global reach with more than 20,000 partners and organizations in 190 countries. More than 1 billion people participate in Earth Day activities, making it the largest secular civic event in the world. It is a living proof that ideals and values can become "forces for good."

As the laws of physics dictate, whereas there is a force, there will be a counter-force. The environmental NGOs and the causes they are fighting for are no exceptions. When it comes to the Environment, however goodwill-intended an agenda, there is no shortage of controversies. A case in point is that, despite the huge benefits of the Clean Air Act, the counter-force has always been at work in rolling back pertinent regulations and enforcements stipulated in the Act.

Because many states fail to meet mandated targets, the first set of Clean Air Act amendments is adopted in 1977. One of the most effective of these is the New Source

Review (NSR), which addresses older facilities that had been "grandfathered" by the original law. In 1970 Congress had assumed that older industrial facilities, such as power plants and refineries, would be phased out of production, so they were exempted from the legislation. But when these big polluters continued to operate and emit pollution at much higher levels than new facilities that were built with modern pollution-control equipment, lawmakers knew they had to act. The resulting New Source Review requires older industrial facilities that want to expand to undergo an EPA assessment and install pollution control technologies if their planned expansion will produce significantly more emissions. Alternately, these facilities can opt to offset the increased emissions by lowering them in other units they own. This way, older plants will not impinge on the cleaner air more modern plants are responsible for.

On Dec. 31, exactly 32 years after President Richard Nixon signed the Clean Air Act into law, the Bush administration announced significant rollbacks to pollution control provisions. Key points include:

1. New rules allow virtually all pollution increases from old, high-polluting sources to go unregulated. EPA will allow companies to avoid updating emission controls if their plant's equipment has been reviewed at any time within the past decade, and the measures used to calculate emissions levels will be reconfigured.
2. The review process built into NSR is drastically scaled back. Until then, when facilities wanted to expand their production, thereby increasing their emissions, they would have to apply for permission and undergo EPA scrutiny and public comment. The rollback does away with this requirement. Since the new regulations went into effect in March 2003, communities will not know when a nearby power plant is increasing the amount of pollutants pumped into their backyards.

Wrestling between enforcement and rollback of an environmental law goes back and forth; and environmental NGOs certainly play a pivotal role in this type of tug-of-wars. Take Clean Air Act as an example, the Natural Resources Defense Council (NRDC) is probably one of the most reputable organizations that are willing to pick up the fight. Formed in the same year the Clean Air Act passed, NRDC has been a watchdog that diligently tracks the progress (or the lack of it) of the law's implementation since 1970.

NRDC is a membership-based organization and has the support of 1.3 million members and online activists. Internally the organization has a staff of more than 300 lawyers, scientists and policy experts. The sizable membership, supporters and the well-trained workforce enable NRDC to be a strong advocate for the environment.

As an advocacy group, the organization operates a solid legislative team that is dedicated to protecting and building upon America's framework of environmental laws. The team analyzes and keeps interested stakeholders up to date with latest legislation affecting environmental issues through its biweekly Legislative Watch Bulletin. The Bulletin tracks all environmental bills moving through Congress. Periodically, the organization publishes major issue papers based on its research and analysis effort. For example, as lately as December of 2008, it made public the issue paper titled "Repairing Health Monitoring Programs Slashed under the Bush Administration." In a straight forward manner, the paper pointed out the cutbacks by USEPA on air quality monitoring programs. It also made clear the significant back-paddling of the White House from the Act. In addition, the paper gave specific recommendations on what has to be restored in order to protect public health from air pollutions (Rotkin-Ellman et al., 2008).

The organization also maintains a viable “Climate Center” to contribute to relevant causes in combating global climate change and, in this context, in monitoring the Clean Air Act. One of its approaches is to have the ears of the US Congress. For example, in 2007, the Center proactively provided testimony to the US Senate Committee on Environment and Public Works in its public hearing on “The Implications of the Supreme Court’s Decision Regarding EPA’s Authorities with Respect to Greenhouse Gases under the Clean Air Act.” Again, the organization deployed its viewpoints based on solid science and with specific recommendations. A portion of the excerpts highlights the eloquence of the typical NRDC style:

“...NRDC supports placing every ounce of pressure you can on the Administration to faithfully execute the existing law of the land. The actions already within EPA’s power would take a big bite out of global warming. At the same time, we also support enactment of new economy-wide legislation to comprehensively address global warming.

In NRDC’s view, solving global warming requires three things:

- A mandatory declining cap on national emissions that starts cutting emissions now and reduces them by 80% by 2050.
- Performance standards – for vehicles, fuels, and power plants, as well as buildings, appliances, and other equipment – to quickly deploy today’s emission-cutting technology and promote rapid development of tomorrow’s.
- Incentives – drawn mainly from the value of emissions allowances – to promote new technology, to protect consumers (especially low-income citizens), workers, and communities, and to help manage adaptation to climate impacts that we cannot avoid...” (Doniger, 2007)

NRDC’s effort of this sort addresses not just the Clean Air Act, but also other legislations such as the Clean Water Act, the Endangered Species Act and beyond. The collective strength greatly expedites its agenda in protecting the planet’s wildlife and wild places, and to ensure a safe and healthy environment for all living things.

1.3 The futures of environmental NGOs

The continuing saga of “going-back-and-forth” on the Clean Air Act shows the dynamic nature of an environmental cause: the acting/counter-acting forces are always at work. This characteristic and the way NRDC conducts advocacies may shed some light on how an environmental NGO may strive for: Be a Force of Good to achieve more impact.

For NGOs as a whole, the 1980s and early 1990s were all about replicating programs. Around the turn of the millennium, it was about building effective organizations. The next leap is to see them as catalytic agents of change; the NGOs or NPOs are to work as “Forces of Good” to achieve more impact (Crutchfield and Grant, 2008).

As Crutchfield and Grant (2008) pointed out, that, in striving to balance the counter-forces and in seeking greater impact for better societal advancement, organizations must learn how to do the following:

1. Work with government and advocate for policy change, in addition to providing services;
2. Harness market forces and see business as a powerful partner not as an enemy to be distained or ignored;
3. Create meaningful experiences for individual supporters and convert them into evangelists for the cause;

4. Build and nurture nonprofit networks, treating other groups not as competitors for scarce resources but as allies instead;
5. Adapt to the changing environment and be as innovative and nimble as they are strategic; and
6. Share leadership, empowering others to be forces for good.

One may regard these things as the guiding principles for a NGO to consider in shaping its future to be a “great” environmental advocate.

2. Organizational structure and management of an environmental NGO

In this section, a roadmap for environmental NGO is depicted. It depicts the forming and operation of an organization, including the visioning process, strategic planning, program development and project implementation. A practical management scheme with a set of essential ingredients for environmental NGOs is highlighted. Wherever appropriate, advices for best practice are suggested.

2.1 Roadmap for an environmental NGO

One picture is better than a thousand words. Figure 1 is a roadmap that illustrates key elements on how, in a lifecycle context, an environmental NGO is conceived. The diagram also depicts the generic structure of an organization and how it operates. Conceivably, this roadmap should be applicable to most, if not all NGOs.

At the upper left corner of the diagram is the current status of the world. The world can be regarded as a glass that is half full. As such, it is likely that there is always an individual or some individuals who feel the urge to help add something into, or take something out from it. In other words, someone or some ones will always have the desire to shape the world to a future more desired state. The roadmap provides a synoptic reference on how things get done.

2.1.1 The forming of an environmental NGO

To begin the process, people of the like-mind are to come together to identify and consolidate their “shared values.” A shared value can be as concrete as focusing on protecting a specific bird; or it could be as broad as improving public health. Shared value enables a group of enthusiasts to work together and to market their ideals to pertinent stakeholders and to possible donors. It helps gather momentum and resources, financial or otherwise, toward forming an NGO for the cause.

To conduct business, NGOs do not necessarily have to be registered with the government. Through registration an NGO becomes a legal entity in a jurisdiction and acts as such, e.g. signing and executing contracts. If not registered, such necessities may be done in the name of an individual for an NGO. The case in point is the first Earth Day Movement in 1970. In this instance, the initiators led by Senator Gaylord Nelson were able to mobilize millions of people for a common cause without a formal institution.

For all practical purposes, however, one might prefer to formally register his/her organization as a “legal entity.” One key incentive is the tax-exempt status for a formally registered NGO. The reason is simple and explicit: As long as the funds are spent on the cause specified in the registered official documents, portions or all of the expenses may be exempt from taxation. The tax-exempt status is not just a mechanical advantage. In many

instances, it allows others, typically businesses and individuals, to make tax-deductable donations to an NGO. Furthermore, the tax-exempt status renders a psychological edge to an officially registered and recognized NGO. Normally people would regard an organization with such status as philanthropy or a charity for a good cause, and will be more passionate to support.

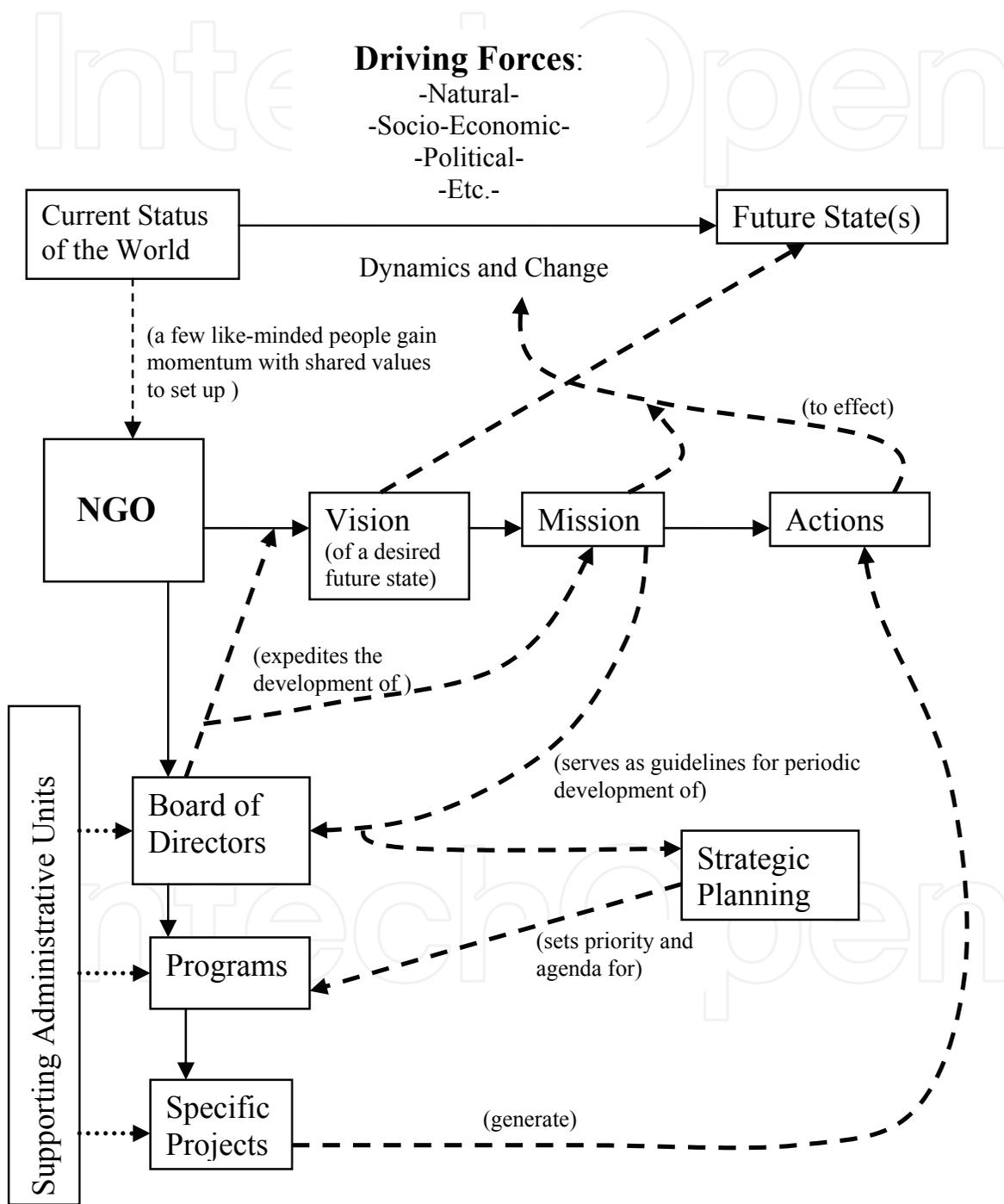


Fig. 1. Overview of an Environmental NGO's Organization Structure and Its Role in Effecting Change

To become a legal entity, an NGO would need to file certain documents as formal elements of institutionalization with the government. The formal elements of institutionalization usually include a charter of the entity to be formed, and the articles of incorporation or pertinent bylaws. These documents would contain some specificities of an NGO, including its purposes (causes), domains of engagements and activities, stipulation of regular meetings of a governing board, and quite often, a set of sunset clauses. After gaining initial legal and tax-exempt status, an NGO does need to file forms with government on how funds were dispensed on justifiable grounds to maintain such status.

The way NGOs register, gain and maintain tax-exempt status varies from country to country. However, the principles on how they are regarded as philanthropies/charities, or **Forces for Good**, by governments, business communities and stakeholders at large are basically the same.

2.1.2 The structure of an NGO

Generically, an NGO consists of four components. They are: 1) Board of Directors or Trustees; 2) Programs; 3) Specific Projects; and 4) Supporting Administrative Units.

The Board of Directors is the governance body of an NGO. It sets the policies, approves the programs and oversees their implementations. Programs are the managerial body of an NGO. They consist of domain areas an NGO target or plan to target to further its causes. Structurally, there is usually a president, an executive director or so-called CEO. He/she reports to the Board. With authorization from the Board, he/she bears overall responsibilities of the organization and the programs. For a sizable NGO, there may be a program officer for each program. The program officers report to the CEO. Projects are each a specific action that is grouped under a domain program. Usually there is a project leader or a project coordinator assigned to this specific action. It is the "field implementation" of an organization. Project leaders or coordinators report to the program officer of their domain. Administratively, there would be a number of supporting units that maintain the day-to-day operations of an NGO. The operations usually consist of office administration, fiscal management, accounting and internal auditing. Usually there is a vice president or an associate director who oversees these administrative functions. He/she reports to the CEO of the organization.

On a generic environmental NGO setting, the Board and the CEO govern; the program officers manage; the project leaders and coordinators implement or act; and the administrative support units operate.

2.2 The fundamental processes of an environmental NGO

With initial structure in place, an environmental NGO may start pertinent processes toward attaining what it was set forth to pursue. There are three fundamental or key processes an NGO needs to enact. They are 1) visioning, 2) strategic planning and 3) Actions.

2.2.1 Visioning

As the famous visioning expert Steven C. Ames once said: "If we wish to create a better world, we must first be able to envision that world." Visioning is an exercise for an individual or a group to establish proper perspectives on a subject matter of interest. It is a common practice carried out by a community, a business or an NGO. The most commonly adopted methodology is so-called "The Oregon Model" (Ames, 1993). In essence, four sequential

perspectives are to be established through the visioning process. They are: 1) Where are we now; 2) Where are we going; 3) Where do we want to be; and 4) How do we get there.

Based on the Oregon Model paradigm, it is contended that an environmental NGO may follow the four steps to expedite its visioning process:

- Step 1.** "Where are we now?" This step focuses on profiling the current state of an interested domain or domains of the world, e.g. air, water and/or wildlife: describing the backgrounds and important features of the domain(s), assessing their strengths and weaknesses, defining current issues and concerns, and articulating core values the organization holds dear to itself and wish to share with of its targeted audiences, i.e. pertinent government agencies, businesses and certain sectors of the general public.
- Step 2.** "Where are we going?" This step focuses on determining where the domain(s) of interest is headed if current directions persist. Relevant demographic, economic, environmental and social trends are identified, and emerging issues that may impact the domain(s) are postulated. "Probable" scenarios are then developed showing what the domain(s) of interest might look like in the future if it continues on its current course with no major changes in direction.
- Step 3.** "Where do we want to be?" This step represents the core of the visioning process. The purpose is to articulate a vision of what the community wishes to become in the future. Starting from the probable scenario, a "preferred" scenario is developed showing what the domain(s) could look like in the future if stakeholders could be mobilized to respond to identified trends and emerging issues in a manner that is consistent with the organization's core (and shared) values. Ultimately, this "realistically idealistic" picture becomes the basis of a formal vision statement.
- Step 4.** "How do we get there?" In this step the organization begins planning to achieve its vision. This phase is, in essence, a self-contained strategic (or "action") planning process. It identifies short-term strategies and actions intended to move the domain(s) of interest in the direction of its long-term vision. It also identifies programs responsible for implementing specific actions, timetables for completion of these activities, "benchmarks" for monitoring progress, and other relevant information. The resulting action plan is designed to be revised and updated several times over the lifetime of the vision.

Usually the most tangible outcome of the visioning process of an environmental NGO is the creation of a mission statement. The mission statement usually consists of the values, overall issues, and goals (and sometimes objectives) an environmental NGO has conceived. It serves to guide an environmental NGO on its organizational journeys to effect change to the environment from its current condition to a desired future state. As an example, the mission statement from NRDC reads as follows:

"The Natural Resources Defense Council's purpose is to safeguard the Earth: its people, its plants and animals and the natural systems on which all life depend.

We work to restore the integrity of the elements that sustain life -- air, land and water -- and to defend endangered natural places.

We seek to establish sustainability and good stewardship of the Earth as central ethical imperatives of human society. NRDC affirms the integral place of human beings in the environment.

We strive to protect nature in ways that advance the long-term welfare of present and future generations.

We work to foster the fundamental right of all people to have a voice in decisions that affect their environment. We seek to break down the pattern of disproportionate environmental burdens borne by people of color and others who face social or economic inequities. Ultimately, NRDC strives to help create a new way of life for humankind, one that can be sustained indefinitely without fouling or depleting the resources that support all life on Earth.”

The mission statement sets the foundation for the ensuing strategic planning in an environmental NGO.

2.2.2 Strategic planning

Strategic planning is the process to incorporate an organization's vision, mission, values, overall issues, and goals (and sometime objectives) into programs. Usually goals refer to what an organization strives to attain in a longer term, e.g. 5 or more years; objectives are targets of accomplishment on a shorter term, e.g. 3 to 5 years or less. Along the process, priorities and agenda are to be set to bring about or to adjust an organization's programs.

A conventional wisdom is that an organization usually repeats a visioning exercise once a decade or even once in two decades; a strategic planning is done every 3 to 5 years. However, our Environment is changing at a much faster and more alarming pace than in the past (Think about the disappearance of glaciers!). It is highly advisable that an environmental NGO considers collapsing and synchronizing the two endeavors in a same 4 to 5 year intervals. In addition, it may be preferred that the interval and timing be tuned optimally to be coinciding with the political and/or planning systems of major economies of the World. As Figure 1 shows, there are driving forces that effectuate changes of the World and the Environment. Optimal timing of visioning and strategic planning may make it more conducive for an environmental NGO to tap into and or to leverage the forces for its cause toward change for the better.

There are 7 key steps in a strategic planning process (Bryson, 1994). They are: 1) development of an initial agreement concerting the strategic planning effort (or the “plan” for planning; 2) identification of mandates; 3) clarification of mission and values; 4) assessment of the external environment; 5) assessment of the internal environment; 6) identification of strategic issues; and 7) development of strategy. And, if in sync with visioning process as is stipulated above, there would be the 8th step of preparation of a description of the organization and the domain(s) of interest in the future.

The strategic planning process sets priorities and agenda on the line-up and/or the adjustment of program areas an environmental NGO strives for in the timeline planned for. Take NRDC as an example; the organization currently has a line-up of 13 program areas. They are: Air & Energy, Center for Advocacy and Campaigns, Center for Market Innovation, Climate, Health, International, Land & Forests, Legislation, Litigation, Midwest, Nuclear, Oceans, Science Center, Urban, and Water.

2.2.3 Actions

Strategic planning results in programs. Each program serves as the launching pad for the design, planning and implementation of specific projects under a particular umbrella program. Those specific projects are where actions take place; and if executed as intended, exert impact in effecting change of the targeted domain(s) toward a better future state. It is through specific projects or actions that stakeholders gain insights to an NGO and have a

more direct feel on the impact of what that organization may exert on a particular cause. In other words, actions are the interface between an organization and its stakeholders.

Action planning is necessary to ensure that selected proposals or options dealing with the issues actually are implemented. Action plans detail the specific means by which strategies will be implemented and strategic objectives reached (Bryson, 1994). Action plans typically incorporate the following five factors:

1. The specific steps or actions required,
2. Who will be held accountable for seeing that each step or action is completed;
3. When these steps or actions are to be carried out;
4. What resources need to be allocated in order to carry them out; and
5. What feedback mechanisms are needed to monitor progress within each step (Morriessey, et. al., 1987).

In addition, it would be wise to fully comprehend the old saying of "Idea is cheap." It is particularly important that action plans be coordinated with the organizational budgeting process to make sure adequate financial resources are available to support implementation efforts (Bryson, 1994). This point is especially important to an environmental NGO. In fact, virtually all NGOs place an emphasis on identifying and locating and securing external funding opportunities. As such, NGO personnel are quite often busy in the so-called proposal development mode. The bottom line is no funding, no project, and thus no action.

2.2.4 The management of an environmental NGO

Management is perhaps the most challenging aspect of NGOs in general and environmental NGOs in particular. The reason is that practitioners of an environmental NGO are often environmental enthusiasts from board, programs down to projects. They may be full of passions. Managerial experts, they may be not. That is where administrative units come in to the picture. These units are to be filled with business professionals. They complement their environmental counterparts to enable a more comprehensive and complete management scheme for the organization. It is advisable that a comprehensive management scheme cover all aspects of an organization's operations. Derived from the framework laid out by Dees, Economy and Emerson (2001), the scheme may break down into 9 aspects:

1. Managing the mission;
2. Managing opportunities;
3. Managing resources;
4. Managing accountabilities;
5. Managing risk;
6. Managing the art of innovation;
7. Managing the stakeholders;
8. Managing the finance; and
9. Managing the social entrepreneurship of the NGO and its business planning;

For details of each managerial aspect, readers may reference the book titled "Enterprising Nonprofit" by Dees et. al.(2001). In the context of framing the issues involved, the topics related to opportunities, accountabilities and risks are briefed discussed. These topics are deemed to be of more "urgent nature" to the sustainability of an environmental NGO.

Opportunities give organizations direction, and they create or sustain social values. Good opportunities, however, are subject to all sorts of issue, including timing, changing environment, and human conditions. The ability to recognize and then pursue opportunities

is a critical skill for success in the world of nonprofit organizations (Kitzi, 2001). Key points to bear in mind are as follows:

1. Optimism is not enough;
2. Think innovation in existing services or products;
3. Recognize trends and new patterns of behavior;
4. Know that there is opportunity in chaos or catastrophe;
5. Relationships matter – makes others aware of who you are and what you are trying to accomplish – Network!
6. A great idea may or may not represent a good opportunity;
7. Assessment is an imprecise, ongoing process that includes judgmental calls and creative refinement of the idea along the way;
8. A budget is just a planning document; pursue opportunities without being limited by resources currently at hand;
9. Opportunity recognition is both a science and an art. Collect the right amount of information relevant to the size, scope, and time available. But, ultimately, gut instincts must weigh heavily in any decision-making process;
10. The amount of human and financial resources that go into answering assessment questions should depend on the level of commitment required to move forward; and
11. A clear understanding of the position of the window of opportunity is necessary before taking action because timing is everything.

NGOs or social entrepreneurs are accountable to the many stakeholders who are concerned with the common goals (Emerson, 2001a). Key points include:

1. real social entrepreneurs are not loners but work as part of a network of like-minded individuals;
2. Responsible social entrepreneurs make an effort to inform stakeholders where they are headed and how they intend to get there;
3. Accountability helps social entrepreneurs that they are achieving their goals and being responsive to their social cause and mission;
4. Consider creating a “punch list” for accountability, a framework that you can use to organize your work;
5. The destination of accountability is the journey toward being accountable!
6. Communicate your performance to your key constituencies in an understandable, timely, and accurate manner; and
7. Watch out for the road blocks to accountability.

Every organization has some amount of exposure to risk, or the possibility of an undesirable outcome. The key to risk is to understand it and then to determine how best to manage it (Emerson, 2001b). Key points to remember include:

1. Risk is the possibility of an undesired outcome;
2. Risk is measured in two main ways: the potential magnitude of the risk and the possibility of its occurrence;
3. Personal risk tolerance is not a function of age, but a function of individuality and life; and
4. Take risk, but never gamble.

3. Leadership and its development of an environmental NGO

The section depicts a trend of the merging of leadership and management in the NGO sector. It describes styles, qualities and skills of suitable leadership. The stipulation that

“everybody is a leader” is emphasized. It also renders a comparison of various leadership models. On the premise of sharing leadership, how an NGO and its personnel may work together to expedite leadership development is suggested.

3.1 Leadership versus management

There is a well-known story about four blinded persons asked to describe an elephant. The answers, as we all know, come out to be a rope, a fire hose, a trunk and a wall. This is certainly the case when it comes to defining what leadership is.

In a conventional way, scholars of the leadership research field tend to emphasize the distinction between leadership and management. Nanus and Dobbs (1999) stipulate that leadership should never be confused with the management or administration of a nonprofit organization. The main responsibility of a manager is to operate and maintain the organization efficiently, ensuring that it provides useful services to clients or the community at the lowest possible cost. The leader, though always cognizant of current operations, is more concerned with building the organization for the future—that is, securing new resources, developing new capacities, positioning the organization to take advantage of emerging opportunities, and adapting to change.

They went on to further elaborate that Leading and managing are quite different functions. They require two separate mind-sets and two different sets of skills. Because managers are chiefly responsible for processes and operations, they are mostly interested in what needs to be done and how it can be accomplished. In contrast, the leader is concerned with strategies and direction, with where the organization should be headed and what it can and should be doing in the future. This means that the manager's attention tends to be present oriented, with one eye on costs and the other on performance. The leader cares about these things as well, but most of his attention tends to be broader and longer term, with one eye on the challenges that lie just over the horizon and the other on the growth potential of the organization (Nanus and Dobbs, 1999).

On the other hand, a new trend of thoughts is emerging that seems to blur the line. Chait et. al. (2005) contend that there are four principles based on which a nonprofit or NGO operates. They are:

Principle One: Nonprofit managers have become leaders;

Principle Two: Trustees are acting more like managers;

Principle Three: There are three modes of governance, all created equal; and

Principle Four: Three modes are better than two or one.

Of particular interest is that the posit that there are three modes of governance that compromise governance as leadership:

Type I – the fiduciary mode, where boards are concerned primarily with the stewardship of tangible assets;

Type II – the strategic mode, where boards create a strategic partnership with management; and

Type III – the generative mode, where board provides a less recognized but critical source for the organization.

When trustees work well in all three of these modes, the board achieves governance as leadership (Chait et. al., 2005).

The above suggestion is consistent with stipulations from Sohmen (2002). Increasingly, in our resource-constrained world, nonprofit enterprises are blessed with volunteers and modestly paid employees, many of them temporary. In such a milieu, the preferred method

of operating appears to be that of organizing by projects. Launching such projects has become a response to both strategic and operational problems (Sohmen, 2002).

On a similar basis, Crutchfield and Grant (2008) point out the necessity to share leadership in a nonprofit. One of their key findings is that the average tenure of CEO for nonprofit sector is 4 years. That is a relatively short turnover rate. They stress the importance of succession planning to enable an organization to sustain its impact as an agent for change.

The above stipulations may support the contention that everybody counts in an environmental NGO and that he/she can be, should be and is a leader.

3.2 The shape of things to come with leadership

On the premise that everybody is a leader, the question then is: what is the desired leadership? Researches on this topic are abundant. Three well-known models are: transformational leadership, visionary leadership and servant leadership (Sohmen, 2002). In his work, Sohmen summarizes the comparison of the three models (see Table 1).

Leadership Model	Distinctive Features	Common Features
Transformational	Idealized influence; Inspiring vision Intellectual stimulation; Individualized development	Visionary outlook Charisma Nonhierarchical Learning-focused Mentorship of followers Empowering of people Fostering new leaders Fairness and democracy Long-term, strategic view Focus on obtaining superior results
Visionary	Inspiring vision; Competence building Trust building; Integrity in relationships	
Servant	Grassroots democracy; Leader as servant first Spirituality- and ethics- base; Balance of power and responsibility	

Table 1. Comparison of the transformational, visionary and servant leadership models

Based on the synopses, Sohmen (2002) has proposed a Nonprofit Project Leadership Model. Essential factors of the model are as follows:

1. The leader is at the center of a flat, networked and complex project organization;
2. The style of the leader is visionary, charismatic, service-oriented and nurturing;
3. The leader models deep respect for, and appreciation of, people of all cultures and skills;
4. Being competent and knowledgeable, the leader stimulate others and is a constant learner;
5. The leader plays a pivotal role in operating the nonprofit parent's strategy;
6. The leader is a skilled communicator, negotiator, and conflict manager;
7. The leader mentors followers and encourage them to interact creatively with each other;
8. The leader initiates and nurtures profound connectivity with followers and stakeholders;
9. The leader inspires trust and respect among followers by exhibiting behavior integrity; and
10. The leader selflessly concerts followers into leaders, keeping the long-term in view.

It goes without saying that characterization of leadership will continue to change as the World turns. The constant change is a reminder to an organization that continuous renewal and update of the leadership concepts and practices is a must for one to sustain.

3.3 Leadership development

The subject of leadership has been studied in depth, and there is broad agreement on several factors affecting the development of leaders (Knauff et.al., 1991). They are:

1. Leaders are not born; they are made.
2. Certain skills that are helpful to leaders, such as effective oral and written communication, can be acquired through training.
3. Workshops led by skilled trainers can sharpen people's perceptions of themselves and give insights into how they are perceived by others. But courses cannot teach essential leadership characteristics such as vision, character, or maturity.
4. Many leaders have "invented themselves" through own self-development.

In the context of running an organization, there are two aspects to facilitate leadership development: the organizational empowerment and the individual's self-development.

On the organizational aspect, Pichot (1996) proposes three models to empowering many leaders: 1) delegation within a traditional hierarchy; 2) creating a community; and 3) liberating the spirit of enterprise. The model most relevant to environmental NGOs is the Community Model.

Many great corporate leaders see their organization as communities. They create space for more leaders with inspiring goals and trust that employees guided by community spirit will generally use their freedom to do good rather than harm. If people feel part of the corporate community, if they feel safe and cared for, if they are passionate about the mission and values and believe that others are living by them, they will generally give good service to the whole. And, if they are dedicated members of the community, it will be safer to trust them to create their own leadership role across the organizational boundaries. Effective leaders use the tools of community building to create an environment in which many leaders can emerge (Pichot, 1996).

In essence, a community-oriented organization provides a conducive environment for its people to growth their leadership qualities. It is a win-win proposition.

On the personal side, there are a number of ways for self-development. Knauff et.al. (1991) suggest a Self-Analysis approach. This method is rather simple. One is to develop a set of checklist questions against fundamental traits associated with quality leadership. The 6 traits are: 1) presence of a guiding vision; 2) conveying the vision to others; 3) knowing oneself; 4) standing by one's conviction; 5) taking risks; and 6) mastering the organization.

As an example, the checklist questions for self-analysis on "Mastering the Organization" are as follows:

1. What are examples of how you change your organization to help it better achieve its mission and adapt to your vision of its potential?
2. How do you differentiate between change for its own sake and a constructive change in the status quo?
3. Once changes are made, how do you maintain the new environment and how do you respond to staff members who resist change?
4. If you move on to a new job in another organization, how would you go about analyzing its culture and, it appropriate, changing it?

The complete set of the self-analysis can be found in Knauff et.al. (1991).

Indeed, developing nonprofit leaders who embody the leadership qualities will require that individuals set their own goals and evaluate their own success (Arsenault, 2002). It will requires that individuals to become agents of their own development (Pedler & Boydell, 1980). McCall (1998) adds that individuals should have personalized development plans in order to know where they are.

Arsenault (2002) contends that such a plan should consist of four ability levels, with the bottom two focusing on individual competencies (knowing oneself) and interpersonal skills (coaching). However, the complexity of the new leadership also requires that leadership development go beyond just the individual level. Conger and Benjamin (1999) add two more development levels: socialization, which is instilling the values and visions of the organizational culture, and developing capabilities of implementing strategic change, both critical components of nonprofit leadership.

4. Integrated efficacy assessment of an environmental NGO

Efficacy is the bottom line for an environmental NGO. This section introduces a simple yet powerful methodology called Holistic Efficacy Assessment Routine (HEAR) in assisting an NGO assessment process. HEAR enables the processing of information from heterogeneous types and sources of data pertaining to factors deemed relevant to efficacy. A unique feature of HEAR is that it is capable of take in factors that are either qualitative or quantitative in nature, or that have either positive or negative contributions to the overall assessment. The end-product is an integrated, uniformed and normalized score bounded within the range of (-1, +1). Built in HEAR is a companion favorability scheme that maps the qualitative and quantitative scales between “absolutely-unfavorable” to “absolutely-favorable” and (-1, +1), correspondingly. The assessment score can thus be easily referenced to the favorability scheme to identify what the final result should be.

4.1 The basics of HEAR

The HEAR methodology was originally designed and developed for use by the USDA Forest Service as a decision support aid to its forest resource management (Loh, 1994; Loh et al., 1998). Later it was applied in a Ph.D. dissertation research on urban planning and development (Cleboski, 2006).

There are two key components to HEAR. They are: 1) a favorability scheme that maps the qualitative and quantitative scales between “absolutely-unfavorable” to “absolutely-favorable” and (-1, +1), correspondingly (see Figure 2); and 2) a set of equations that operates on numbers in the range of (-1, +1). This set of equations is derived from EMYCIN as part of an expert algorithm (Buchanan, 1983).

Main steps of HEAR are as follows:

1. Convert and normalize data

Data comes from various sources and exists in a variety of forms. Some may be categorical and others may be numeric. They are oranges and apples. The trick to bring them together is to convert and normalize all pertinent data into normalized and uniformed information in the range of (-1, +1).

$$Score = \begin{cases} I_A + I_B - (I_A \times I_B) & I_A > 0 \quad I_B > 0 & (1) \\ I_A + I_B + (I_A \times I_B) & I_A < 0 \quad I_B < 0 & (2) \\ \frac{I_A + I_B}{1 - \min[|I_A|, |I_B|]} & \text{Otherwise} & (3) \end{cases}$$

As an example, say, one wants to use the amount of grants a program or grant officer is administering a year as a measurement of the efficacy of an NGO. Let us assume that from some statistics one has learned that the amount range between \$4 millions and \$5K. If one deems the maximum can be assigned “+1” and the minimum is “0,” then the mean would be $(4,000,000 + 5,000) / 2 = 2,002,500$. \$2,002,500 can be regarded as “+0.5.” This happens to correspond to “Moderately Favorable” on the mapping scheme.

The following formula can be used to calculate and convert the amount of dollars into a uniformed scheme between the two extremes:

$$\text{If } v > \text{mean, then } f(v) = 0.5 + 0.5 * (v - \text{mean}) / (y - \text{mean}) \tag{4}$$

$$\text{If } v \leq \text{mean, then } f(v) = 0.5 + 0.5 * (v - \text{mean}) / (\text{mean} - x) \tag{5}$$

Where v is the amount of the grant officer administers; x is the lower limit; y is the upper limit; and $f(v)$ is the normalized value between +1 and 0.



Fig. 2. The Qualitative-Quantitative Favorability Mapping Scheme

On the other hand, there may be categorical information to be considered also. Typically people cognitively tend to think qualitatively, e.g. strongly in favor or moderately negative in their opinions on a subject matter of interest. For example, the CEO may have a slightly negative opinion against a grant officer. In reference to the mapping scheme, this opinion could plausibly be interpreted to be a score of “-0.25.”

The above two examples are trivial illustrations on how apples and oranges can be brought together. More sophisticated methods are possible to handle virtually any types of heterogeneous circumstances.

2. Combine information

After apples and oranges are brought together, the partial evidences can be combined. The set of equations derived from EMYCIN comes handy.

Assuming the grant officer scores a +0.5 from the funds he/she is able to bring into the responsible program and the CEO's personal opinion is -0.25, then applying the EMYCIN-derived algorithm, the accumulative score from the above two sources in Step 1 is resulted. In this case, Equation (3) is applied and the result is 0.33.

3. Repeat the information-combing process

In an assessment situation, there are probably N factors under consideration. Upon conversion and normalization, information from each factor can be combined in the pair-wise manner illustrated in Step 2 iteratively till all inputs are exhausted. Assuming the NGO conducted a client/stakeholder poll on the level of satisfaction to this hypothetical program. From Step 1, the poll gives a score of +0.4, which corresponds to somewhere between moderately-favorable and slightly-favorable. This time the two operands for information combining are 0.33 from previous step and 0.4. Applying Equation (1), the result becomes roughly 0.6.

4. Translate the final score back to qualitative information

Upon exhausting all considerations, the final score may be converted back to qualitative information by mapping with the qualitative-quantitative scheme. This step is usually needed for easier comprehension of the assessment result. In the current example, 0.6 can be interpreted as "better than moderately favorable."

4.2 Application considerations

The HEAR methodology has potential for a broad range of applications. One of which is for poll/survey. Often an NGO conducts survey to learn from its stakeholders on its programs. A popular form of questionnaires simply asks "Yes" or "No." A common practice in analyzing the results is to tally them up. HEAR may provide additional insights to what the invaluable data says.

Say you are running a service program for an NGO. You do not know how the intended beneficiaries perceive whether your program is good or not. Therefore you sent a set of questionnaires for their opinions. Table 2 is the responses to you have received:

Question	Total Number of Responses	Number of Respondents Saying "Yes"	Number of Respondents Saying "No"	Number of Respondents Leaving It Blank
Q1	31	22	6	3
Q2	31	24	4	3
Q3	31	12	19	0

Table 2. Hypothetical stakeholder responses to a survey conducted by an NGO

To apply HEAR, you may want to do two things: 1) Calculating range and 2) Converting and normalizing responses:

1. Calculating range

The reason for determining range is that often there may be non-responses to the questions; and for each question, the number of non-responses may vary. You may want to have your data truly reflecting the opinions, and range is a plausible measure.

In the cases of Q1 and Q2, there are 3 respondents leaving the answer blank to each question. You may elaborate that some people do not think those questions are important. These opinions evidently should be considered. If this elaboration holds, then the range should be proportionate to those non-responses.

$$R = \frac{(\text{Total Number of Responses} - \text{Number of Non-responses})}{\text{Total Number of Responses}} \quad (6)$$

From data shown in Table 3, both Q1 and Q2 have $R = (31-3)/31 = 0.903226$. It means that whatever the ensuing normalized number from Q1 or Q2 may be, it should multiply this R of 0.903226. On the other hand, the ensuing normalized number from Q3 should be as it is from whatever formula you use to arrive at, since the R equals 1.

2. Converting and normalizing responses

Now we are in business to make conversions of raw survey data. Assume that more positive responses mean respondents are "more favorable" to an aspect of the service program in question and vice versa in a linear correspondence, then we can apply the following equation:

$$I_n = (X - \text{Mean}) / \text{Mean} * R \quad (7)$$

where I_n is the weight (the score) from Question N; X is the number of "Yes" and Mean is the average (e.g. $31/2 = 15.5$).

Let us plug Equation (7) with various "made-up" data of number of "Yes" and see how they "behave" for either Q1 or Q2 (Table 3). For Q3, the score is the one in the 3rd column. It just so happens that the above tabular conversion is applicable to both Q1 and Q2, since both have 3 non-responses. In the case of Q1, the converted score from "24" to the corresponding normalized index of I_1 is 0.495317. For Q2, I_2 (22 answered Yes) should be 0.378772. By the same token, I_3 for Q3 data (12 answered Yes) should be -0.22581, which rightfully is in the negative territory.

With all scores converted and normalized, you are now ready to apply the EMYCIN-derived formula. After two iterations, the final result turns out to be 0.595031. It should be noted that after combining I_1 and I_2 , the tentative result was 0.686477. The final score is "pulled down" to 0.595031 due to the fact that I_3 is negative (-0.22581). This makes sense. In a real world decision-making or assessment situation, we most likely will face some factors that have positive contributions and others that have negative contributions. HEAR reflects what the real world is. This methodology evidently is a much improvement to many "standard" methods on combining weights that can only go up.

4.3 The HEAR advantage

The nicety of the HEAR methodology is that:

1. Regardless of however many factors are being used, you always "operate" on two of them at a time. This is called pair-wise calculation.
2. Depending on the score values of the two factors, there will be only one of the equations applicable.
3. Unlike many "ordinary" algorithms, this formula allows both positive and negative contributions from factors under considerations. This is more realistic.
4. Regardless of however many factors being considered and operated on, the resulted score will always be bounded between -1 and +1.
5. Regardless of the sequence each factor is put into pair-wise calculation, the result is always the same.
6. Once all factors are exhausted in the calculation, one can always convert the result back to the qualitative scheme to make it more comprehensive to lay persons or people one intend to interpret the results to.

No. of Yes	Score with R = $\frac{\text{Total No. of Responses} - \text{Number of Non-responses}}{\text{Total No. of Responses}}$	Score with R = 1
31	0.903226	1
30	0.844953	0.935484
29	0.786681	0.870968
28	0.728408	0.806452
27	0.670135	0.741935
26	0.611863	0.677419
25	0.55359	0.612903
24	0.495317	0.548387
23	0.437045	0.483871
22	0.378772	0.419355
21	0.320499	0.354839
20	0.262227	0.290323
19	0.203954	0.225806
18	0.145682	0.16129
17	0.087409	0.096774
16	0.029136	0.032258
15	-0.02914	-0.03226
14	-0.08741	-0.09677
13	-0.14568	-0.16129
12	-0.20395	-0.22581
11	-0.26223	-0.29032
10	-0.3205	-0.35484
9	-0.37877	-0.41935
8	-0.43704	-0.48387
7	-0.49532	-0.54839
6	-0.55359	-0.6129
5	-0.61186	-0.67742
4	-0.67014	-0.74194
3	-0.72841	-0.80645
2	-0.78668	-0.87097
1	-0.84495	-0.93548
0	-0.90323	-1

Table 3. Linear conversion and normalization of the hypothetical survey data

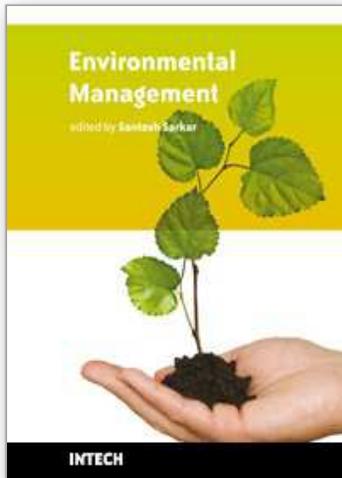
Last but not least, HEAR works on whatever is currently available for assessment. As new information emerges, it can be combined with the existing result on the flight. In other words, HEAR can work on incomplete information. It renders convenience and an additional advantage for an NGO on its efficacy assessment.

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There has been a steady increase in anthropogenic pressure over the past few years due to rapid industrialization, urbanization and population growth, causing frequent environmental hazards. Threats of global environmental change, such as climate change and sea level rise, will exacerbate such problems. Therefore, appropriate policies and measures are needed for management to address both local and global trends. The book 'Environmental Management' provides a comprehensive and authoritative account of sustainable environmental management of diverse ecotypes, from tropical to temperate. A variety of regional environmental issues with the respective remedial measures has been precisely illustrated. The book provides an excellent text which offers a versatile and in-depth account of management of wide perspectives, e.g. waste management, lake, coastal and water management, high mountain ecosystem as well as viticulture management. We hope that this publication will be a reference document to serve the needs of researchers of various disciplines, policy makers, planners and administrators as well as stakeholders to formulate strategies for sustainable management of emerging environmental issues.

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University Campus STeP Ri
Slavka Krautzeka 83/A
51000 Rijeka, Croatia
Phone: +385 (51) 770 447
Fax: +385 (51) 686 166
www.intechopen.com

InTech China

Unit 405, Office Block, Hotel Equatorial Shanghai
No.65, Yan An Road (West), Shanghai, 200040, China
中国上海市延安西路65号上海国际贵都大饭店办公楼405单元
Phone: +86-21-62489820
Fax: +86-21-62489821

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