

Draft April 22, 2009

An Introduction to The Natural Step Program

The purpose of this essay is to provide a brief introduction to the Natural Step Program used to move municipalities and private organizations toward sustainability. In our own community the book, the *The Natural Step for Communities: How Cities and Towns Can Change to Sustainable Practices* by Sarah James and Torbjörn Lahti has played a major role in increasing awareness of sustainability and to actions to move our community in a sustainability direction-including the creation of the RW Sustainability Commission.¹ There are many municipalities and organizations that are now using the Natural Step and further information on them is given in the Resources section.

As background context, it is of interest to note that the concept of "sustainability", in the sense of man living in harmony with nature, is, of course, ancient²; its current meaning and power, however, derived from the work of an extraordinary woman, Gro Harlem Brundtland, who in 1987 headed up the UN Commission that came to known as the Brundtland Commission. It produced a report that has been credited with initiating the current sustainability movement called *Our Common Future*: <http://www.un-documents.net/wced-ocf.htm>. This report is still essential reading. (I doubt that there is a single City or County Comprehensive Plan in the nation that does not show some connection with this report.)

In the report the definition for sustainable development is as follows:

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

- *the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and*
- *the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs. "*

This report and definition has provided the starting point for many other organizations including the Natural Step Program (<http://www.naturalstep.org/>) This was founded in 1989 by Dr. Karl-Henrik Robèrt in Sweden. The Natural Step is now active in at least 11 countries around the world. It is a very useful science based change oriented program to guide individuals, organizations, and communities in adapting in a positive way to the ecological challenges we are now facing.

For this overview the *Natural Step for Communities* book mentioned above will be the primary reference supplemented by some internet resources that are easy to access. The book itself is divided into three parts:

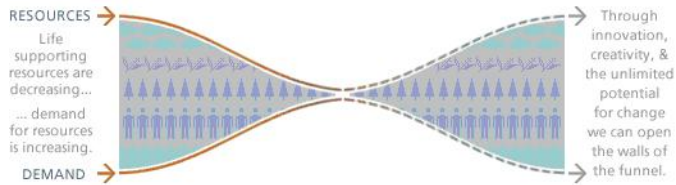
- I. Compass for Change: The Natural Step Framework for Sustainability
- II. Practices that Changed
- III. How Communities can Change

¹ There is more information at: <http://www.sjamesassociates.com/>

² ☐ 505 BCE - [TAO TE CHING](#) (Lao Tzu)

The following is a brief summary of concepts in each part³:

In **Part One** mention is made of the TNS Funnel which is a simple representation or metaphor of the complex state of the world where essential resources are being depleted or destroyed and there is a need for adaptation:



It is worth noting in this that sustainability does not imply a reduction in the standard of living. It emphasizes creativity.

The “compass” itself is a framework made of sustainability conditions and principles.

“The table below contains the four system conditions on the left and the reworded the basic sustainability principles on the right. In most instances, we refer to the basic sustainability principles”.

The Four System Conditions...	. . . Reworded as The Four Principles of Sustainability
In a sustainable society, nature is not subject to systematically increasing:	To become a sustainable society we must...
1. concentrations of substances extracted from the earth's crust	1. eliminate our contribution to the progressive buildup of substances extracted from the Earth's crust (for example, heavy metals and fossil fuels)
2. concentrations of substances produced by society	2. eliminate our contribution to the progressive buildup of chemicals and compounds produced by society (for example, dioxins, PCBs, and DDT)
3. degradation by physical means	3. eliminate our contribution to the progressive physical degradation and destruction of nature and natural processes (for example, over harvesting forests and paving over critical wildlife habitat); and
4. and, in that society, people are not subject to conditions that systemically undermine their capacity to meet their needs	4. eliminate our contribution to conditions that undermine people's capacity to meet their basic human needs (for example, unsafe working conditions and not enough pay to live on).

³ It needs to be emphasized that an understanding of TNS program needs to be obtained by participating in a Natural Step Sustainability Group. The small group discussion and experience brings the creativity of the process alive.

Another basic concept of this section is that of systems thinking. For this purpose the symbol of a tree is used as a metaphor for a complex idea. Again from the Natural Step website:

"We often use the metaphor of a tree where the trunk and branches represent the core principles and the leaves represent all of the details - specific problems and specific areas of expertise. Because the task at hand is so massive and complex (creating a sustainable society), no one is going to have all the answers - there's simply too much information. So we need all kinds of scientists, economists, policy makers, researchers, teachers, business leaders, etc to work together. Now, imagine all of the ideas, opinions, special interests, etc that come with this group. Any dialogue will quickly degenerate into bickering, confusion, misunderstanding. This is dealing in the "leaves," the details - and it's very frustrating, and too often the path that discourse on the environment and sustainability follow."

"...So by establishing a common framework - and starting with the trunk and branches - we can all get on the same page, understand the rules of the game, and proceed further out on the branches, into the details of the leaves with a shared mental model. True dialogue can commence, eliminating the usual confusion. Again, the details will need to be dealt with in time in order to act - but with a common framework action can be cohesive, moving toward a common goal."

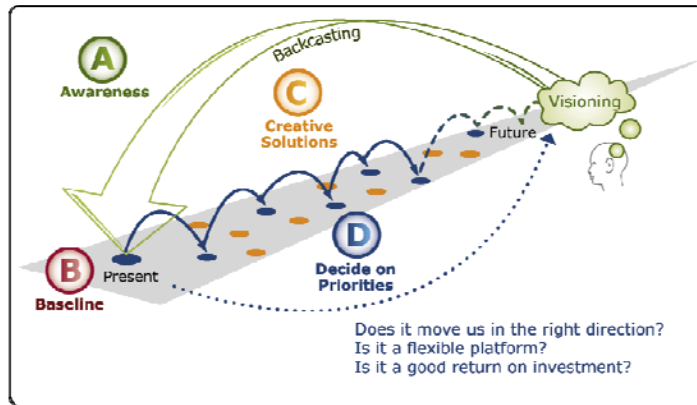
Part Two gives many general topic areas with examples from an array of communities and organizations. The general theme areas are energy, transportation, housing, green businesses and buildings, community eco-economic development, ecological schools, sustainable agriculture, waste management, protecting biodiversity and land use and planning.

For specific examples of these matters being addressed in Minnesota communities using the Natural Step see: <http://www.afs.nonprofitoffice.com/>

For examples in Wisconsin see: <http://www.1kfriends.org/Eco-Municipalities.htm>

Part Three describes change models that have worked well with organizations and municipalities.

A key model is referred to at the A-B-C-D Model (the following is an abbreviated description from the book and website materials with the concepts of "backcasting" and "low-hanging fruit" in bold.):



A = Awareness and Visioning

“This first step aligns the organization [community/municipality] around a common understanding of sustainability and identifies a 'whole-systems' context for that [community]organization; building a common language around sustainability as well as creating a vision of what that organization would look like in a sustainable future.”

“During the visioning process, people are encouraged to set ambitious goals which may require radical changes in how the organization operates. Some goals may take many years to achieve.”

B = Baseline Mapping

“This step uses the four sustainability principles to conduct a sustainability 'gap' analyses of the major flows and impacts of the organization to see how its activities are running counter to sustainability principles.”

C = Creative Solutions

“Armed with their vision of success and potential actions, organizations look backwards from the vision to develop strategies toward sustainability. This is called **backcasting** and it prevents people from developing strategies that just solve the problems of today. Instead, they begin with the end in mind, moving towards a shared vision of sustainability, with each action providing a platform for further improvement.”

D = Decide on Priorities

“After identifying the opportunities and potential solutions in the 'C' step, the group prioritizes the measures that move the organization toward sustainability fastest, while optimizing flexibility as well as maximizing social, ecological and economic returns. This step supports effective, step-by-step implementation and action planning.”

“At this stage, organizations can pick the '**low-hanging fruit**' - actions that are fairly easy to implement and offer a rapid return on investment in order to build internal support and excitement for the planning process.”

"Backcasting is used to continually assess decisions and actions to see whether they are moving the organization toward the desired outcome identified in 'A' step (awareness and visioning)."

The general idea is to systematically move forward from short-term goals while keeping in mind the long-range goals and vision.

It is then possible to move step-by-step toward the sustainability vision.

Much of this is similar to what has been used in the RW Comprehensive Plan and RW Community Sustainability Report.

From the Plan:

Red Wing's Vision Statement:

"The Community Vision for the City of Red Wing is to capture the vibrancy of growth while preserving and enhancing the city's unique historic and natural environmental character."

--adopted

March 27, 2006

Clarence Bischoff

April 22, 2009

Please see the Resources list below:

Resources (this is from an older document for a different purpose but it may still be helpful):

Natural Step

<http://www.thenaturalstep.org/en/about-us>

<http://www.sustaindane.org/>

<http://www.afs.nonprofitoffice.com/>

<http://www.1kfriends.org/Eco-Municipalities.htm>

<http://www.sjamesassociates.com/>

I do recommend the sustainability publications of these three professors:

James E. Hansen, Professor, Columbia University
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<http://www.columbia.edu/~jeh1/>

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http://www.entomology.cornell.edu/Faculty_Staff/Pimentel/pimentel.html

<http://www.hubbartpeak.com/Pimentel/>

<http://www.populationpress.org/essays/essay-pimentel.html>

<http://www.eoearth.org/contributor/david.pimentel>

<http://www.rachelcarsonhomestead.org/Home/tabid/36/Default.aspx>

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<http://web.missouri.edu/ikerdj/>

Overview resource:

<http://www.theglobaleducationproject.org/earth/index.php>

Local Websites:

<http://www.nextstep.state.mn.us/>

<http://www.iatp.org/>

<http://www.misa.umn.edu/home.html>

(go to "about" and click on partner organizations for more information)

<http://organicecology.umn.edu/>

(very useful links tab)

Couple of national ones:

<http://www.sciamdigital.com/>

<http://www.ucsus.org/>

<http://www.newscientist.com/>

<http://www.worldwatch.org/>

And of course basic UN sources:

<http://www.un-documents.net/wced-ocf.htm>

<http://www.ipcc.ch/>

<http://www.agassessment.org/>

Riverbend Market Cooperative also has excellent PowerPoints:

<http://riverbendmarket.com/>

There will also be information on a new local group: the RW Region Local/Organic Steering Committee.

