

US EPA ARCHIVE DOCUMENT

Approaching Sustainability

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Outline

- White Paper: “Approaching Sustainable Development: A Proposal for Regional Implementation of the New Environmental Perspective”
- What Does Sustainability Look Like?
- ORD’s Leadership Role

Hemingway once wrote about a man going broke, it happened:
"...slowly, then all at once."

Why Sustainability?

- Through the years -- and increasingly -- myself and others at EPA fear that our current development path will result in a general systems collapse somewhere in the biosphere – and we want to prevent that.
- But powerful voices claim that our world is safe, despite global warming, chemical body burdens, increased cancer rates, loss of coral, ocean dead zones, etc.

Why Sustainability? (con't)

- Many of us believe that Approaching Sustainability is the only way to preserve the gains of our democratic system and the fabric of life.

Questions To Ponder

1. How Many ____ Does EPA Protect, Educate, Train and Regulate?

How Many Businesses?

How Many Americans?

How Many Human Beings?

How Many Life Forms?

2. How Many of the Above *for Each EPA Staff?*

The SD White Paper

- Written for R3 Deputy Regional Administrator
- Based on SD Masters Thesis
- Masters Thesis Methodology: Content Analysis
 - Over 100 reviewed publications
 - Over 400 publication data set
- SD White Paper was used in R3 Reorganization & Strategic Plan

SD White Paper (con't)

- What is Content Analysis?
 - Looks at what is written or said
 - What information appears?
 - What information is missing?
 - How often does it appear?
- Assumption:
 - If we don't talk about Sustainability, it doesn't happen.

SD White Paper (con't)

- White Paper Chapters:
 - Argument for Sustainability
 - Sustainability Vision, Goals, Objectives
 - Three Basic Implementation Questions
 - Identify and Promote SD Activities
 - Long-term SD Program
 - Conclusions

SD White Paper (con't)

- Appendixes
 - SD Action Plan Implementation
 - Current SD Activities Matrix
 - Development Structure for SD Action Plan
 - Sustainable Development Specialists Job Tasks

 - SD White Paper and this PP presentation are available via e-mail to me

SD White Paper (con't)

- From the Introduction
 - Goal of Approaching Sustainability:
“...avoiding the conditions which result in *systematic* [my emphasis] environmental destruction and health problems.”
 - Approaching Sustainability is defined as:
“evolution of responsible market behavior, benchmarked against appropriate indicators...”

SD White Paper (con't)

- “The greatest challenge to implementing SD is the common belief that the current development system is *already sustainable* – that the environment is not being significantly harmed.”

SD White Paper (con't)

- “The average “person on the street” has been taught since birth that our interconnected system – democracy, market economics, science and technology, and private property – has the resiliency to withstand any problem created by human actions.”

SD White Paper (con't)

- “Problems like the ozone hole, global warming and species loss are considered to be aberrations in an *otherwise sound and practical* economic system which brings progress, wealth and comfort to everyone who is *willing to partake.*”

Thus...

- Communicating Non-sustainability (i.e., that the fabric of life is in great danger -- and humans are in great danger, both from individual human health impacts and economic/social impacts from environmental collapse) is the most important act that EPA can do to reverse a possible tragic outcome.

By The Way...

- What Does EPA Actually Communicate?
 - We Publish “Success Stories”
 - We Conduct Media Interviews Touting “Success Stories”
 - We Fill EPA’s Web Sites and Social Media Sites with “Success Stories”
 - *We Only Tell the Public that We Are Successful, Then Are Surprised and Hurt When Politicians Cut Our Budget, We Are Sued and Lots of People Say Hateful Things About Us*

EPA “Hater” Stories

- EPA One of Most Hated Federal Agencies:
 - Direct Influence on Daily Lives (No Burn Days, Car Pool Lanes, Threatened Leaded Aviation Fuel, etc.)
 - Financial Impacts (Banning, Regulations, etc.)
 - Department of the Environment Cabinet Status Crushed in Congress
 - More Than One Republican Presidential Hopeful Vows to Disband the Agency
 - Republican House of Reps Votes to Slash EPA

Victim of Our Success

- Rivers Don't Catch Fire Anymore
- You Can See L.A.'s San Gabriel Mountains – sometimes
- The Bald Eagle Survived
- Cancer Clusters Get Lost in Large Scaled Analysis (Census Tract, City/County, etc.)
- Environmental Damage is Usually Local & Occurs Slowly (non-dramatic)
- Degradation Patterns are Invisible
- People Continue to Live Longer

Basic Environmental Problem

- The Danger is Invisible
- The Poison is Invisible
- The Degradation and Extinction – Invisible

- That's Why We Need Science
- Scientists Make the Unknowable Known So That Humans Can Act
- That is Why ORD Should Lead, not merely support

SD White Paper (con't)

- Question 1: What can R3 do to impact SD?
 - Provide leadership
 - Communicate the challenge of non-sustainability
 - Develop/Communicate SD knowledge
 - Partner with others [NGOs, States, Industry]
 - Expand EPA's SD Expertise
 - R&D
 - Econ analysis/project management

SD White Paper (con't)

- Question 2: How can R3 organize itself for SD?
 - SD Teams
 - Matrix management of interdisciplinary teams
 - SD Designated Staff and Oversight Committee
 - The White Paper has charts and matrixes to illustrate these concepts

SD White Paper (con't)

- Question 3: Where Can EPA be Most Effective?
 - Front end of production[/consumption] cycle (pollution prevention)
 - Demand management & consumption reduction
 - Sustainable Agriculture (polycropping, non-lethal pest management [added])
 - *Education* about non-sustainable practices

SD White Paper (con't)

- The White Paper provides ample examples from 1994 and earlier to justify the assertion that EPA may be failing in its mission to protect the fabric of life – despite over two decades of environmental laws, regulations, judicial decisions, industry agreements, etc.
- Therefore, the White Paper asks the question...
 - What is the Definition of Insanity?

Definition of Insanity?

Do the Same Thing – Expect
Different Results

A Word from Paul Anastas...

- “addressing the **unsustainable** trajectory of the planet has often been thought to be one that is best dealt with through government action, behavioral change, and public policy... In the absence of new materials for alternative energy, food production, water purification and medicines, there are no policies that can be put into place...”

More Paul...

- “...to avoid **catastrophic** consequences. The magnitude and urgency of the scientific challenge cannot be understated.”
 - From “The Green Book” (“Sustainability and the US EPA”)

SD White Paper (con't)

- Long-term Sustainability
 - “It is *more* important to educate people about the immediate dangers of [non-sustainability] than to begin developing solutions.”
 - “Forcing appropriate solutions on a business/ industrial community and American citizenry which *continues to believe them unnecessary* [my emphasis] is counterproductive and foolish.”

SD White Paper (con't)

- Sustainability Implementation Plan...comprehensive, multi-phase program:
 - Indicator-driven
 - Team-implemented
 - Matrix-managed
 - Multi-disciplined
 - Consumption-focused
 - Future-oriented

SD White Paper (con't)

- State-shared
 - EPA HQ/White House-supported
-
- SD White Paper provides details on staff, timetables and specific actions

SD White Paper (con't)

- SD Things to Do
 - Target Consumption (land, resources, etc.)
 - Lead – Don't Manage
 - Educate the General Public
 - Keep Everyone's Eye on the Future
 - Concentrate on Integration of all SD Players
 - Capitalize on Existing Staff Experience
 - [*Systematically* Learn from Other Countries]

SD White Paper (con't)

- SD Things NOT To Do:
 - Don't Marginalize SD – it is Central to Saving the Gains of Our American System
 - Don't Forget the International Arena – SD is the *Whole World*
 - Don't Look for One “Silver Bullet”
 - Don't Wait for Scientific Certainty – it may come too late

SD White Paper (con't)

- Conclusion:
 - EPA must change from Command and Control to Macro-Environment Subject Area Expert
 - EPA must change from Regulator to Mentor and Coach
 - EPA must spend its time helping all sectors live in a sustainable way
 - EPA must be a public educator and *Speaker for the Environment*

Sooooo.....

- Don't we already do most of that?
 - We promote recycling
 - We ban chemicals
 - We regulate industries
 - We set pollution performance standards
 - We give grants to environmental/community groups
 - We loan EPA staff out to EJ communities

YES!!!!

- Everything we already do... and every environmentally sound action the public performs is:
- **Necessary, But Insufficient**

How Many Does EPA Protect?

How Many Businesses?

How Many Americans?

How Many Human Beings?

How Many Life Forms?

17,000 EPA Employees**

Serve

- 6 million U.S. employer firms
- 300+ million American consumers
- 7,000 million people (7 Billion) worldwide
- ** BTW, perhaps 1/4 are not doing environmental work (human resources, facilities management, contracts, finance, IT, etc.)

One EPA Employee for Each...

- 353 business
- 17,647 American consumers
- 411,765 human beings
- ?????
 - Charismatic megafauna (polar bears, whales...)
 - Endangered animals and plants
 - Endangered ecosystems, air/water sheds...

One EPA Employee for Each...

- 30.7 Quadrillion *recorded* money transactions, just in the U.S.
- It is not possible for 7 Billion people to know enough to make hundreds of environmentally correct business and consumer decisions
- It is not possible for EPA employees to provide individual consultation for every transaction – we are not resourced for a place-based/project-based approach

National Academy of Sciences Punts Back to EPA

- EPA Administrator asks NAS for “Operational Framework” for Sustainability
- NAS responds: “...clearer definition of sustainability is needed to respond to Agency’s charge.”
- In other words: We can’t provide a science framework because we can’t define a *sustainable end state* [my emphasis].

Definition of Sustainability

To create and maintain conditions under which humans and nature can exist in productive harmony and that permit fulfilling social, economic and other requirements of present and future generations.

-- NEPA 1969

-- Ex Order 13514, 2009

Upon Reading That, How Many of
You Can Go Back to Your Desks Right
Now and Know Exactly What to Do
to Approach Sustainability in Your
Current Project?

What Does a Sustainable System Look Like?



What Does a Sustainable System Look Like?

- Closed-loop System (cradle-to-cradle)
- Waste As Food (complete recycling)
- Pollution Prevention
- Non-lethal inputs & outputs/Biodegradation
- Global scale; Universal participation
- Systems-approach – “It’s all Connected”
- Educated/informed Participation

How Do We Approach Sustainability?

- Substitution
- Elimination
- Banning
- Achieving Steady-state Conditions
- Regeneration
- Assimilation
- Identifying Threats/Avoiding Irreversibility

Give Me An Example...

- ORD Identifies the Most Harmful Chemicals (going in and coming out)
- EPA Publicizes ORD's List Nationally and in All Appropriate Trade Journals – “We Want to Eliminate These Chemicals”
- EPA Staff Receives a Permit Application
- You Review the Input/Output Model and Identify Chemicals

Example (con't)

- You Research Existing Alternative Processes (including International)
- Your Team Meets with the Facility/Industry
- “Hi – You Want to Emit X Amount of Di-Methyl-Death...
- ...We Want You *Not* To...
- ...Here’s Everything We Could Find that Shows that You Can Prosper w/o D-M-D...

Example (con't)

- In Other Words...
 - You Don't Write a Permit to Pollute
 - You Write a Process Change Agreement to Eliminate Pollution
 - Not NPDES
 - NPES -- National Pollution *Elimination* System

What Can ORD Do?

- Prioritize chemicals to be replaced:
 - Persistent
 - Bioaccumulative
 - Neurotoxin
 - Mutagenic
 - Most Toxic
 - Most Used
 - Most prevalent in the environment

ORD Can Use Science To:

- Identify/Prioritize Top 20 Current Environmental Threats
- Identify/Prioritize Top 20 Current Human Health Threats
- Identify/Prioritize Top 20 Future Environmental Threats
- Identify/Prioritize Top 20 Future Human Health Threats

Why Can't ORD Conduct Research to Support a Ban on..?

- All Endocrine Disruptors
- All Non-medical Chemicals that Pass the Brain Barrier
- All Non-medical Chemicals that Pass the Placenta Barrier
- All PFCs (recently correlated to reduced vaccine response)

Why Can't ORD Conduct Research...? (con't)

- *We can make the Precautionary Principle argument that:*
 - *past history shows that it takes too long to recognize the danger (BTW, we never admit this)*
 - *Current history shows that failure to recognize danger and act in time leads to devastating injuries and slow death to thousands, if not millions, of women and children*

It Only Took 40 Years to Invent a Chemical that Destroys the Ozone Layer

Consider the recent solar
flares...the Precautionary
Principle saves us every day.

DDT Took Barely 20 Years to Nearly Extinct the Bald Eagle

- Insecticide benefit discovered in 1939
- Heavy use from 1940s – 1950s
- Losing Raptors by 1960s
- *Early exposure to DDT correlated to 5-fold increase in breast cancer (2007 study)*

Are These ORD Research Questions?

- What is the average total body burden of chemical, mineral and radiological contaminants?
- What is the human health risk associated with body burden of the above?
 - Individual risk
 - Cumulative risk
- What is the rate of increase in body burden?

What Else Can ORD Do?

- ORD can produce a *systems model*, understandable to the general public, that shows the interconnectedness of the environment across all sources of pollution and environmental degradation.
- Probably layered like Google Maps.

What Else Can ORD Do? (con't)

- ORD Can Identify All Risks to the Fabric of Life, Regardless of Departmental Jurisdiction, then EPA Should Team with the Appropriate Agency (NOAA, DA, etc.) to Address Them
- This Information Should Be Aggressively Shared with the Public

INTERNATIONAL!!!!!!

I could go on forever about international sustainability threats, but we don't have time. However, it has become the most important realm of all because the US causes enormous damage overseas.

Perhaps You're Unconvinced About Our Non-Sustainability

- I assert that we are failing in our mission?
- You and EPA assert that we are succeeding
- How will *you* know if we are failing?
 - What evidence would *you* need?
 - How will *you* avoid the Type 2 error (e.g., freeing the guilty man)?
 - The **Sustainability Type 2 Error**: Thinking that We're Succeeding When We Are

If You Agree We Are Failing, What Are You Going To Do?

- Daily Project Changes...
- Daily Process Changes...
- Communicate Your Concerns to Peers...
- Communicate Your Concerns to Management...
- Propose Solutions...
- Identify Additional Threats...

Can We Change?

- People Don't Resist Change
- People Resist Being *Told to Change*

- If People See a Better Way, They'll Choose It:
 - Safer Now
 - More Protective Now
 - Protects Their Child's Future
- They Just Need Education and Options

A Pitch to Senior Leadership

- “Never tell people how to do things. Tell them what to do and they will surprise you with their ingenuity.”
- **--George S. Patton, U.S. Army general**
- If we show people non-sustainability dangers and identify goals, the people/industry will innovate solutions
- ORD leads with science, confirms dangers/identifies goals for EPA to convey publicly

Conclusion

- The Basis for Approaching Sustainability:
 - ORD's Validates and *Prioritizes* Threat
 - A Subtle Public Education Campaign that Wickers Key Messages into All EPA Communications
 - “Slow Poison is Still Poison”
 - “Global Warming is Real”
 - Share Examples of Successful Sustainability
 - Targeted Change Plan for *Prioritized* Industries
 - Massive International Effort
 - Share Knowledge of Non-sustainability
 - Learn From Others

Thank You!!!!!!

- In the End, We will Conserve Only What We Love
- We will Love Only what We Understand
- We will Understand Only What We are Taught

QUESTIONS?