Exploring Sustainable Development and Environmental Education

The case of Costa Rica and beyond...

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Structure

We will explore:

• What is SD?
• Why is it being implemented?
• What are we doing about it or not?
• What would we like to see done – what can we do?
Content

Part one:
An introduction and exploration of sustainable development and its related concepts.

Part two:
A brief intro to the Costa Rican setting, ecosystems and SD history.

Part three:
Case studies - SD implementation and inspiration for environmental education and sustainable action.

Part four: (and forever more)
Brainstorming and Action Plans—what we would like to do—what WILL we do?
A Workshop and Discussion

Please make sure that you are ready to brainstorm, discuss, answer and ask questions.

Please be seated in groups of three (to represent the three central pillars of sustainability)
Uncomfortable but necessary questions

• Who knows their footprint?
• Who has reduced their footprint? How? Recently? Constantly?
• Who is willing to reduce their footprint?
• Then tell me how and what are you waiting for?

• (5 mins warm-up talk in your group).
Willing to commit?

- Educators who are coherent and commit to building consensus – curriculums and communities – who are ACTING on ESD are needed or we will not shift paradigms.

- So down to work?

- First Step: What paradigm are we in?
- Second Step: What is our contribution/impact?
Costa Rica’s Footprints

• Any guesses?

• Carbon footprint?

• The USA? (you can type in some answers – to the chat).

• Over-bio-capacity?
AMÉRICA LATINA Y EL CARIBE: EMISIONES DE GASES DE EFECTO INVERNADERO RESPECTO DEL TOTAL MUNDIAL, 1990-2005
(En megatoneladas de CO₂e)
Sachs (2013)

• “We are the drivers of earth change – but we are not driving with our eyes open”

• We are causing so much change to the earth’s systems – but we do not know how to manage that change.

• We can agree that we need to act and be creative - Let’s be creative!

• (keep in mind Sachs – while 5 mins activity to define SD and list central elements / concepts)
SD Elements/Principles/Concepts? Please make a list.

What is SD?
Three Central Columns for Sustainable Development

• What are they?

• The three Ps?
• The three Es?
• The Triple Bottom Line?
  • (Coined by John Elkington 1994)
Some argue that there should be a forth - any ideas?

We can go on adding but we can not take one of original three away.
Let’s dig deeper...

- Related principles /concepts / processes for IMPLEMENTATION and ACTION?
- List them please...

- KIM: SD Mechanisms and Action plans have central principles and related concepts and processes in common.

- We have reached global consensus about what these should be. A history of SD is unfolding...
• What are the most important ones (for EE? EL? ESD)?

• And any concerns about possible difficulties in their application..

• Please discuss?

• (KIM) These are often very slippery terms and difficult to implement – so what should we do?
Simplicity

• **Mantra:** *Keep it simple, but be thorough, and confront complexities...*

• **John Maeda (2006)**
  • The Laws of Simplicity –

• http://lawsofsimplicity.com/

• **Henry David Thoreau:**

  • “**Simplicity is the law of nature for men as well as for flowers.**” – *Journal*, 29 February 1852
Find inspiration to simplify lifestyles and de-grow

• “Our life is frittered away by detail...Simplicity, simplicity, simplicity! I say, let your affairs be as two or three, and not a hundred or a thousand...”

• Thoreau also talks of honesty as an important accompanying value

• – HONESTLY – who wants to de-grow?
Monbiot (2009) HEAT

- George Monbiot concluded that:
  - Political will and
  - Individual responsibility
- are the ????? (and can we think of any others?)
Timeline of Consensus building and SD unravelling...

• Does anyone know any dates or important SD or EE moments in history?

• Add them to the chat...
Time travel through SD and EE

1962: Silent Spring


1972: Club of Rome publishes the controversial Limits to Growth
1977: Costa Rica started state funded formal educational sector environmental education topics.

1978: Tbilisi Declaration for Environmental Education – introduced guidelines for educators... (how, but not what - how to do it, but not what needed to be achieved) (Locke et al 2013)

Since 1980s Costa Rica been one of leaders in efforts to promote environmental learning – along side three-fold national development policy – that promotes education, conservation and ecotourism (Blum 2008).

1987: Costa Rica PUBLISHES its first national ‘ENVIRONMENTAL EDUCATION MASTER PLAN’

1992 Earth Summit


Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987; p. 43).

• “states that, “the world’s teachers have a crucial role to play” in helping to bring about “the changes in attitudes, in social values, and in aspirations” related to and required for the longevity of our planet (p. 8). Furthermore, Our Common Future highlights that these changes will play out in the public sector through deliberate education and public engagement. Teacher preparation programs must answer this call and work toward a grander vision of preparing educators both as citizens and future leaders to enter a changing world and civic space where problems and solutions related to sustainability are seen as essential” (United Nations Education, Scientific, and Cultural Organization, 2004).” (In Warren et al 2014)
Encouraged to participate
Encourage students to find out and make up their own mind.
Let’s just take a moment to consider: TRANSVERSAL THEMES

• What do we mean by TRANSVERSAL THEMES?

• Write them down! (read – write – reflect - connect)
• (MEP 2002, in Blum 2008)

• “Cross-cutting all other areas of the curriculum through integrated classroom activities” (ibid)
Universidad Veritas Transversalising
1990s Action Plans:

1994 | China’s Agenda 21

1996 | ISO 14001

1999 | Launch of the Dow Jones Sustainability Indexes.
2000 | UN Millennium Development Goals.

2000: Costa Rica opens InBio – environmental educational facility and research centre and ecosystem park.

Stimulating next generation of parataxonomists and community participation.

2002 Global Reporting Initiative

2002: Costa Rica starts global environmental thinking and strategies with a ‘SISTER SCHOOL’ experiment with the USA

CR - OFFICE for EE – consolidating promotion of transversal themes.

2003: four of Costa Rica’s secondary state schools offered ecotourism as a specialization and two more offered environmental studies.
2005 | Kyoto Protocol


2005 | Millennium Ecosystem Assessment is released. 1,300 experts from 95 countries

2005: United Nations general Assembly launches UN DECADE for EDUCATION FOR SUSTAINABLE DEVELOPMENT

- goal to integrate values and knowledge of SD into all aspects of learning and encourage changes in behavior that will lead to a more sustainable and just society (Blum 2008)

2006 | Stern Report makes a convincing economic case.

2006 first regional consultation for the UN Decade for ESD took place in San Jose. (Earth Charter Initiative / UNESCO)
• UN Decade for ESD?
• 2004-2014
• Does any know any impacts?

• UN Accredited Regional Centres for Expertise in Education for Sustainable Development.
• 100 all around the world, within universities and leading research and definition in ESD.
2008 | Green economy ideas enter the mainstream.

2008: | Increasing urbanization.

2009: | Connectivity throughout the world exceeds predictions.

We are presently at a cross roads and within a very cloudy context.
(KIM) In age of second round of shifts - 2015 and beyond MDG - The SDG and ESD...

In the first round – the successes where social, health indicators improved and distribution? (Sachs 2013)

Post 2015 – time to strengthen environmental commitments and get results...
(Jeffrey Sachs’ 2013) The Age of Sustainable Development or (Franny Armstrong’s 2007) the Age of Stupid?

- Real shifts? – have you seen any?

- Both agree: “sustainable development is a field that is needed in this highly connected world – it wasn’t needed beforehand” (Sachs 2013)

- https://www.youtube.com/watch?v=ksZaAqRA5qg

- Our first Post-modern discipline and a shift in development paradigms...
EE historically has “fallen short in explicating exactly what students should study. The focus has been on form rather than content and on principles rather than practices and stated results. Where EE has addressed the “how”, Eco-Literacy (EL) has expanded this to address the “what” or rather content related issues of EE” (Locke et al 2013).

- Successful case of EL with Earth University EL programme for 17 schools...
- Next case studies and inspiration – first...
TIME FOR A BREAK

Take time to meditate in and re-connect with your local landscapes and ecosystems – and start to think how...
Costa Rica and SD features

• What do we know already? General things?

• Why is it known to be a pioneer in SD?
Costa Rica's Biodiversity

• It is a mega-biodiverse country –

• Birds, orchids, trees, bugs, total number?

• Does any one have any comparable examples?
• How many in the USA?

• Start making your own lists – memorise them, keep adding to them...
• You need to make yourselves as multi-disciplinary as possible...
LAS AMÉRICAS Y EL RESTO DEL MUNDO: DISTRIBUCIÓN DE LA SUPERFICIE BOSCOSA, 2005
(En miles de hectáreas y porcentajes)

Las Américas
1 525 899 - 39%

Resto del mundo
2 426 126 - 61%
Central America makes up 4.5% of LA and has 27% more species than South America.
<table>
<thead>
<tr>
<th>Developing Countries</th>
<th>Higher Plants (absolute)</th>
<th>Land Area (km²)</th>
<th>HP/km² (relative)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>56,215</td>
<td>8,456,510</td>
<td>0.007</td>
</tr>
<tr>
<td>Malasya</td>
<td>15,500</td>
<td>328,550</td>
<td>0.047</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>12,119</td>
<td>50,660</td>
<td>0.240</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Developed Countries</th>
<th>Higher Plants (absolute)</th>
<th>Land Area (km²)</th>
<th>HP/km² (relative)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>19,473</td>
<td>9,158,960</td>
<td>0.002</td>
</tr>
<tr>
<td>Japan</td>
<td>5,565</td>
<td>374,744</td>
<td>0.015</td>
</tr>
<tr>
<td>UK</td>
<td>1,623</td>
<td>241,590</td>
<td>0.007</td>
</tr>
</tbody>
</table>

*Source: World Resources 2002-2004, Data Tables*
YOUR RESPONSIBILITY TO FIND OUT AND KNOW WHO AND WHAT WE SHARE OUR ECOSYSTEMS AND THE PLANET WITH.
• How to do this?
• How to reconnect?

• 1) Learn about development paths – key features (past and present)
• 2) Learn about your ecosystems – (content and condition).
• 3) Learn about environmental policy and what political positions are pushing these.
• 4) Learn from the inspiring cases, people, environmental heroes out there already.
• 5) Learn about the factors blocking development of SD on local, national, regional and global levels.

Let’s keep doing this together in the case of Costa Rica...
Costa Rican Society and Culture

- Ethnicity and diversity
- HDI and quality of life issues.
Costa Rican Society and Economy

- Quite homogenised and happy?
- Democratic, peaceful and neutral
- Equal and civil liberties
- Good human rights record.

- Major industries and Impacts.
- Business as usual approach?
- Dual development paths?
- Neoliberal version of SD – co-opted or added on or conflicting?
- Contradictions? Or turning things around?
Costa Rica’s Environment…
Get equipped with SD indicators for discussion: Deforestation and Forest Recuperation Indicators
FOREST COVER

- Graphics from The Environmental Services Payment Program: A success story of sustainable development implementation in Costa Rica. Carlos Manuel Rodríguez - Minister of Environment and Energy
FOREST COVER

1950 (Bosque 72%)
1961 (Bosque 53%)
FOREST COVER
1977 (Bosque 31%)
FOREST COVER
1983 (Bosque 26%)

FOREST COVER
1987 (Bosque 21%)
Evolution of forest cover 1940 - 1987
1997 (Bosque 42%)
Forest Cover 2000  45%
Recovery - How did Costa Rica do it?

• We could talk about many factors.

• We have seen a combination of political, structural/institutional, economic, educational and cultural shifts...

• Embedding past commitments to peace, democracy, welfare, solidarity, and conservation and environmental education.
Costa Rica’s commitment to conservation, sustainable development and education for sustainable development
Political shifts – 1987
Introduction of SD
Sustaining and Consolidating Peace, Democracy and Conservation and Neutrality...
José María Figueres Olsen Biography

José María Figueres served as President of Costa Rica from 1994 to 1998. As such, he was the youngest President of a Central American country in modern times. During his presidency, he created a comprehensive national Sustainable Development strategy combining sound macroeconomic indicators, together with strategic investment in human development, and a strong alliance with nature through the implementation of innovative environmental policies. Prior to serving as President he was Minister of Foreign Trade (1987-1988) and Minister of Agriculture (1988-1990).

In the international arena he has pioneered the linkage between Sustainable Development and technology, in the realms of business, public service, and non-profit organizations. He helped create and lead the United Nations Information and Communication Technologies Task Force (ICT) and is the founder of the Fundación Costa Rica para el Desarrollo Sostenible (Entebbe) in Costa Rica. In 2000, President Figueres joined the World Economic Forum and became its first CEO in 2003, where he strengthened global corporate ties to social and governmental sectors by identifying common long-term interests.

Today he continues to work in the fields of technology and development, and is currently the CEO of CONCORDIA 21, based in Spain, dedicated to the support of...
Costa Rica = 26% protected land (The USA?)
Protected Areas

LAS AMÉRICAS: PROPORCIÓN DE LAS ÁREAS TERRESTRES PROTEGIDAS, 1996 Y 2007
(En porcentajes de superficie)
Shifts in Intuitional approach and Innovations: PSA /ESP
Shifts in Industry: Certification
Pioneers in Ecotourism - Shifts - CST:
Shift to Incentives: The Blue Flag Award
Shifts in higher education, implementing EL and successes with local SD focus...

- EARTH is a private, non-profit, international university, located in Costa Rica, and dedicated to the sustainable development of the tropics through education. EARTH University brand products are grown or made by EARTH, its students, graduates, faculty, or community partners and are now available in the US at Whole Foods Market stores.

- All of EARTH’s profits from sales of EARTH University brand products support scholarships, research, and university operations.
Who is leading SD in your area? And what are they doing locally and beyond?

- Government, Institutions, grassroots...?

- Following: more inspiring examples you can use to create activities in class.
Shifts to organics...

Tree Planting Programme complementing 5 million trees per year campaign.
Sun grown coffee
Organic and Shade grown
Monte Cristo Organic coffee farm
El Yüe Eco-Farm
Located in hone creek – Limon.
Supported by the MBC.
Ecotourism and volunteer program.
Organic banana production.
Organic herbs and medicinal plants.
Low impact and culturally sensitive construction.
Bio-digester
Bio-gas
Por favor no hablar, tocar, alimentar los monos. Please don’t feed, touch or talk to the monkeys.
Mighty Rivers

Dairy farm/
Eco-Lodging

NO THROUGH TRAFFIC
Two large rivers ahead. Monkeys overhead.
Would you like the opportunity to work, board, explore, vacation and learn at:

Mighty Rivers Eco-farm?

www.mightyrivers.net
info@mightyrivers.net
Tel. 765-1116, 386-8833, 307-9218
Philosophy – “Happy Cows”
Happy Chickens
present concern about the environment, ownership rights of seeds, basic foods, the survival of small producers, the participation of women in agriculture, and the impacts of genetically modified crops.

Not everyone is happy however - STILL CONFLICTS....

The present sustainable development debate is being carried out in reaction to the new round of neo-liberal economics...
• In order to avoid clashes?

• To truly embed SD and its components we need to?

• Educate more – ourselves and others...

• Back to first step?
• What economic paradigm are we in?
• Take next step – decide what one do we want to be in? Reach consensus about SD?
Sachs (2013)

• “Markets will not solve the problem, markets can help in certain ways...”

• We have to solve the problem through joint action, decision making, about the value of our future.
Have a break

• Or talk among yourselves about cases, examples that you have experienced that can be inspiring and useful for extension...
NOW - Try it out yourselves

A teachers project...
The Sustainability Education Framework for Teachers (SEFT)

• builds capacity for educators to help understand:
  • (i) the broad, complex nature of sustainability,
  • (ii) the problem-oriented, solution driven nature of sustainability, and
  • (iii) how sustainability connects to them as both citizens and classroom teachers.

• http://www.jsedimensions.org/wordpress/content/sustainability-education-framework-for-teachers-developing-sustainability-literacy-through-futures-values-systems-and-strategic-thinking_2015_01/
SEFT addresses four ways of thinking:

- **futures, values, systems, and strategic thinking**
- Conceptualized as being bi-directional and interconnected. (Warren et al 2014)
- See their video resources – they are excellent!
Look closer to home: Successful case: The Learning Garden

Methods:
• Sneek Science.
• Exposure and patients.
• Focus on kinesthetic learning.
• Intergrating departments – multidisciplinary and departmental.
• Health and wellbeing elements, food and ecosystems, relaxation and recreation...

• View at Green Lifestyles.org
• EcoSalon Film
• And The Rain Garden
Conclusions:
Key Processes to keep in mind

• Keep defining SD and all that it presently is and can be,
• Simplify,
• Keep local but think and link (local realities) to national and global development contexts,
• Stimulate connections,
• And creativity...
• Transversalize the SD component and concepts...get them everywhere at all times and keep them locally appropriate while building global understanding of contexts and connections with ecosystems...

• Keep asking - What does this look like? What can this look like?
• Its up to you – and more importantly - its up to us! We are in it together...
• Always thinking of the WE and not just the ME and who we need to connect with to sustain the WE.
Brainstorm / Imagine / create ...

What are your ideas for projects? What is already out there and working? Or stuck?

• Think of new ideas – or re-visit examples that you know already that are appropriate and useful to your setting and local needs.

• What would you like to see done in your settings?
• How will you go about it?
• How can you insert and embed SD into your classes, routines, activities?
• How would you like to? / what would the students want?
• What projects would you see working based on your local needs and desires?
Inspiration from the kids

Thank you from the Centre of International Programs at
The Earth Institute at Colombia University is a leader in the USA in sustainable education. [https://www.youtube.com/watch?v=3vAIhj1ySGg](https://www.youtube.com/watch?v=3vAIhj1ySGg)

Jeffrey Sachs (2013) *The Age of Sustainable Development* – discusses the challenges in the shifts to integrate the social, environmental and economic features of development. [https://www.youtube.com/watch?v=ksZaAqRA5qg](https://www.youtube.com/watch?v=ksZaAqRA5qg)

