

Introduction:

The potential of Faith Communities to play a significant part in the fight against Global Warming has been highlighted during the CoP21 Paris Climate Change Conference.

I believe that awareness of these issues, and where possible action to mitigate their effect, should be at the heart of the agenda for all Eco Congregations and their individual members.

The full Report runs to over 40 pages and is presented in 5 sections. A pdf copy can be found at http://www.unep.org/pdf/Foresight_Report-21_Issues_for_the_21st_Century.pdf

This is a summary of the Report **21 Issues for the 21st Century**.

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Section One examines what are described as **Cross Cutting Issues** and highlights the following:

We need a new system of global environmental governance which has a place for partnerships involving Government, Private Sector, Environmentalist and community groups.

- What part might Eco Congregations play in such a partnership, is this a debate in which we should participate?

We need to develop a green skills based workforce as well as encourage life style practices which are sustainable.

- Eco Congregations promoting environmentally based careers as well as making the recruitment of members of the green skills workforce a priority?

The bridges between science and policy need rebuilt and or strengthened.

- Eco Congregations facilitating discussion between science and policy makers?
- Individual members of Eco Congregations asking penetrating questions of our politicians?

Historical tipping points in social attitudes towards controversial issues should be recalled and re-enacted. Eg attitudes to smoking, political correctness especially towards ethnic groups, wearing seat belts.

- Eco Congregations holding blue sky sessions wondering how attitudes to the environment can be changed and identifying potential tipping points?

Note should be taken of the cumulative effect of creeping environmental changes like acid rain, the drying of the Aral Sea or the hole in the ozone layer.

- Eco Congregations encouraging individual member awareness of such changes and encouraging subsequent action to mitigate their effect

The final Cross Cutting Issue highlighted is the question of Migration caused by drought, frequent costal and river flooding, and the general onset of land degradation.

- What are the Eco Congregation attitudes to Migration and Refugees?

Section Two focusses on **Food, Biodiversity and Land Issues** and highlights the following:

makes the point that although food security is a longstanding issue, a world of 9 Billion people needs to confront a new set of challenges such as climate change, competition for land from bioenergy production, heightened water scarcity, and possible shortfalls of phosphorus for fertilizer.

Food safety also faces new challenges from increasing disease transmission from animals to people and food contamination. There is an urgent need to increase the security and safety of the world's food supply by setting up more comprehensive early warning systems, supporting smallholder farmers, reducing food waste, and increasing agricultural efficiency.

It talks about Biodiversity and the linkages between biodiversity and other environmental issues (impact of climate change on ecosystems; interaction between ecosystems and the water cycle); and the other, the interrelationship between biodiversity and economics (valuation of ecosystem services; the place of biodiversity in underpinning economic activities).

And it highlights the importance of recognising the environmental quality within communities, towns and cities as well as being aware of the new rush for land in developing countries by both foreign and national investors

Implicit too, at a local level, is awareness of the change of use of agricultural land to commercial and housing activity.

- As members of Eco Congregations do we think about the sources of our foods and their sustainability?
- Are we concerned about the Global environmental impact involved in the production of our foods
- And how concerned are we about food waste? How much food do we waste?
- Members of Eco Congregations recognising this an issue and promoting projects to maintain that environmental quality
- Perhaps Eco Congregations could hear speakers about Biodiversity and at the same time look to their own local environments and their Biodiversity as well reflecting global issues like the rush for land

Section Three turns attention to **Freshwaters and Marine** Issues

This is perhaps a more technical issue but nonetheless one about which Rotarians should have an understanding because of increasing fresh water pressures in the Third World.

This section notes that recent scientific research has provided a new view on how water and land interact, locally to globally. For example, scientists now better understand the extent to which changes in land use profoundly affect downwind rainfall patterns, and have computed the huge volumes of water appropriated (transpired or evaporated) by society to produce rain fed crops ('blue' versus 'green' water flows). This new knowledge provides a new impetus for bringing water and land management closer together. The result could be a boost in water productivity and higher food production per litre of water, as well as new ways of maintaining the quality of water.

Water quality degradation, channel modifications, and overfishing are some of the factors posing a growing threat to the freshwater ecosystems and inland fisheries of developing countries.

Oceans provide many earth system functions including the regulation of climate and the hydrological cycle, as well as provide habitat for a rich diversity of organisms, and food, materials and energy for human use. But the oceanic environment is faced with increasing threats to its long-term integrity, including: acidification, overfishing, land and marine-based pollution, widespread habitat destruction, and the proliferation of invasive species. There is a growing presumption that the current approach to managing oceans will be unable to prevent a collapse of some oceanic systems. This is because, among other reasons, responsible bodies are dispersed across UN agencies. Reforms are needed and new forms of governance should be considered and evaluated, including the option of establishing a new coordinating body for integrated ocean governance.

Increased pressure from the exploitation of coastal resources is significantly affecting coastal ecosystems. Settlements, industries, agriculture, fisheries and trade are concentrated in coastal zones; hence sensitive and highly valuable coastal ecosystems are subjected to on-going degradation. Present management approaches are inadequate for halting the tide of degradation. Therefore, an adaptive governance approach is needed that involves the delegation of management, rights, and power in such a way that encourages the participation of all stakeholders.

- Eco Congregations might consider a discussion around bottled water and show the following You Tube Video ... www.youtube.com/watch?v=Se12y9hSOM0
- Perhaps Eco Congregations could make a donation to a Charity like Water Aid [as I am sure many do]
- Is the fish you eat from a sustainable fishery?
- There will be many Eco Congregations with coastal footprints and so beach clean-ups seems an obvious idea but can there also be a focus on ways to avoid the clean-up need in the first place, perhaps involving local schools?
- Land-locked Eco Congregations may also wish to consider the quality and condition of the streams and rivers in their area

Section Four moves the focus to **Climate Change Issues**

Here recognition is made of the fact that Climate Change mitigation and adaptation measures may have unintended consequences. For example, large scale wind farms may disrupt the migratory behaviour of birds; new massive sea walls will protect the populations but may also eliminate valuable natural wetlands; and large scale geoengineering schemes could have many unintended impacts. These potential negative side effects should be assessed, and then minimized or avoided in order to maintain support for climate policies.

A spate of new scientific studies have compared climate modelling results with observational evidence and confirmed the hypothesis that climate change could alter the frequency, strength and distribution of extreme events. For example, studies have linked global warming with increased risk of flooding in England and Wales; with increased summer rainfall variability in Southeast United States; and with the intensification of heavy precipitation events over much of the land area of the Northern Hemisphere. These new findings underscore the need to adapt to a changing frequency of extreme events, and suggest that 'medium term' early warning systems might be possible.

Also recent research shows that many glaciers are in retreat and some have an accelerating rate of melting. These changes pose threats to many people and ecosystems, especially in the Himalayas, Central Asia and Andes. Threats include the risk of flooding from the bursting of natural dams holding back glacial lakes, as well as the eventual decline of runoff during the dry season in some regions. A much better understanding of the hydrological consequences and economic and social impacts of glacier retreat is needed, and the development of adaptation strategies is equally urgent.

- This section, perhaps more than any other in the Report, must ask us to look at the causes of the need for mitigation and adaptation; why we have increasing extreme weather events; and why glaciers are melting [as well as the consequences of these melts].
- Do we need a Climate Change Health and Safety Check list to apply to our own life styles, and if we do, what should be in it?

In the final section the spotlight falls on **Energy, Technology, and Waste Issues**

As the world seeks solutions to climate change, it looks increasingly towards renewable energy. But regardless of the large potential for renewable energy worldwide, this potential has not been realized due to many barriers. An important task is to identify the means to eliminate the economic, regulatory and institutional barriers to renewable energy that undermine its competitiveness with conventional energy sources

We are fixed in a pattern by which society first produces new technologies and chemicals and then ex post facto tries to evaluate the impacts of what it has produced. The latest examples are the questions raised by applications of synthetic biology and nanotechnology. With the accelerated pace by which novel technologies and chemicals are being deployed, a new approach should be considered by which their implications are systematically and comprehensively assessed before they reach the production phase with the aim to minimize their risks to society and nature. While this is happening in some parts of the world for some technologies and chemicals, it is worth making this a universal approach and this may require new forms of international governance.

Increased demand for high-tech and renewable energy equipment is contributing to a depletion of strategic minerals, including rare earth metals. This is compounded by planned obsolescence and other wasteful manufacturing habits. The increased exploitation of minerals is also causing greater waste management problems, in particular, the build-up of electronic wastes (e-wastes). A promising option is to maximize the recovery of metals and other materials from electronic and other waste streams (so called "waste mining").

Finally, recognition that many of the world's nuclear reactors are aging and will need to be decommissioned very soon. This is of concern because decommissioning is a major operation which produces large amounts of radioactive waste that need to be disposed of safely. There is an inadequate number of trained professionals to handle these operations, even though the number of plants needing decommissioning will at least double within the next 10 years. The Fukushima nuclear accident in March 2011 has further accelerated the plans of some countries to close their nuclear plants. International interventions, procedures, policies and cooperation are needed to minimize the potential danger posed by decommissioning activities to society and the environment.

- Are Eco Congregation members blocking renewable energy projects and if they are, where does that sit in the four way test?
- Could Eco Congregations place Technological Development [and its consequences] on their agendas?
- Are Eco Congregations seduced by planned obsolescence? For example if you have an iPad which version do you have and why?
- Should Eco Congregations know about rare elements and should they consider the implications of them running out and change their life styles accordingly
- Should Eco Congregations know where the electricity that they use comes from and have they considered the environmental impact of its generation?

And a footnote US Secretary of State, John Kerry, has just been interviewed for Rolling Stone Magazine. Here are some extracts of what he said

<http://www.rollingstone.com/politics/news/john-kerry-on-climate-change-the-fight-of-our-time-20151201>

Kerry ... has been talking about the national-security implications of climate change for years. But now, reality is starting to catch up with him. Recent studies have shown that the war in Syria was likely exacerbated by drought and famine. The flood of refugees that is overrunning Europe is offering the world a glimpse of what will happen as the globe heats up. The rapidly thawing Arctic, with its fossil-fuel riches, has become a playground for Russia and China. Nobody has done a better job of adding up what all this means than John Kerry. In fact, in Kerry's mind, the troubled future of Naval Station Norfolk, the refugee chaos in Europe, the rise of Islamic terrorism and the grinding war in Syria are all accelerated and complicated by our collective failure to take meaningful action to reduce carbon pollution and minimize the impacts of climate change.

"The bottom line is that the impacts of climate change can exacerbate resource competition, threaten livelihoods, and increase the risk of instability and conflict, especially in places already undergoing economic, political and social stress," Kerry said. "And because the world is so extraordinarily interconnected today – economically, technologically, militarily, in every way imaginable – instability anywhere can be a threat to stability everywhere."

Sixteen members on the board of the Centre for Naval Analysis, who are all flag officers – generals, admirals, three-star, four-star, retired – have all said this [Climate Change] is a major threat multiplier. And there are many different ways in which a security challenge can emerge. You have drought, therefore, perhaps, huge food shortages. Where there is water today, there may not be in the future. That could cause mass migrations. That creates conflict. The water itself – there are wars over water. Already, tribes are fighting in part of the Sahel and other places where water once existed, and now it's dried up. There's a history of conflict where resources are finite

Yeah. And that is a very big challenge. We're taking on traditional economics. We're taking on traditional vested interests. We've made a lot of progress. It's quite extraordinary, frankly, that we've got so much happening right now. The challenge is not whether we'll respond. The question is whether we'll respond fast enough.

Final Thought

What are the Biblical bases for how we respond to Climate Change and Global Warming?