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From the Editor, Request for information for upcoming newsletters

This newsletter is an opportunity for IEF members to share their experiences, activities, and initiatives that are taking place at the community level on environment, climate change and sustainability. All members are welcome to contribute information about related activities, upcoming conferences, news from like-minded organizations, recommended websites, book reviews, etc. Please send information to newsletter@ief.org
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Please share the *Leaves* newsletter and IEF membership information with family, friends, and associates and encourage interested persons to consider becoming a member of the IEF.

Call for Papers by 1 April for ABS/IEF Conference

The deadline to propose papers for the Association for Baha'i Studies/International Environment Forum Conference in Toronto on 7-10 August 2014 is 1 April, so do not delay in sending in your abstracts both to ABS and to IEF. Both organizations will review the proposals for the IEF contributed paper sessions at the conference, which should both meet ABS standards and be relevant to the topic of the IEF sessions.

The ABS theme is "Scholarship and the Life of Society", so the theme of the IEF sessions will focus on environment and sustainability contributing to the life of society. We can consider how reflection on environmental limits, climate change and sustainability from a spiritual and ethical perspective contributes to more sustainable lifestyles and communities, and how we can put our concerns into action at the international, national and local levels. Registration and paper submission will be through the ABS on their web site at http://www.bahai-studies.ca, and papers for the IEF sessions should also be sent for review to ief@iefworld.org by the 1 April 2014 deadline. The deadline for the lowest conference registration fee is 31 May 2014.

Latest Update on Climate Negotiation Priorities From Top UNFCCC Official IEF member Halldor Thorgeirsson

http://www.bna.com/qa-top-unfccc-b17179882911/

by Eric J. Lyman Thursday, March 13, 2014

With the first United Nations climate negotiations of the year at their halfway point, negotiators are grappling with many key issues related to the form, scope and ambition of the 2015 global agreement to confront climate change.

Five years ago, at the Conference of the Parties (COP) summit in Copenhagen, parties agreed to take steps to limit global warming to 2 degrees Celsius (3.6 degrees Fahrenheit) by the end of this century, compared to pre-industrial levels. The 2015 treaty, to be finalized at the COP summit in Paris and to go into effect no later than 2020, is the mechanism meant to achieve that aim.

Halldor Thorgeirsson, head of the Implementation Strategy Unit for the UN Framework Convention on Climate Change (UNFCCC) and a top lieutenant to UNFCCC Executive Secretary Christiana Figueres, spoke to Bloomberg BNA March 12 on the sidelines of the Bonn Climate Change Conference.

During a 30-minute interview, he discussed some of the specific challenges of the multilateral climate negotiating process as it winds through two more sets of inter-sessional meetings this year, the 2014 COP summit in Lima, Peru, and into the final stretch in 2015.

BBNA: You have said that governments are showing here in Bonn that they are finally ready to put forth their vision of what will happen in Lima. Why do you think that's the case? What's changed since [the last round of talks] in Warsaw?

Thorgeirsson: What is encouraging is that the submissions [countries were asked to submit specific lists of priorities for the climate negotiating process in 2014 and 2015] that have come in so far have been looking at the whole picture and not just on each country's favorite topic. They're basically looking at what needs to be clarified and how we can achieve in Lima a sense of what the [2015] agreement is going to operate. This is all kept as one conversation. We don't have silos [the term used to refer to narrow topics of negotiation] on adaptation, silos on mitigation, on finance, and so forth, and that is something I think is going to make it easier to have a sense how much is already clear and to clarify what will be the main issues in 2015.

BBNA: It's true that the submissions so far have been comprehensive, but they also fail to show much consensus: There seems to be a very wide panorama of viewpoints. It must be helpful to have all that down in writing, to know where specific countries stand, but couldn't one also say these submissions illustrate how much work must still be done? The EU proposal and that of China, and of the U.S., for example, they don't seem to show a lot of common ground.

Thorgeirsson: Yes, that's true. But we don't really see this year as the year of taking fundamental positions off the table. You will see many countries clarifying their positions, but that does not mean they will not move away from these positions over time.

But that's not the main objective of this year. The objective now is to see where the choices really lie and to try to minimize what will have to be confronted next year. It will be very difficult to create a significant consensus on central issues in Lima. That is for Paris [in 2015]. But the goal is to arrive in Lima with knowledge of what the ultimate agreement will look like so that governments can conclude their national preparations.

BBNA: Please elaborate on that.

Thorgeirsson: Well, this process is moving forward on three main fronts: One is governments preparing at home to know what they can do after 2020; they are participating in these negotiations for a new agreement, and they are looking at ways to unlock pre-2020 ambition. Advancing the process of knowing what the agreement will look like and how it will operate has to come first.

That was the biggest results from Warsaw, the idea of “nationally determined contributions” being on the table before the agreement is adopted.

BBNA: Many delegates have said the same thing. Why is it so important?

Thorgeirsson: In international environment diplomacy there has been this notion that you first clarify the international obligations and then you go home and figure out what that means domestically. There is an attempt now to reverse this sequence, to have a full understanding what is possible domestically and then determine how an international agreement allows you to be more ambitious and go further.

BBNA: In talking to delegates, the idea emerges that the 2015 agreement may end up being a set of rules on accounting for and monitoring emissions and so on and that the rest of it could be put into place a year or two later with a legally binding COP decision. This begs a question: Is the 2015 agreement meant to be a comprehensive treaty that will cover most aspects of the process to confront climate change? Or is it going to be a kind of rulebook that leaves the prickly issues for 2016 or 2017?

Thorgeirsson: Well, I have some observations: First, the backbone of the transparency and accountability framework is already under construction in the form of MRV [rules for “Measuring, Reporting, and Verification”], and that infrastructure is coming to fruition soon, well before Paris. The new agreement will in essence rely on that reporting infrastructure.

What remains is this question of accounting—there is a difference between reporting and accounting. Reporting is the information you provide and accounting is what you do with that information. It would be extremely helpful if this could be clarified this year, but it doesn't stop there.

BBNA: What are some of the ways that could work out?

Thorgeirsson: Some governments want “common accounting.” What that means is that it's negotiated at the international level and everyone agrees in the 2015 agreement. But there is also a discussion about how countries should unilaterally provide clarity on accounting. This may seem like splitting hairs, but it's a question of how do you arrive at the clarity: Do you agree internationally and then everybody applies it? Or do you actually have it arise from the bottom up, but with some international standing? Ideally, we'd know what governments want on these questions this year.

BBNA: In Warsaw, there was friction over when emissions reduction targets are submitted. Many countries, including host Peru, strongly wanted a deadline before Lima, but in the end it was pushed to early 2015. But here in Bonn, delegates are still saying they want the targets before Lima. Wouldn't that kind of change require a COP decision?

Thorgeirsson: Yes it would, and it's really a moot point. Nothing stops them from coming in earlier. And regardless, we'll have an idea before Lima. Heads of state and government will answer the call from the [UN] secretary general [Ban Ki-moon] to come to [UN headquarters in] New York in September and make bold announcements. So it starts with what leaders say in September, then what signals ministers might send during the high-level segment of the negotiations in Lima and then what they will actually submit to the UNFCCC in 2015.

You don't come up with a commitment out of the blue. What is being encouraged is the domestic processes we're seeing, and they're in the news. The most visible is the European Commission proposal and the meetings that will take place next week. You will see more and more of this. My sense is that the secretary general's event will be seen as a good opportunity for leaders who are ready to make an announcement to do so at a very headline level.

BBNA: In that case, if they will more or less know the answer already, why won't delegations come to Lima ready to at least give some idea of what their submissions will be? And how much of a disadvantage does that

create, not to be able to discuss in any official way these targets in Lima? Can the ambition gap [between the voluntary targets and the levels necessary for the 2-degree goal] be closed in the months between the submissions in early 2015 and the summit in Paris?

Thorgeirsson: I don't think this will be the main issue in Lima, because in Lima we will focus on he agreement itself. The focus won't be on the content of the nationally determined agreements. That will come in 2015. But it will be very important that Lima will lay the groundwork so what is agreed to in 2015 will be a meaningful agreement.

BBNA: In that context, define “meaningful agreement.”

Thorgeirsson: What makes the agreement meaningful is that is has to be capable of bending the curve of global emissions over time to limit acceptable warming to no more than 2 degrees and possibly lower.

As you know, the [Intergovernmental Panel on Climate Change] synthesis report will be completed in October, and it will be very clear at that point what the consequences of different levels of warming will mean. This is part of the agreement just taking shape here in Bonn. How do you manage the pathway to 2050? How do you bring us from a pathway to 3 or 4 or 5 degrees of warming to just 2 degrees? And that is the whole reason for an international agreement. If all we needed was for each government to do what they think is necessary domestically, then we wouldn't be responding to the global imperative.

European Bahá’í Conference on Justice

21-23 February 2014, de Poort Conference Centre, Groesbeek, The Netherlands

The 18th European Bahá'í Conference on Justice gathered a large and attentive audience for three days of keynotes, plenary panels and parallel workshops, all at a very high level. The conference, on the theme "Holistic Justice: Coherence and Service in Balanced Lives", was co-sponsored this year by ebbf, the Baha'i-inspired forum for values in business with which IEF collaborates closely. Introductory keynotes by IEF President Arthur Dahl on justice in our economic life, Wendi Momen (IEF board member) on "Shared Prosperity? How Does that Work?", and Kit Bigelow on "Feminine Aspects of Justice" were followed by parallel workshop sessions on topics such as anti-discrimination in education, the International Criminal Court, local justice, democracy and political processes, the social psychology of justice (by IEF member Ismael Velasco), poverty and human rights, and equality of men and women. On the final day, there were two plenary panels on human rights and the Bahá'ís in Iran, and on current topics in global governance, including both corruption, and international environmental governance of biodiversity (by IEF board member Sylvia Karlsson-Vinkhuyzen). Arthur's opening keynote was a last-minute replacement for another ebbf board member who fell ill and was unable to travel. His paper is now available on the IEF web site at http://iefworld.org/ddahl14a.

While in Holland, Arthur also gave a seminar on international governance for sustainability for Sylvia Karlsson-Vinkuyzen's Public Administration and Policy group at Wageningen University, and three fireside talks including one on science and religion for academics from the University of Amsterdam.

Worried About Fracking?

Arthur Dahl's blog on the IEF web site

If you are worried sick about greenhouse gases from fracking (hydraulic fracturing of oil shales), which are already being added to the fossil carbon from traditional oil and coal, with proven reserves five times the remaining capacity of the atmosphere to absorb CO_2 before runaway global warming begins, stop reading now. The next great discovery of the coal industry is underground coal

gasification (UCG). A report by Fred Pearce, "Beyond Fracking" (New Scientist, 15 February 2014, pp. 36-41), describes UCG now being planned or tested around the world, based on a plant in operation in Uzbekistan for the last 50 years. The idea is to set fire underground to coal deposits that are not economical to mine, inject air down, and pump the resulting hydrogen, methane and carbon dioxide to the surface to use as fuel. This is estimated to meet our energy needs for the next thousand years, so the coal industry loves it. There are plans to go commercial by 2015. Of course, this is worse than fracking, and will add at least 10°C more to global warming, but that does not worry the proponents, who can solve energy security problems and make money quickly.

There are other environmental concerns as well. Pilot plants in the USA and Australia were shut down after carcinogenic benzene and toluene leaked into groundwater. The voids left by burned coal could lead to subsidence. Even putting out the fires for decommissioning could be a problem. Some accidental fires in underground coal have burned for years.

At a time when climate scientists say we need to leave 80% of existing fossil fuel reserves in the ground, plans to burn the other 80% of coal that is beyond reach seem suicidal. Unfortunately this is a working technology that could make lots of money. Have we ever said no?

Regulating Carbon Emissions in Canada: Climate Policy Year in Review and Trends, 2013

http://www.iisd.org/publications/pub.aspx?pno=2901

Dave Sawyer, Philip Gass, IISD, 2014.Paper, 18 pages, copyright: IISD
Dave Sawyer and Philip Gass have developed this piece as a year in review and a look forward to trends emerging for 2014 with regards to climate change mitigation policy in Canada. The year 2013 was marked by a loss of federal political will in the sector-by-sector greenhouse gas regulatory process. Equivalency processes stalled without the federal direction needed for provinces to develop their positions in relation to federal standards. Meanwhile, provincial policy labs emerged, with the provinces continuing to move forward unilaterally and in partnership in spite of the federal government backing away. Three broad trends have emerged heading into 2014: embracing fragmentation, with opportunities for subnational alignment; designing equivalency to be flexible over the longer term when it is likely to become relevant again; and accommodating provincial policy labs and innovation, continuing to build the bottom-up, province-led approach that has become the norm in Canada.

Download the 519 KB PDF at http://www.iisd.org/pdf/2014/canadian_carbon_policy_review_2013.pdf.

2052: A Global Forecast, a Book review by Arthur Dahl

Jorgen Randers has written "*2052: A Global Forecast for the Next Forty Years*" (Chelsea Green Publishing, White River Junction, Vermont, 2012) from a unique perspective. This report to The Club of Rome commemorates the 40th anniversary of "*The Limits to Growth*", the famous set of computer-generated scenarios that showed that economic growth could not continue forever in a finite world and would lead to the collapse of civilization, and that major changes from "business-as-usual" would be needed to put the world on a sustainable course. Randers was one of the authors of the original report and its updates, and after struggling for forty years to convince the world to make the necessary changes for its own good, he decided to analyze why they had failed and what that said about the next forty years ahead. This book in the result. It is not another scenario, but a forecast of the most probable future projecting the trends observed since 1972.

His major concern is that there is a natural tendency, reinforced in democratic systems and in the capitalist economy, to always choose the least-cost short-term solution. We only change when we have to, and no more than absolutely necessary, so the result is always too little, too late. Surprisingly, unlike the *Limits to Growth*, Randers does not see a collapse of civilization before 2052. We shall do enough to see population peak at 8 billion about

2040 because fertility rates drop in cities. We shall pursue GDP growth because it is the only way to create jobs and distribute wealth, but growth will slow down, only doubling by 2052, and most of that growth will be in China and the emerging economies. The rich countries are reaching the limits of productivity increases, so their growth will stop, and in the USA probably decline. However income per capita can still increase as the population declines, as in Japan. More economic effort will have to go into correcting environmental damage and rebuilding after natural disasters triggered by climate change, so we shall have to work harder to stand still. The beauties of nature and undisturbed ecosystems will disappear. There will be enough resources to meet the demand but not the need, with 5 billion people still poor and a billion still starving, since nothing will be done to address extremes of wealth and poverty. Inequity in the rich world will increase, producing more social instability. The young will rebel against their elders who expect to live comfortable retirements while leaving their grandchildren to pay the price for their excesses. The market will not solve these problems, and democracy will fail to align economic and social interests. There is a brief mention of wildcards that could upset this forecast, including a financial meltdown, a revolution in the USA, and a generational rebellion.

Randers sees huge regional differences, with U.S. income declining, China five times richer, and Europe flat for 30 years because Brussels can make long-term policy choices. Some emerging countries will succeed, but the rest of the world will stagnate in poverty. A much better future is technically possible, requiring a shift of only 2% of labour and capital, but this is slightly more expensive, so we shall do nothing. Most worrying, while Randers stops at 2052, he sees the major impact of runaway climate change hitting soon after because we shall pass the 2°C tipping point by 2050, possibly causing major methane releases in the warming Arctic. Disaster is just over his time horizon.

This rather pessimistic analysis is built around five central issues: capitalism leads inevitably to extremes of wealth and poverty, economic growth produces over-consumption, democracy is too slow for the changes that are necessary, intergenerational harmony will fail, and the climate will become increasingly unstable. The book includes separate reflections by other thinkers that bring up some interesting ideas, including changes in corporate values towards more responsibility, the potential for open and collective innovation with new technologies, the possible evolution in human values, and reaching peak youth with a generation that is more educated, connected and spiritual. There is even a discussion by Dag Anderson of the next step in human cultural evolution to a higher level of organization, with consultative decision-making, and the acceptance of our spiritual reality.

While I was reading this book, Professor Randers came to lecture at the University of Geneva, and he made some suggestions as to what should be done:
1. Further slow population growth with a one-child policy in the rich world.
2. Cut CO_2 emissions in the rich world, with a ban on fossil fuel use within 10 years.
3. Reduce poverty in the poor world by providing climate-friendly energy systems.
4. Reduce the ecological footprint of the rich, perhaps by legislating long compulsory vacations.
5. Establish supranational institutions able to temper the short-term vision of national governments.
6. Reduce the focus on income growth by making an increase in well-being the new goal.

The challenge, of course, is to convince the rich to sacrifice today to gain an advantage in 30-60 years. Such a logical and well-founded analysis begs the question: how should we respond? Clearly Randers is reasoning within our present materialistic value system, and projects that into the future without any significant change. He does not see that there are other forces at work in the world, and that the inevitable decline in our present dysfunctional system can open the way for the birth of a new global civilization founded on new values.

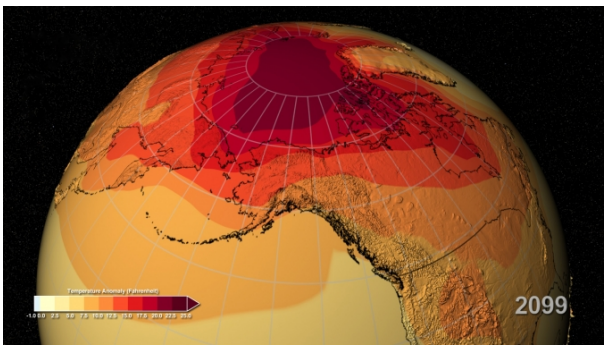
The main issue is whether we can turn the corner in time to avoid some of the worst of what Randers projects. Herman Daly, one of the founders of ecological economics, concludes his reflection in the book with surprise that denial has endured for forty years, and asks when we shall wake up with repentance and conversion, and if we shall have the spiritual strength and rational clarity for such a conversion. I think that our youth have that capacity, and that our best hope is to empower and accompany them as they use their potential for sacrificial service, innovation and collaboration to transform the system from the bottom up. Forty years is enough time for two generations of exciting change.

Long-Term Warming Likely to Be Significant Despite Recent Slowdown

http://www.nasa.gov/press/2014/march/long-term-warming-likely-to-be-significant-despite-recent-slowdown/index.html

March 11, 2014, RELEASE 14-073 Image Credit: NASA SVS/NASA Center for Climate Simulation

A new NASA study shows Earth's climate likely will continue to warm during this century on track with previous estimates, despite the recent slowdown in the rate of global warming.



This research hinges on a new and more detailed calculation of the sensitivity of Earth's climate to the factors that cause it to change, such as greenhouse gas emissions. Drew Shindell, a climatologist at NASA's Goddard Institute for Space Studies in New York, found Earth is likely to experience roughly 20 percent more warming than estimates that were largely based on surface temperature observations during the past 150 years.

Shindell's paper on this research was published March 9 in the journal Nature Climate Change.

A new NASA study suggests that projections of Earth's future warming should be more in line with previous estimates that indicated a higher sensitivity to increasing greenhouse gas emissions.

Global temperatures have increased at a rate of 0.22 Fahrenheit (0.12 Celsius) per decade since 1951. But since 1998, the rate of warming has been only 0.09 F (0.05 C) per decade -- even as atmospheric carbon dioxide continues to rise at a rate similar to previous decades. Carbon dioxide is the most significant greenhouse gas generated by humans.

Some recent research, aimed at fine-tuning long-term warming projections by taking this slowdown into account, suggested Earth may be less sensitive to greenhouse gas increases than previously thought. The Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), which was issued in 2013 and was the consensus report on the state of climate change science, also reduced the lower range of Earth's potential for global warming.

To put a number to climate change, researchers calculate what is called Earth's "transient climate response." This calculation determines how much global temperatures will change as atmospheric carbon dioxide continues to increase – at about 1 percent per year -- until the total amount of atmospheric carbon dioxide has doubled. The estimates for transient climate response range from near 2.52 F (1.4 C) offered by recent research, to the IPCC's estimate of 1.8 F (1.0 C). Shindell's study estimates a transient climate response of 3.06 F (1.7 C), and determined it is unlikely values will be below 2.34 F (1.3 C).

Shindell's paper further focuses on improving our understanding of how airborne particles, called aerosols, drive climate change in the Northern Hemisphere. Aerosols are produced by both natural sources – such as volcanoes, wildfire and sea spray – and sources such as manufacturing activities, automobiles and energy production. Depending on their make-up, some aerosols cause warming, while others create a cooling effect. In order to understand the role played by carbon dioxide emissions in global warming, it is necessary to account for the effects of atmospheric aerosols.

While multiple studies have shown the Northern Hemisphere plays a stronger role than the Southern Hemisphere in transient climate change, this had not been included in calculations of the effect of atmospheric

aerosols on climate sensitivity. Prior to Shindell's work, such calculations had assumed aerosol impacts were uniform around the globe.

This difference means previous studies have underestimated the cooling effect of aerosols. When corrected, the range of likely warming based on surface temperature observations is in line with earlier estimates, despite the recent slowdown.

One reason for the disproportionate influence of the Northern Hemisphere, particularly as it pertains to the impact of aerosols, is that most man-made aerosols are released from the more industrialized regions north of the equator. Also, the vast majority of Earth's landmasses are in the Northern Hemisphere. This furthers the effect of the Northern Hemisphere because land, snow and ice adjust to atmospheric changes more quickly than the oceans of the world.

"Working on the IPCC, there was a lot of discussion of climate sensitivity since it's so important for our future," said Shindell, who was lead author of the IPCC Fifth Assessment Report's chapter on Anthropogenic and Natural Radiative Forcing. "The conclusion was that the lower end of the expected warming range was smaller than we thought before. That was a big discussion. Yet, I kept thinking, we know the Northern Hemisphere has a disproportionate effect, and some pollutants are unevenly distributed. But we don't take that into account. I wanted to quantify how much the location mattered."

Shindell's climate sensitivity calculation suggests countries around the world need to reduce greenhouse gas emissions at the higher end of proposed emissions reduction ranges to avoid the most damaging consequences of climate change. "I wish it weren't so," said Shindell, "but forewarned is forearmed."

New Global Education Goals Must Prioritize Girls

http://www.unesco.org/new/en/media-services/single-view/news/new_global_education_goals_must_prioritize_girls/#.Ux3r1vldXh7

10.03.2014 - UNESCOPRESS

100 million young women unable to read a single sentence, concludes UNESCO report

© UN photo/Bikem Ekberzade - Iraqi school children

A serious gender imbalance in global education has left over 100 million young women in low and lower middle income countries unable to read a single sentence, and will prevent half of the 31 million girls out of school from ever enrolling. These are among the main findings of the Gender Summary, which analyses data from the latest edition of UNESCO Education for All Global Monitoring Report.

The new summary, launched for International Women's Day in partnership with the United Nations Girls Education Initiative (UNGEI), calls for equity to be at the forefront of new global development goals after 2015 so that every child has an equal chance of learning through quality education.

Despite some progress, in 2011, only 60% of countries had achieved parity in primary education and only 38% of countries had achieved parity in secondary education. Among low income countries, just 20% had achieved gender parity at the primary level, 10% at the lower secondary level and 8% at the upper secondary level.

Girls living in the Arab States are at a greater disadvantage: the share of females in the out-of-school population is 60 %, compared with 57% in South and West Asia and 54 % in sub-Saharan Africa.

On current trends, it is projected that only 70% of countries will have achieved parity in primary education by 2015, and 56% will have achieved parity in lower secondary education. Unless improvements are made, the poorest girls will

achieve universal primary completion sixty years later than the richest boys. The new summary reiterates the need for progress in education to be more evenly spread between girls and boys if global education goals are to be achieved.

"It is simply intolerable that girls are being left behind. For poor girls, education is one of the most powerful routes to a better future, helping them escape from a vicious cycle of poverty. Governments must ensure that there is equal access to education to address this shocking imbalance," said Irina Bokova, Director General, UNESCO.

The EFA GMR 2013/4 *Teaching and Learning: Achieving Quality for All* shows that it is not enough for children just to enroll in school, they need to learn while there. Due to low quality education over the years, 175 million young people in low and lower middle income countries are unable to read a single sentence, of whom 61% are female. In South and West Asia, two out of three young people who cannot read are young women.

The Gender Summary demonstrates the importance of investing in girls' and women's education, not just for the individual, but for the whole of society. If all women had a primary and secondary education, child marriages and child mortality could fall by 49 % and 64 % respectively. With just primary education for all women, maternal deaths could be reduced by two-thirds. Educating women can help protect them from falling into poverty as well by helping them find work and reducing the gender wage gap.

"Poor, rural girls are far less likely to be taught by female teachers who can provide them with a role model for their future and help encourage them to stay in school. To address this, governments must consider providing safe housing or financial benefits to encourage more female teachers to work in remote areas. Alternatively, recruiting locally can help ensure teacher candidates reflect the diversity of the children they are teaching," Pauline Rose of the EFA Global Monitoring Report said.

Girls also need more female teachers, often for cultural reasons, and to provide a role model to keep them from dropping out of school. However, in Sub-Saharan Africa, female teachers make up less than 40% of the total teaching workforce in all countries at the upper secondary level.

The GMR makes the following recommendations to get girls education back on track:

1. Girls' education must be at the forefront of new education goals after 2015. Every girl should have an equal chance of going to school and learning while there. New goals need clear, measurable targets with indicators that will track the progress of the most disadvantaged and in particular girls.

2. The best teachers must reach the learners who need them most. National education plans must include an explicit commitment to reaching out to girls and the marginalized. Female teachers in particular should be recruited locally. Incentives must be provided to ensure the best teachers work in remote, under-served areas.

3. Teachers need gender sensitive teacher education: Teachers, both female and male, need training to understand and recognize their own attitudes, perceptions and expectations regarding gender.

4. Curricula must be inclusive. Teachers can only break learning barriers effectively if they are supported by appropriate and inclusive curricula that pay particular attention to the needs of girls at risk of not learning.

Growing the Green Bond Market to Finance a Cleaner, Resilient World

http://www.worldbank.org/en/news/feature/2014/03/04/growing-green-bonds-market-climate-resilience

March 4, 2014

- Green bonds give investors an innovative way of supporting clean energy, mass transit, and other low-carbon projects that can help countries adapt to and mitigate climate change.
- The World Bank has mobilized over $4.5 billion through 60 green bond transactions in 17 currencies, and the IFC has issued $3.4 billion in green bonds, including two $1 billion issuances in 2013.
- New Green Bond Principles and a call to double the market by September are helping expand the young market and attracting a new set of investors.

The growing risks brought on by climate change are raising development costs for the world's fast-growing cities and developing countries. Government funds alone will never be enough to build resilience to extreme weather and deal with the threats to energy, water, and food supplies – the private sector and institutional investors must be involved.

That's where an innovative funding stream is starting to make a difference. Green bonds are delivering finance for clean energy, mass transit, and other low-carbon projects that can help countries adapt to and mitigate climate change, while giving investors high-quality-credit, fixed-

income investment opportunities that have a positive impact.

"Green bonds create a new flow of finance for low-carbon development. That's crucial. But they do more – they have the potential to move the finance fulcrum in a cleaner direction, away from traditional fossil fuel investments and into the projects that will build our low-carbon future," said World Bank Group Vice President and Special Envoy for Climate Change Rachel Kyte.

It's a young market, but with strong potential, and new developments are bringing its value for investors into the spotlight:

- At the World Economic Forum in Davos, World Bank Group President Jim Yong Kim called for doubling the global market for green bonds to $20 billion by September, when the United Nations convenes a high-profile climate summit, and reaching at least $50 billion by the UN climate negotiations in Paris in December 2015.
- A new green bond issue by the French company EDF in December showed that the depth of interest and ability to trigger climate finance is far wider than today. The 1.4 billion euro issuance was two-times oversubscribed from the start.
- New Green Bond Principles being developed by leading investment and commercial banks are also expected to encourage more investors.

Asia and Africa Home to 95 Percent of Global Agricultural Population

http://www.worldwatch.org/node/14212

New Worldwatch Institute study examines the slow growth of global agricultural populations and the vast disparity between continents.

BY SOPHIE WENZLAU February 26, 2014

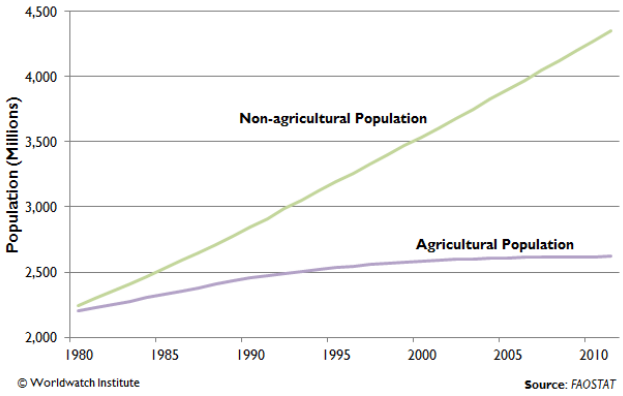
The global agricultural population—defined as individuals dependent on agriculture, hunting, fishing, and forestry for their livelihood—accounted for over 37 percent of the world's population in 2011, the most recent year for which data are available. This is a decrease of 12 percent from 1980, when the world's agricultural and nonagricultural populations were roughly the same size. Although the agricultural population shrunk as a share of total population between 1980 and 2011, it grew numerically from 2.2 billion to 2.6 billion people during this period.

Between 1980 and 2011, the nonagricultural population grew by a staggering 94 percent, from 2.2 billion to 4.4 billion people—a rate approximately five times greater than that of agricultural population growth. In both cases, growth was driven by the massive increase in the world's total population, which more than doubled between 1961 and 2011, from 3.1 billion to 7 billion people.

It should be noted that the distinction between these population groups is not the same as the rural-urban divide. Rural populations are not exclusively agricultural, nor are urban populations exclusively nonagricultural. The rural population of Africa in 2011 was 622.8 million, for instance, while the agricultural population was 520.3 million.

Although the agricultural population grew worldwide between 1980 and 2011, growth was restricted to Africa, Asia, and Oceania. During this period, this population group declined in North, Central, and South America, in the Caribbean, and in Europe.

Figure 1. | **Global Agricultural Population, 1980-2011**



The growth of the non-agricultural population has greatly outpaced that of the agricultural population.

In 2011, Africa and Asia accounted for about 95 percent of the world's agricultural population. In contrast, the agricultural population in the Americas accounted for a little less than 4 percent. Especially in the United States, this is the result of the development and use of new and innovative technologies, as well as the greater use of farm machinery, chemical fertilizers, pesticides, and irrigation systems that require less manual labor.

Population trends have varied widely for the world's leading agricultural producers: China, India, and the United States. Between 1980 and 2011, the economically active agricultural populations of China and India grew by 33 and 50 percent, respectively, due to overall population growth. The economically active agricultural population of the United States, on the other hand, declined by 37 percent as a result of large-scale mechanization, improved crop varieties, fertilizers, pesticides, and federal subsidies—all of which contributed to economies of scale and consolidation in U.S. agriculture.

Although the world's agricultural population grew only marginally in recent decades, global agricultural output increased dramatically. According to the United Nations Food and Agriculture Organization (FAO), global net agricultural production increased by 112 percent between 1980 and 2011. The world's net per capita production of agricultural goods increased by 35 percent during this period, averting food security crises in many places.

Although productivity gains have enabled farmers to meet the growing demand for food, the methods used to achieve such gains have come with unintended consequences, including soil degradation, pollution, greenhouse gas emissions, and depleted freshwater supplies. Short-term production gains achieved by overusing chemical pesticides and fertilizers have, as a result, reduced the sector's long-term resilience to climate change.

The FAO estimates that the global agricultural population will decline by 0.7 percent and that the nonagricultural population will grow by 16 percent between 2011 and 2020. The organization also estimates that feeding a population projected to reach 9.1 billion in 2050 will require raising overall food production by some 70 percent between 2005/07 and 2050.

To address this challenge while promoting resilience to climate change and avoiding environmental degradation, farmers, governments, and the private sector could consider investing in agroecological approaches to farming—such as integrated pest management, no-till farming, cover cropping, and agroforestry. Policies encouraging the conversion of land from biofuels and livestock feed production to food production could also play a role in sustainably increasing the human food supply.

Further highlights from the report:

- Between 1980 and 2011, Africa's agricultural population grew by 63 percent, and its nonagricultural population grew by 221 percent.
- Oceania's agricultural population grew by 49 percent, and its nonagricultural population grew by 65 percent.
- Asia's agricultural population grew by 20 percent, and its nonagricultural population grew by 134 percent.

- The combination of movement to cities and agricultural consolidation caused agricultural populations to decline in Europe and the Americas between 1980 and 2011: by 66 percent in Europe, 45 percent in North America, 35 percent in South America, 13 percent in Central America, and 7 percent in the Caribbean.

UNEP Signs On to Work More Closely With UN Volunteers

http://www.unep.org/newscentre/Default.aspx?DocumentID=2764&ArticleID=10741&l=en

UNEP Deputy Executive Director Ibrahim Thiaw (left) with UN Volunteers Executive Coordinator Richard Dictus

Nairobi, 10 March 2014 - About 100 UN Volunteers have served with the United Nations Environment Programme (UNEP) in the past seven years.

In order to take this work forward, UNEP and UN Volunteers (UNV) have agreed to cooperate more closely with an eye towards the conservation, protection, enhancement and support of nature and natural resources, according to a new Memorandum of Understanding signed today.

By the terms of the agreement, UNEP confirmed its commitment to work with UNV towards enhancing an environment within which volunteerism is recognized as a significant element in the success of its programmes and activities.

In turn, UNV re-confirmed its commitment to supporting UNEP's mission through volunteerism for peace and development - including environmental conservation.

Both parties agreed to promote the awareness of each other's programmes through exploring possibilities for increased online collaboration, among other things.

The agreement further laid out an Operational Framework, Conditions of Service, and other terms for UN Volunteers' work with UNEP.

Volunteering in the UN system

In his Five-year Action Agenda - announced at the start of 2012 - UN Secretary-General Ban Ki-moon made working with young people one of his top official priorities.

UN Volunteers are one of the talent-management solutions available to the UN system. This cost-effective talent pool can be deployed to work in synergy with staff and personnel of the UN entities and to bolster the effective delivery of their programmes and mandates.

In addition, volunteerism has been identified as an innovative way to boost South-South Development at the global level. Close to 81 per cent of UN Volunteers come from the Global South. Thus, they tend to be familiar with local development challenges and societal norms, and can apply culturally-sensitive approaches that foster participation and generate a sense of ownership.

Types of UN Volunteers

- **International UN Volunteers** are typically professionals with specialized knowledge. They come from all walks of life and over 100 professions, bringing five to ten years of experience to their assignments. The average age of international UN Volunteers is 38.
- **National UN Volunteers** are nationals of the host country, normally recruited locally. These volunteers concentrate in such areas as local community outreach. Recent university graduates with specialized skills are also recruited as national UN Volunteers.
- **UN Youth Volunteers** are between the ages of 18 and 29 and may be engaged for national and international assignments of up to two years. In return for their work, they receive additional learning and guidance in areas such as primary health, education, climate change adaptation and human rights.

UN Online Volunteering

Another rapidly growing modality to provide strategic support across the UN system is UNV Online Volunteering.

Over 11,000 UN Online Volunteers conduct some 15,000 assignments over the internet annually to bolster peace and development activities of UN entities, governments and civil society organizations.

In 2012, more than 6,000 of these assignments supported projects in sub-Saharan Africa, around 4,900 supported global initiatives and almost 3,000 supported projects in Latin America and the Caribbean. In 2012, 62 per cent of UN Online Volunteers were from developing countries.

UNV-UNEP success stories

- Youth volunteerism at the South-South Development Expo: About 40 UN Youth Volunteers actively supported the Global South-South Development Expo held in Nairobi from 28 October to 1 November 2013.

They provided logistical support and editorial services, reporting on the proceedings of meetings, writing summaries of roundtable discussions and disseminating information using social media tools. Twenty-five UN Online Volunteers were also mobilized for the event.

- **Saving forests through volunteerism:** In Viet Nam, UNV is collaborating with UNEP's UN-REDD programmme on a project to help the country prepare to implement measures to reduce global emissions from deforestation.

UNV involvement ensures that capacity building and awareness raising campaigns for government staff, civil society and the public are integral to the changes taking place. Among other things, UNVs have facilitated knowledge management and information sharing on the project, maintained the UN-REDD website and improved its usability and accessibility.

- **Encouraging communities to think globally and act locally:** UN Youth Volunteers have worked at the UNEP Liaison Office in Addis Ababa, Ethiopia, helping to increase UNEP's visibility and to enhance environmental awareness and communication.

They also liaised with the Ministry of Environmental Protection and Forestry, and worked to organize *Clean Up the World - Clean Up Addis!* events with local partners.