**Archive of the Population-Environment Research Network (PERN)**
**Cyberseminar Discussions on**
**Population and Millennium Development Goal 7 (MDG7)[1]**
**5-16 September 2005**

**Date: Tue, 30 Aug 2005 16:24:58 -0400**
**From: pern-m <pern-m@ciesin.columbia.edu>**
**To: Pernseminars <pernseminars@ciesin.columbia.edu>**
**Subject: [PERNSeminar_Population_and_MDG7] Cyberseminar on Population and MDG 7, 5-16 September 2005**

Dear pernseminars list member,

The Population-Environment Research Network (PERN) invites your participation in the forthcoming cyberseminar entitled Population Dynamics and Millennium Development Goal 7: "Ensuring Environmental Sustainability" from 5-16 September 2005. This seminar is co-sponsored by the UN Millennium Project (MP). For more information please visit: http://www.populationenvironmentresearch.org/seminars.jsp.

A background paper by by Jason Bremner and Richard Bilsborrow of the Carolina Population Center, University of North Carolina Chapel Hill, USA, will be available at the above web page as of Friday, September 2. In addition, PERN is pleased to aknowledge the participation of the following invited experts:

Target 9. Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources Malin Falkenmark, Stockholm International Water Institute and MP Task Force on Environmental Sustainability Roger Bonilla, Centro Centroamericano de Poblaci¢n, University of Costa Rica.

Target 10. Halve, by 2015, the proportion of people without sustainable access to safe drinking water Albert Wright, Co-coordinator of the MP Task Force on Water and Sanitation.

Target 11. Have achieved, by 2020, a significant improvement in the lives of at least 100 million slum dwellers Gabriela Carolini, MP "Slum Dwellers" Task Force George Martine, Consultant (formerly with UNFPA).

If you wish to participate in this cyberseminar, there is nothing you need to do. If you wish to be removed from the list for the duration of the seminar, please send an email message to majordomo@ciesin.columbia.edu with the body text 'unsubscribe pernseminars' or contact PERN at pernadmin@ciesin.columbia.edu to have your email address removed. If you wish to receive monthly news bulletins from PERN (including notices of future cyberseminars) please sign up for membership at http://www.populationenvironmentresearch.org/signup.jsp

[1] See http://www.populationenvironmentresearch.org/seminars.jsp

We look forward to what we anticipate will be a stimulating discussion on a very timely topic.

Sincerely yours,
Alex de Sherbinin
PERN Coordinator
http://www.populationenvironmentresearch.org

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**From: "Alex de Sherbinin" <adesherbinin@ciesin.columbia.edu>**
**To: <pernseminars@ciesin.columbia.edu>**
**Subject: [PERNSeminar_Population_and_MDG7] Welcome Message**
**Date: Mon, 5 Sep 2005 09:26:02 -0400**

Dear Colleagues,

Welcome to this, the ninth of PERN's cyberseminars on important population-environment research topics. From now until September 16 we will be discussing population dynamics and Millennium Development Goal 7 – "Ensuring Environmental Sustainability". This discussion is particularly timely since it immediately precedes then coincides with the 2005 World Summit, a meeting of more than 170 heads of state at the UN Secretariat from 14-16 September. A major goal of the summit will be to reinvigorate efforts to achieve the MDGs by 2015. Because population dynamics are so integral to the achievement of the MDGS, the UN Millennium Project* is pleased to serve as a co-organizer of this PERN seminar and looks forward to receiving a report of its outcomes.

MDG 7 includes three targets and seven indicators as follows. (We have listed some proposed dates for discussion of each target. These are not intended to be strict cut offs, but merely a way to ensure sufficient time to discuss each one.)

**Target 9**. Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources. DISCUSSION DATES: September 5-8. Idicators: (1) Change in land area covered by forest; (2) Land area protected to maintain biodiversity; (3) GDP per unit of energy use; (4) CO2 emissions per capita.

**Target 10**. Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation. DISCUSSION DATES: September 9-12. Indicators:

Proportion of population with sustainable access to an improved water source, urban and rural; Proportion of population with access to improved sanitation, urban and rural. **Target 11**. Have achieved, by 2020, a significant improvement in the lives of at least 100 million slum dwellers. DISCUSSION DATES: September 13-15. Indicators: (1) Proportion of population with access to improved sanitation; (2) Proportion of population with access to secure land tenure.

For each of these targets/indicators we will address the following questions:

1. How do population dynamics affect strategies to achieve the targets?
    a) Available evidence
    b) Gaps in knowledge
    c) Emerging policy and research questions
2. What does the evidence tell us on how achieving the targets would affect population dynamics?

We have been granted a head start in thinking through these questions in the excellent background paper by Jason Bremner and Richard Bilsborrow, which is available for download from the cyberseminars page: www.populationenvironmentresearch.org/seminars.jsp.

One outcome that would be particularly valuable to the UN Millennium Project is to learn of integrated strategies for achieving environmental objectives, reducing poverty, and addressing population dynamics. So please share case studies and evidence of their ipact at any point during the discussions.

For those who are new to PERN cyberseminars, we ask that you review the standards of conduct at the bottom of the cyberseminars page of the PERN website. Note that the discussion list cannot accommodate attachments, but if you have a document you would like to share you may send it to us at the email address below and we will ensure that it is sent to all participants.

Hispano parlantes: La discusión es en ingles; pero puede enviar sus contribuciones de 4 párrafos o menos a la email abajo y lo traduciremos. Por favor, ponga su nombre y titulo.

Francophones: La discussion est en anglais, mais vous pouvez envoyer votre contribution de 4 paragraphes ou moins à l'adresse électronique en bas et nous allons faire une traduction. Mettez votre nom et titre, svp.

We encourage you to participate actively, and look forward to a lively discussion!

Sincerely,

Guido Schmidt-Traub
Associate Director
UN Millennium Project

Alex de Sherbinin
PERN Coordinator

**** Additional information on the UN Millennium Project***

The UN Millennium Project (www.unmillenniumproject.org) was commissioned by the United Nations Secretary-General in 2002 to put forward the best strategies for achieving the Millennium Development Goals. Headed by Professor Jeffrey Sachs, the Millennium Project is an independent advisory body and presented its final recommendations, Investing in Development: A Practical Plan to Achieve the Millennium Development Goals to the Secretary-General in January 2005. The UN Millennium Project has been asked to continue operating in an advisory capacity through the end of 2006.

Investing in Development proposes practical integrated approaches for meeting the Millennium Development Goals by the 2015 deadline. The world already has the technology and know-how to solve most of the problems faced in the poor countries. To date, however, these solutions have not been implemented at the needed scale. Investing in Development presents recommendations for doing so in countries both rich and poor.

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**Subject: [PERNSeminar_Population_and_MDG7] hunger alleviation and environmental sustainability**
**Date: Tue, 6 Sep 2005 11:56:51 +0200**
**From: "Falkenmark, Malin" <Malin.Falkenmark@siwi.org>**
**To: <Pernseminars@ciesin.columbia.edu>**

Prepared for pern-cyberseminar 5-16 September 2005 Environmental sustainability challenges of hunger alleviation
*by Malin Falkenmark*
*Stockholm International Water Institute (SIWI)*

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***Water - the bloodstream of the environment***

Human livelihood is offered by the natural environment where plant production constitutes the main source of food. In order to grow food, humans have to manipulate the natural landscape in many different ways: clearing, draining, altering plant cover,

fertilising, levelling, irrigating etc etc. Since water is the bloodstream of the biosphere and has numerous parallel functions in the environment, it will be active in generating different kinds of side effects of the necessary landscape manipulations which are the price for the food produced. For similar reasons, water also links many of the different MDG's: not only drinking water as such but water for income generation, water for food production, water as habitat, etc etc.

The largest challenge in terms of water implications of meeting the MDG's is linked to MDG 1 to eradicate poverty and hunger, especially Target 2, halving the number of hungry by 2015. It is easy to realize that halving the percentage of hungry from the situation by 1990 to 2015 will be a much more limited task than to produce full diet for the additional population added during that time. A study, just prepared as a contribution by Sweden on the occasion of the Millennium Summit +5 (SEI 2005), has analysed the problematique in terms of linkages between MDG 1 and MDG 7.

***How much additional water will have to be consumed to produce more food?***

Hunger alleviation will be equivalent to consumptive water use (evapotranspiration) of huge quantities of water. The reason is that water is one of the two key raw materials in the photosynthesis process, the other being carbon dioxide. When the leaves open to take in the latter huge amounts of water evaporates, in most climates of the order of 1500 m3 per ton biomass produced, but in poverty stricken dry climate countries often twice this amount due to large losses and low water productivity. To produce a balanced diet of 3000 kcal/p day (20 percent animal protein) involves a consumptive water use of 1300 m3/p day. This water is being picked up by the roots from the socalled green water in the soil consisting of infiltrated rainfall. Water may be added to the soil by irrigation with water withdrawn from the blue water available in rivers and aquifers. This water requirement is an amount 70 times larger than the amount often assumed as the basic need for household supply (50 l/p day).

The Swedish assessment suggests that to reach the MDG 2015 Target, an additional consumptive water use of 2 200 km3/yr will be required. This corresponds to a 50 percent increase from the situation today. If covered by irrigation only, it would involve more than a doubling of all the water withdrawals from rivers and aquifers today and would be absolutely unacceptable in view of the damage already caused by irrigation in terms of depleted rivers and degraded acquatic ecosystems. Looking beyond 2015 and accepting the FAO-projected average diet in the developing countries for 2030 of 3000 kcal/p day, an additional consumptive water use of 4 200 km3/yr would be required by 2030 assuming that hunger be altogether eradicated, increasing to an additional 5200 km3/yr by 2050 in order to feed also the additional population.

To meet the indicated water requirements must therefore be seen as a major environmental challenge: from where could such a huge amount of water be made available and what would be the environmental consequences? What will the MDG 7-goal in terms of environmental sustainability imply?

### *A major environmental challenge that will have to be met*

First of all we know that much of today's agriculture in the developing world suffers from large water losses. This holds for both irrigated agriculture where water use efficiency tends to be of the order of only some 30 percent, and for rainfed agriculture where yields are often of the order of only 1 ton/ha or even below that. The losses tend to be largest in the savanna zone agriculture where in fact the majority of the poorest countries are located. There, rainfed agriculture typically involves of the order of 3000 m3/ton grain. In the savanna zone, the options are at the same time potentially good for halving this water requirement by soil and water management including protection of the plants from the dryspell damages to the roots, typical for the climate in that zone.

Turning next to what we might expect in terms of additional irrigation water, i.e. how much could be covered by blue water, we know that many rivers in the irrigation dependent regions are already overappropriated beyond the requirements of the aquatic ecosystems. Our assessment, following the assumptions earlier made by IWMI, suggests that irrigation might not contribute more than maybe some 270 km3/yr by 2015 (520 by 2030, 725 by 2050). The remaining water requirements will have to be met in other ways.

The alternatives to consider are basically two: capturing more local rainwater, making it to infiltrate into the soil on the farmer's field, or expanding crop production into tropical forests and grasslands, appropriating water now consumed in the plant production of such natural ecosystems. This brings us to the issue of the water requirements of natural ecosystems.

### *Water for ecosystems*

The huge amounts of additional water that has to evaporate to produce the food needed to eradicate hunger and feed the population added by population increase will evidently produce environmental impacts. Agriculture covers already some 25 percent of the land area of the continents and has according to the Millennium Ecosystem Assessment caused severe impact on natural ecosystems, terrestrial as well as aquatic. When now agriculture will have to consume more water and will have to expand into natural ecosystems, careful attention will have to be paid to ecosystems and their water relations: aquatic ecosystems and their blue water dependence and terrestrial ecosystems with their green water dependence.

Terrestrial ecosystems are interacting deeply with runoff production: the more of the infiltrated rain that is consumed by the plants the less remains to generate runoff or recharge groundwater. There is for instance considerable interest paid to how forestry interacts with runoff formation: whether forest plantations increase or decrease blue water availability, a debate often referred to in situations both of severe floods and of desertification phenomena. Trees interact with rainwater partitioning in two main ways; by influencing soil permeability and therefore rain infiltration, and by influencing root uptake of green water in the root zone.

The terrestrial ecosystems will be impacted by the horisontal expansion that will in the end turn out to be difficult to avoid. The more productive rainfed irrigation can be made, the less will be the expansion required, but the larger will be the impacts on aquatic ecosystems in stead.

Aquatic ecosystems dwell in blue water habitats and suffer when these change: either by the streamflow being depleted or its seasonality altered, for instance by vanishing flood flows, or by water quality deterioration. Great efforts have recently been made to define the socalled environmental flow requirements of aquatic ecosystems both in terms of percentage of the average flow that has to remain unappropriated and the floodflow events needed for proper functioning.

The aquatic ecosystems will be impacted in three ways: 1) by irrigation expansion, 2) by turning today's "losses" in terms of leakages from canals and percolation down to groundwater into consumptive water use by crops, and 3) by capturing more rainwater and getting it to infiltrate and turn into consumptive water use by crops.

***Shift in thinking fundamental***

These different effects indicates that in securing eradication of hunger and undernourishment, it will be unavoidable to address a set of environmental trade offs between water for producing more food, on the one hand, and on the other blue water now left in rivers and aquifers, and green water in the soil under terrestrial ecosystems.

The task will be to learn to wisely balance the water input from precipitation over land between water required by humans and water required by well functioning ecosystems. This balancing will have to be made in such a way that environmental sustainability can be secured. Such a sustainability means, as explained in the report from the Millennium Project Working Group for Target 9, in practical terms to avoid an undermining of the resource base for humans and vital ecosystems. The key must be protection of resilience against variability and chocks in order to secure long term functioning of these systems, so that they continue to produce for society vital ecological services.

It is evident that our present thinking in terms of environmental protection will be vastly insufficient if the presently projected population expansion will materialise. Guiding principles will have to be developed by proper attention to the necessity to secure resilience and the biodiversity necessary for that resilience. Water is the lifeblood of both nature and humanity.

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Reference:

SEI 2005. Sustainable pathways to attain the Millennium Development Goals. Assessing the key role of water, energy and sanitation. Stockholm Environment Institute. Draft.

**From: "Alex de Sherbinin" <adesherbinin@ciesin.columbia.edu>**
**To: <pernseminars@ciesin.columbia.edu>**
**Subject: RE: [PERNSeminar_Population_and_MDG7] Welcome Message**
**Date: Tue, 6 Sep 2005 16:18:36 -0400**

Dear Colleagues,

There is no need to worry about that last message, which was inadvertently posted to this list.

As is not uncommon, the seminar is getting off to a slow start, no doubt partially influenced by the fact that Monday was Labor Day here in the United States. I do appreciate Dr. Falkenmark's posting, and I plan to make some further comments tomorrow morning, but I encourage everyone to download the background paper http://www.populationenvironmentresearch.org/papers/Pop&MDG7.pdf and to consider the approach to population in the MDGs (or lack of emphasis, as the case may be) in light of your own experiences in country, and, for those who have studied the issue, how the MDG (and Millennium Project Task Force) approach squares with the past 20+ years on population-development-environment linkages. (Note: Millennium Project reports on all the major MDG targets can be downloaded at http://www.unmillenniumproject.org/reports/reports2.htm.)

I think that Dr. Falkenmark has already taken us in a potentially useful direction, which is to think about the interlinkages between the MDGs. How does halving the number of hungry people (through improved food production and distribution) affect the targets under Goal 7? How might halving the number of poor or achieving higher levels of post-primary female education (under Target 3 - education and gender equity) affect population dynamics and demand for improved water and sanitation services? These are sometimes complex linkages, but we have assembled some 450 researchers, many of whom have thought deeply about these connections.

Cheers,
Alex de Sherbinin

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**Date: Tue, 06 Sep 2005 00:33:29 +0200**
**From: Carmit <don1298@netvision.net.il>**
**Subject: [PERNSeminar_Population_and_MDG7] socio-ecological indicators**
**To: pernseminars@ciesin.columbia.edu**

Dear Colleagues,

My name is Carmit Lubanov, participate at this cyber seminar. I'm a doctoral student at Tel Aviv University, writing a work on the social roots of the environmental thought, and also coordinate the Environmental Justice project which is operated at the umbrella union of the green NGO's in Israel.

I'd like to take the opportunity and asking you =96 those who have experience about the "Socio=97Ecological Indicators" and familiar, theoretically and on field, with that, especially social orientation indicators, to share and exchange yours experience, views and information.

With Thanks,
Carmit

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**From: David Satterthwaite <David.Satterthwaite@iied.org>**
**To: "pernseminars@ciesin.columbia.edu"<pernseminars@ciesin.columbia.edu>**
**Subject: [PERNSeminar_Population_and_MDG7] Reducing hunger and its water use implications**
**Date: Wed, 7 Sep 2005 07:31:57 +0100**

I claim no expertise in the links between food production and water – but Malin Falkenmark's paper seems to imply that the core of hunger alleviation is producing more food and that this food will have to be produced using conventional (higher water using?) food production methods. But we know that a large part of hunger has little to do with deficiencies in food supplies but much to do with the hungry person's lack of entitlement to/capacity to access food or land/water to produce food. We also know that a large part of reducing hunger is strengthening/securing the asset base of tens of millions of smallholders and urban/peri-urban agriculturalists who (generally? mostly? often?) are

much more efficient in their use of water relative to calories or protein produced. In addition, many small scale food producers in urban and peri urban areas use waste water and the scope for increased use of this is considerable. In this, as in so many other discussions of population-environment links, I am struck by the ingenuity and efficiency of so much of what is happening on the ground (often in resource-constrained areas) in which there is the basis for more ecologically sustainable production that also reduces poverty. And the incapacity or unwillingness of governments and international agencies to support this. Especially the official development assistance agencies whose whole structure is designed to channel funding through national recipient governments and cannot support the thousands of local initiatives and organizations that show how poverty reduction and ecological sustainability can go together.

David Satterthwaite

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**Date: Wed, 7 Sep 2005 10:12:17 -0600**
**From: rebonill@ccp.ucr.ac.cr**
**To: pernseminars@ciesin.columbia.edu, Carmit <don1298@netvision.net.il>**
**Cc: pernseminars@ciesin.columbia.edu**
**Subject: Re: [PERNSeminar_Population_and_MDG7] socio-ecological indicators**

Carmit,
You can check out the following article:

Azar, C., J. Holmberg & K. Lindgren. (1999). Socio-ecological indicators for sustainability. Ecological Economics. Volume 18, Issue 2 , August 1996, Pages 89-112.

Url:

http://www.sciencedirect.com/science/article/B6VDY-3VW7XP0-9/2/0198fde07df4be15111ff9d104343ce1

Regards,

Rocher

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**Date: Wed, 7 Sep 2005 14:07:05 -0500**
**From: "Ma. Fernanda Figueroa "<fdffd@ibiologia.unam.mx>**
**To: pernseminars@ciesin.columbia.edu**
**Subject: [PERNSeminar_Population_and_MDG7] linkage between land use, water and population**

I would like to share some points about the relationship between water use, hunger alleviation and the proportion of land area covered by forests.

In addition to Dr. Falkenmark ideas, it is important to consider that the amount of water available to humans natural ecosystems is highly dependent on the vegetation cover. So, it is not only a matter of managing demands of water, but to increment its availability through reforestation and restoration of natural terrestrial systems. Natural vegetation cover mantains soil, soil characteristics, and the possibility that rainwater reaches groundwater sources (green water), and replenish them, instead of running off towards the sea along with huge amounts of soil.

In arid areas of Mexico, overexploitation of groundwater sources is a direct consquence of comercial large sacale agriculture, along with land use change at the top of basins. The reduction of blue water availability has to do mainly with contamination and with (again) agriculture. What this means is that the increase in food production sould be rooted in a more efficien use of lands and water, instead of expanding lands devoted to agriculture, and increasing the amount of water used. The increment of availability rests on the protection of terrestrial vegetation cover and its recovery.

The percentage of land area covered by forest is highly dependent on population size, but there are also many other factors that interact with population size (including spatial distribution of this population) to determine land demands for productive activities. I agree with previous contributions in the sense that many solutions lay on the efficient use of resources that small scale agriculture can obtain.

--

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Universidad Nacional Autónoma de México
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**From: "Alex de Sherbinin" <adesherbinin@ciesin.columbia.edu>**
**To: <pernseminars@ciesin.columbia.edu>**
**Subject: [PERNSeminar_Population_and_MDG7] Comments by Roger Bonilla, Central American Population Center, University of Costa Rica**
**Date: Wed, 7 Sep 2005 16:58:15 -0400**

Population Dynamics, Forest Cover, and Biodiversity Conservation
*Dr. Roger Bonilla, Centro Centroamericano de Población, Universidad de Costa Rica, email: rebonill@ ccp.ucr.ac.cr*

[*PERN Coordinator's Note: Further to the last posting, which makes the connection between water resources and land cover, Dr. Bonilla shares some recent research findings related to population dynamics and indicators 25 and 26 of the MDGs (forest cover and biodiversity). Firstly, his research finds that population variables are highly correlated with forest fragmentation, which may be a precursor to total deforestation. Even where it isn't, it can still significantly alter the functioning of forest ecosystems. Secondly, he finds that six percent of Costa Rican protected areas have large populations surrounding them, which represents a potentially important stressor on biodiversity through a number of mechanisms: constraints on animal migrations owing to habitat loss, water diversions, zoonotic diseases, and demands for resources within the parks.]*

As Bremner & Bilsborrow state in the background paper, most population-environment research is based on empirical evidence. It has not led to a new comprehensive and accepted theory, nor is it likely to lead to significant theoretical advances in the near future.

The loss of tropical forests worldwide has severe consequences for biodiversity. I would like to comment not only on the proportion of land area which is covered by forest, but also the “structure” of the forest.

This approach gives to the indicator a space-time dimension. A study of Rosero, Maldonado & Bonilla (Bosque y Población en la Península de Osa, Rev. Biol. Trop. 50(2): 585-598, 2002) concludes demographic factors are significantly associated with probabilities of deforestation but also with the fragmentation of the forest. Fragmentation is the first stage of the deforestation process. Fragmented forests are more likely to be deforested than non-fragmented forest. An unanswered question is how population dynamics might be connected with the process of fragmentation of the forest.

Indicator 26 (ratio of land area proteced to maintain biological diversity) is in some ways derived from indicator 25 (proportion of land area covered by forest). It’s very important to consider the level of stress of the land area protected to maintain biological diversity. A measurement of stress is to consider people living around protected areas, or within a certain radius of them. This indicator needs a demographic dynamic dimension. A study carried out in Costa Rica by Bonilla & Rosero concludes that 6% of the protected areas are highly stressed (i.e., have more than 5000 person living around them). The most stressed areas are located in areas of high urbanization. (Bonilla, R. & L. Rosero. 2004. Presión demográfica sobre bosques y áreas protegidas al Inicio del Nuevo Milenio. In. Rosero-Bixby, Luis. Costa Rica a la luz del censo del 2000.- San José, C. R)

I can share both articles by request,

Rocher-

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**Date: Thu, 08 Sep 2005 12:42:32 -0300**
**From: Roberto do Carmo <roberto@nepo.unicamp.br>**
**To: pernseminars@ciesin.columbia.edu**
**Subject: [PERNSeminar_Population_and_MDG7] Reducing hunger and its water use implications**

Dear Colleagues,

I would like to add some observations on this "population, hunger and water" discussion. First of all, I agree with Dr. David Satterthwaite. There is a fundamental aspect related to food production and hunger. At the present, the world production of crops is sufficient to supply the human necessities. The hunger exists because some parcel of humanity doesn't have access to economic means to buy the food in the market. Second point, in the next 40 or 50 years the world population wills growth. Probably we will be more than 9 billion in 2050. And, to supply the food for these new 3 billion inhabitants, we have to think about how to improve the efficiency of the water use. I think that Dr. Falkenmark's paper call attention to this aspect: a more responsible use can give us more chances to face the increasing demand.

Finally, my concern on this issue: what kind of food will be sustainable? Despite the social and cultural characteristics of the food supply for each different society, we have to start to think in terms of amount of water used for food production. Pimentel et al (2004) (*) point out that the each kilogram of soybean requires 2,000 liters of water to be produced. Rice 1,600 liters/kilogram, and potatoes 630 l/k. For livestock production the requirement is broiler chicken 3,500 l/k, pig 6,000 l/k, beef cattle 43,000. Beyond the critics to the Pimentel data, made by Lomborg, I think that we have to analyze the food consumption pattern. In other words, is fundamental to solve the hunger problem. It's a basic question for humanity. But is important to think about what kind of food we intend to produce. And what will be the social-environmental costs of this production.

Best whishes,
Roberto do Carmo.
NEPO/UNICAMP
Brazil

(*) PIMENTEL, D.; BERGER, B.; FILIBERTO, D.; NEWTON, M. et al. Water Resources: Agricultural and Environmental Issues . Bioscience, v. 54, n. 10, October 2004, pg. 909-918.

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**From: "Alex de Sherbinin" <adesherbinin@ciesin.columbia.edu>**
**To: <pernseminars@ciesin.columbia.edu>**
**Subject: [PERNSeminar_Population_and_MDG7] FW: id21News 172 - focus on people and protected areas**
**Date: Thu, 8 Sep 2005 12:13:59 -0400**

Coincidentally, this issue of id21News just came in with a focus on people and protected areas. It has some articles by leading thinkers such as Kent Redford, Grazia Borrini-Feyerabend, and Gonzalo Oviedo.

The article by Sara Scherr on agriculture and protected areas (http://www.id21.org/insights/insights57/art05.html) is particularly worth reading. Sara served as a liaison between the agriculture and environment task forces of the Millennium Project in an effort to ensure that strategies proposed to address hunger (especially higher production among subsistence agriculturalists) would not conflict with biodiversity conservation goals. Although some proposals by the hunger task force, such as to build more roads for better access to markets, met with objections by those on the environment task force, by an large the two groups managed to propose win-win solutions for food production and the environment.

For those who are interested, I edited an issue of PARKS in 1998 addressing population dyanmics in and around protected areas (including migration - which is probably the most significant issue in frontier areas where many parks are located). This issue is available online at:
http://www.iucn.org/themes/wcpa/pubs/pdfs/PARKS/Parks_Feb98.pdf

Alex de Sherbinin
PERN Coordinator

-----Original Message-----
From: id21News@lyris.ids.ac.uk [mailto:id21News@lyris.ids.ac.uk]
Sent: Wednesday, September 07, 2005 8:36 AM
To: id21NewsAdmin@lyris.ids.ac.uk
Subject: id21News 172 - focus on people and protected areas

*** id21News Number 172, September 2005 ***

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People and protected areas: New agendas for conservation

For many threatened plants and animals, protected areas are a vital refuge in the face of declining natural habitats. However, across the world they face increasing pressures. Some conservation policies are also disadvantageous for local people. What does the future hold for protected areas?

http://www.id21.org/insights/insights57/art00.html

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Making waves: Unique challenges for Marine Protected Areas

Protecting marine and coastal areas involves many similar issues to terrestrial protected areas, including balancing conservation and development needs and managing tradeoffs between multiple users. However, they also present unique challenges: they often cross international boundaries and the high mobility or migration of many marine species makes protection beyond boundaries difficult.

http://www.id21.org/insights/insights57/art01.html

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Is forced displacement acceptable in conservation projects?

Over ten million people have been displaced from protected areas by conservation projects. Forced displacement in developing countries is a major obstacle to reducing poverty. It should no longer be considered a mainstream strategy for conservation and only applied in extreme cases following international standards.

http://www.id21.org/insights/insights57/art02.html

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Learning to learn

Societies place a high value on addressing two of the world's most pressing problems - alleviating poverty and protecting the world's biological diversity. A lot of money has been spent on these two objectives, international treaties have been signed and countless organisations have devoted time to implementing funds in projects.

http://www.id21.org/insights/insights57/art03.html

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Protecting nature, culture and people

Indigenous peoples' traditional ownership and use of land and resources has often been eroded by protected areas. Their consent has rarely been sought for establishing protected areas on their lands, nor have they received adequate compensation. But are conservation organisations and government protected area agencies beginning to recognise the important role these peoples can play?

http://www.id21.org/insights/insights57/art04.html

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Agriculture vs protected areas

Agriculturalists strive to increase crop production to provide poor communities with incomes and a secure food supply whilst environmentalists want to expand protected areas and reduce the intensity of farming.

http://www.id21.org/insights/insights57/art05.html

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Tourism in Nepal

Tourism in the Greater Himalaya supports the local economy with foreign exchange and by creating opportunities for local employment. Mass and unregulated tourism, however, can cause environmental damage, particularly in ecologically fragile areas. Is ecotourism - responsible travel that aims to conserve the environment and improve local people's welfare – an effective compromise?

http://www.id21.org/insights/insights57/art06.html

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Governance of protected areas

The 2003 World Parks Congress and 2004 Programme of Work on Protected Areas of the Convention on Biological Diversity brought unprecedented attention to the concept of governance of protected areas, with crucial implications for conservation worldwide.

http://www.id21.org/insights/insights57/art07.html

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OTHER NEWS:
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Suporting indigenous peoples
See the World Wildlife Fund's policies on indigenous people and conservation.
http://www.worldwildlife.org/indigenous/

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Bushmen
Survival reports on Bushmen in the Central Kalahari Game Reserve being threatened by wildlife guards in an attempt to force them to abandon their homes.
http://www.survival-international.org/

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NEW: id21 viewpoints from James Tooley
Private education is good for poor people in Africa and Asia

The accepted wisdom says that, to achieve universal basic education, massive amounts of aid need to be invested in public education systems: the Commission for Africa recommends an additional US $7 to $8 billion per year. In part this money is to be used to help countries follow Kenya's example of introducing free primary education, widely credited with bringing well over a million extra children to school.

http://www.id21.org/viewpoints/TooleySept05.html

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New agendas for conservation;

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*** id21News Number 172, September 2005 ***

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**From: "Mocherla S.R.Murthy" <mocherla_s@hotmail.com>**
**To: pernseminars@ciesin.columbia.edu**
**Subject: RE: [PERNSeminar_Population_and_MDG7] Comments by Roger Bonilla, Central American Population Center, University of Costa Rica**
**Date: Thu, 08 Sep 2005 21:47:53 +0530**

Dear sir

The discussion on water, land cover and population dynmics is interesting. Many a times it happens as though a blind man describing an elephant. The changes in water, land cover and population dynamics is a age old process. At different points of time the global situation is changing not only due to living organisms but also due to non-living forces. Therefore, sustainability in our imagination is not only mainatining ecosystem but also understanding the changing nature of environment itself through natural forces. We have to chronicle data on forest cover and population dynmics through several studies historically. You can call this branch of study as Historical Demgraphy.

Yours sincerely
M.S.R.Murthy
Professor and Chairman
Department of Population Studies
Sri Venkateswara University
Tirupati-517502
India
**********


**From: "Salonius, Peter" <psaloniu@nrcan.gc.ca>**
**To: "'pernseminars@ciesin.columbia.edu'" <pernseminars@ciesin.columbia.edu>**
**Subject: RE: [PERNSeminar_Population_and_MDG7] Reducing hunger and its water use implications**
**Date: Thu, 8 Sep 2005 12:50:33 -0400**

Dear Colleagues,

Projections such as Dr. Roberto Luiz do Carmo has fronted for 3 billion more humans by 2050 are indeed optimistic in the context of depleting supplies of fossil fuels. The non renewable energy content of foodstuffs varies from very small amounts for gathering cultures to as much as 10 calories of fossil energy per calorie of food produced, with a higher fossil contribution in modern agricultural production and distribution.

Albert Bartlett has said " Modern agriculture is the use of land to convert petroleum into food". We have to understand that the[one time]non renewable geological (fossil and nuclear) energy subsidy is ending, after having allowed human numbers to increase six fold in 200 years and replacing the very slow growth that followed the advent of agriculture 10,000 years ago. As we enter the depletion phase of geological energy stores, human population numbers will have to shrink either by planned transition or by scarcity imposed collapse. Estimates of the solar energy supported carrying capacity of the Earth vary from 500,000 with a European standadard of living to perhaps as high as 3 billion at a subsistance level.

It is time for demographers become aware of geological realities and cease extending unrealistic current [cheap and abundant energy subsidized] population growth trends into a future of certain energy scarcity.

Peter Salonius
Scientists for Population Reduction
http://www.scientists4pr.org

**********



**From: "Alex de Sherbinin" <adesherbinin@ciesin.columbia.edu>**
**To: <pernseminars@ciesin.columbia.edu>**
**Subject: [PERNSeminar_Population_and_MDG7] Conbribution by Dr. Gilberto Javier Cabrera, CEDEM, Cuba**
**Date: Thu, 8 Sep 2005 18:26:51 -0400**

********** ENGLISH VERSION **********

I am professor Gilberto Javier Cabrera (gjavier@ cedem.uh.cu) and we are undertaking a series of activities at the post-graduate level on population, environment and development corresponding to the UN Millennium Project. We have a great interest in participating in this important seminar, and for this reason I want to state that the major question which we are working on is: How might this World Summit truly help us in the Caribbean, with the involvement of universities, so that development policies and strategies apply the holistic concept that the relationship between population and the environment are fundamental to sustainability?

For this, we are reflecting on the urgency and importance of environmental understanding so as to confront the challenges of the "environmentalization" of studies on population and development, and particularly its great utility for preventing disasters in the region.

We feel that it is imperative to emphasize the strengthening of environmental education, through studies of population and the environment that make viable the growth and development of synergistic processes of collaboration, with an integrative perspective that is inter- and multi-disciplinary with respect to the relationship between society and nature.

********** SPANISH VERSION **********

Soy el profesor Gilberto Javier Cabrera y estamos haciendo un ciclo de actividades de posgrado sobre población ambiente y desarrollo en coorespondencia con UN Millennium Project. Tenemos un grna interés en particpar en este imporante seminario y por ello les planteo que la pregunta fundamental que estamos trabajando es ---_como lograr que dicha Cumbre de verdad nos ayude en el Caribe a potenciar la integración potenciando la cooperación universitaria en el Caribe, para lograr que en toda estrategia y proyección de las políticas de desarrollo se aplique la concepción holística de la relación población y medio ambiente como elemento fundamental para la sotenibilidad.

Para ello estamos haciendo diversas reflexiones sobre la urgencia e importancia del saber ambiental para enfrentar a los retos de la ambientalización de los estudios de población y desarrollo, y en particular de su gran utilidad para la prevención y el enfrentamiento de los desastres en la región.

Somos del criterio de que es imprescindible hacer énfasis en el fortalecimiento de la perspectiva de la educación ambiental mediante enfoques totalizantes de los estudios de población y medio ambiente que viabilicen el surgimiento y desarrollo de procesos sinérgicos de colaboración desde una óptica integradora e inter y multidisciplinaria de la relación sociedad-naturaleza.

**********



**From: "Alex de Sherbinin" <adesherbinin@ciesin.columbia.edu>**
**To: <pernseminars@ciesin.columbia.edu>**
**Subject: [PERNSeminar_Population_and_MDG7] Response to Prof. Murthy by Roger Bonilla**
**Date: Thu, 8 Sep 2005 18:31:58 -0400**

I agree with the comments of Dr. Murthy referring to the fact that changes in water, land cover and population dynamics may also be explained by other than human forces. We

can call it natural forces and history. In terms of a population scientist, I like to call it a set of values society has accumulated through the centuries. This is also relevant to population-environment dynamics. Is this a correct assessment of what he was getting at in his message?

In particular, I would like to comment about changes of land cover since its my research area. Bremner & Bilsborrow describe this research in the background paper, on page 5. In addition, farm-level research has also provided useful findings about factors linking population to the different MDGs and forest cover. Bremner & Bilsborrow mentioned the finding of at least one study that higher levels of education are correlated with higher rates of deforestation on family owned plots, due perhaps to the higher consumption aspirations and higher labor productivity.

Its clear consumption aspirations and "cosmovision" of the world is linked to a set of community, family and personal values. Its pretty difficult to quantify, however these forces, as Dr. Murthy refers, are relevant to the study of the population-environment research. As an example, doing field-work, I personally have faced farmers who told me that they are worried about the forests in the hands of the new generation (lets say their descendants), because the new generation is not so connected to the forest and to the land as they are. This is a very interesting topic for discussion. An additional unanswered question is how natural forces, personal values and historical processes affect the forest cover (or the environment dynamic). Perhaps some sociologists on the cyber-seminar have some community-level studies with empirical evidence.

Regards,
Rocher-

Roger Bonilla
Centro Centroamericano de Población

**********



**From: "Salonius, Peter" <psaloniu@nrcan.gc.ca>**
**To: "'pernseminars@ciesin.columbia.edu'" <pernseminars@ciesin.columbia.edu>**
**Subject: RE: [PERNSeminar_Population_and_MDG7] Response to Prof. Murthy by Roger Bonilla**
**Date: Fri, 9 Sep 2005 08:41:12 -0400**

Roger Bonilla poses the question of "how natural forces, personal values and historical processes affect the forest cover (or the environment dynamic)." I am not one of the "sociologists on the cyber-seminar [that] have some community-level studies with

empirical evidence." from whom Bonilla seeks an answer, but I am a forest ecologist with some landscape-level studies and "empirical evidence."

During the past 100 years the population of eastern Canada has increased its "consumption aspirations" and acquired a "cosmovision" of sorts. During this time the forest has increasingly been seen as a source of commodities that will enter global trade and yield, not just the basic sustenance that it historically offered (sustainably), but wealth and economic growth. As harvesting has evolved from the removal of individual trees for specific purposes (boat building, construction of family and farm buildings, furniture and fuel wood) to the felling of large blocks of forest to supply the export market for manufactured dimension lumber, pulp and paper, the post-harvest regeneration microclimate in the large, dry openings was not appropriate for the native temperate Acadian shade tolerant and shade intermediate late successional species assemblages that had evolved to regenerate in small humid gaps. As a result of this anthropogenic increase in opening size, formerly rare boreal species components of the forest mix, that can tolerate the dry post harvest regeneration environment produced by the clear cutting of large blocks, have been successful in replacing much of the temperate, late successional forest that originally covered the landscape. This trend has been exacerbated and hastened by the investment of tax revenues, by local government on public land, to replace the former diverse temperate species assemblage by planting large areas to (often single species) boreal conifers in the hope that the markets, that currently require these trees for exported dimension lumber, pulp and paper, will still be in place at the time that the planted trees are ready to harvest.

Of interest is the suspicion that the formerly rare boreal species, that have largely replaced the formerly abundant temperate Acadian species due to altered harvesting and plantations, will suffer great climate stress as life zones move rapidly northward during the next century.

Peter Salonius
Scientists for Population Reduction
http://www.scientists4pr.org

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**Date: Fri, 09 Sep 2005 09:41:40 -0400**
**From: pern-m <pern-m@ciesin.columbia.edu>**
**To: "Pernseminars" <pernseminars@ciesin.columbia.edu>**
**Subject: [PERNSeminar_Population_and_MDG7] Response by Malin Falkenmark**

Reading the responses received in the short timeslot allocated to MDG target 9, it is amazing how the most basic substance of all - water - can be misunderstood. Different scholar communities seem to mean completely different things with the word "water", i.e. give it totally different interpretations. Some think of only liquid water (increasingly referred to as blue water in the general debate), but don't seem to see neither the soil moisture (socalled green water), nor the rainfall (the original water resource in fact) as water!

Moreover, it is clear that there are many myths around, for instance that forest plantations provide water when the opposite is true, of S Africa's new national water law, which refers to forest plantations as "streamflow reducing activity" for which forest companies have to pay for the water consumed/vaporised by the plantations. The fact that plant production is supported by large consumptive use of green water means that water goes back to the atmosphere, not available for runoff production or groundwater recharge. In my background paper I referred to the two rainwater partitioning points, the one at the soil surface and the one in the root zone. The myth originates from thinking only of the upper partitioning point but neglecting the lower.

What I tried to do in my input was to stir the pot in several senses, according to the instructions given, by benefitting from water's role as the bloodstream of the biosphere:

1) people live in the environment - have to manipulate this environment to get i.a. food - unvisible water phenomena in the system translate those manipulations into degradataion of ecosystems, terrestrial as well as aquatic ones - producing more food will therefore involve further disturbances - a key will be to learn to strike trade offs, i.e. to balance unavoidable ecological changes against societal support of water, food etc

2) clarify the massive amounts of water that will have to be consumed/vapourised in producing the amount of food foreseen to feed the growing humanity - most of this water will NOT be blue water from rivers and aquifers which are already overappropriated but green water in the soil and capturing of rainwater over neighbouring land

3) a core group in the short term perspective (2015) is the small holder farmer and the existing potential of 2-3-folding his yields. This potential is particularly good in the dry climate region that constitute a core region for the top/high priority countries in the Millennium Project.

What I can see is at least some sort of agreement on a few points, however:

* with Diaz that food production will have to be”rooted in a more efficient use of lands and water” - what I am basically referring to is the balancing of water for humans and water for ecosystems

* with Bonille that population-environment research is severely delayed and no overarching theory yet available - hence my understanding that we have to move forward in the best way we can, for instance by benefitting from a water-based perspective (one way of adaptive management, I guess!)

* with Bremner et al that the 2015 target is weakly suited to the true population-environment-development challenge - the true food/water/ecosystem challenge lies beyond 2015 - hence my efforts to look towards reaching the Hunger Goal once the world population will have stabilised around 2050, and analyze the tremendous challenges that this offers environmental scientists in terms of learning how to realistically balance humans and ecosystems sharing the same water in the environment

* with do Carmo that it will be essential for the future to address the issue of consumptive water use involved in producing different food items. Especially water-consuming is the production of animal protein for a balanced diet

* with Murthy that the environment is nothing static. It is dynamic and keeps on changing both with climate fluctuations and as a result of human activities. The long-term challenge is therefore living with change without undermining the resource base.

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**Date: Fri, 9 Sep 2005 14:19:10 -0500**
**From: "Ma. Fernanda Figueroa" <fdffd@ibiologia.unam.mx>**
**To: pernseminars@ciesin.columbia.edu**
**Subject: Re: [PERNSeminar_Population_and_MDG7] FW: id21News 172 - focus on people and protected areas**

Dear Dr. Alex de Sherbinin, and all cyberseminar participants:

I am a doctorate student on biological sciences at the Universidad Nacional Autónoma de México, and my doctorate project is about people in parks. The references and sources you sent about natural protected areas were particularly useful. I would appreciate any

information about sources of information, and I certainly would be pleased to share information that can be useful to anyone else.

Best regards,
M. en C. Ma. Fernanda Figueroa Díaz
Laboratorio de Sistemas de Información Geográfica
Departamento de Zoología
Instituto de Biología
Universidad Nacional Autónoma de México
Teléfono: 56 22 91 61 ext. 47846

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**From: "Alex de Sherbinin" <adesherbinin@ciesin.columbia.edu>**
**To: <pernseminars@ciesin.columbia.edu>**
**Subject: [PERNSeminar_Population_and_MDG7] Moving to Target 10**
**Date: Fri, 9 Sep 2005 16:45:31 -0400**

Dear Colleagues,

Our time for discussing Target 9, on "Integrating the principles of sustainable development into country policies and programs and reverse the loss of environmental resources," is drawing to a close. It was obviously overly ambitious to think that we would get into a fully fledged discussion of population issues in relation to each of the indicators under this target. We did manage to address forests and biodiversity, and Malin Falkenmark helped us to address the vital topic of water for ecosystems. Indicators 27 & 28 on Energy Use and CO2 emissions could obviously be subject to entire cyberseminars in their own rights. Participants who are interested in exploring the issue of population and CO2 emissions may wish to read a paper presented at the PERN-sponsored session of the recent IUSSP population conference (Tours, France), entitled "Population Aging and Future Carbon Emissions in the United States <http://www.iiasa.ac.at/Admin/PUB/Documents/IR-05-025.pdf>. This paper shows that if you account for household demographics, and specifically aging, in models to project future emissions, it can reduce the predicted emissions by as much as 40% by 2100.

Finally, some of the issues relevant to indicator 29 on the use of solid fuels (which was not included included among the subjects for discussion during this cyberseminar) were addressed in a previous PERN cyberseminar on “Air and Future Carbon Emissions in the United States" <http://www.populationenvironmentresearch.org/papers/AP&H_SeminarSummary.pdf >.

For the indicators that we were unable to address, the UN Statistics Division has an excellent document that provides data for the indicators and a brief discussion of the issues for each one. See:
http://millenniumindicators.un.org/unsd/mi/goals_2005/Goal_7_2005.pdf

Note: Those who are joining us late, or who will only have time to review recent postings over the weekend, are more than welcome to continue to post comments on Target 9 (see the list archive <http://listhost.ciesin.org/lists/public/pernseminars/> for past postings).

We will now switch to a discussion on Target 10, which is to "Halve by 2015 the proportion of people without sustainable access to safe drinking water and sanitation." This will continue through Tuesday. Target 10 is measured by the following indicators:

(30) Proportion of population with sustainable access to an improved water source, urban and rural.*

(31) Proportion of population with access to improved sanitation, urban and rural**

On Target 10, some of the issues related to potentially conflicting water uses (e.g., to achieve the hunger reduction goal) were brought up in the earlier contribution by Malin Falkenmark. Although domestic water consumption is tiny (8% globally) compared to that of industry and agriculture, the quality of water can be heavily impacted by waste water from all three sectors. Domestic water use can also be a high proportion of total water use - 30% or more - in highly arid environments. The background paper cites evidence that suggests that the quantity of water used by household may be more important in preventing diarrheal diseases than the quality. If water is absolutely scarce, then this could impose some limits on water availability for households. However, given the small proportion of total water that is used for domestic purposes, evidence suggests that physical water abundance per se may not be the most important issue (see below).

I think an important area for discussion is the linkage between household water use, diarrheal disease and infant mortality. Pruss et al. (2002) estimate the disease burden from water, sanitation, and hygiene to be 4.0% of all deaths and 5.7% of the total disease burden (in disability adjusted life years or DALYs). A study I did using water runoff and DHS data in Africa (186 sub-national units were the unit of analysis; see de Sherbinin 2003) found that an abundance of water, rather than being associated with higher levels of health and sanitation, is generally associated with poorer access to improved water sources and higher levels of diarrheal disease. Regression results showed that average runoff was positively correlated with diarrheal disease ($p<.10$), whereas (as one would expect), the percent of the population with improved water sources was negatively correlated with diarrheal incidence ($p<.0001$).*** The positive correlation between water abundance and diarrhea incidence potentially reflects greater reliance on less sanitary surface water supplies, and a tendency of water-rich places to have less water delivery infrastructure.

In any case, I look forward to our continued discusions and hope that those of you who have been silent to take some time on the weekend to post your thoughts to the discussion list!

Alex de Sherbinin, PERN Coordinator

* Access to improved water sources refers to the percentage of population who use any of the following types of water supply for drinking: household connection, public standpipe, borehole, protected dug well, protected spring, rainwater collection. Improved water sources do not include: unprotected well, unprotected spring, rivers or ponds, vendor-provided water, bottled water (due to limitations in the potential quantity, not quality, of the water), tanker truck water.

** Access to improved sanitation facilities refers to the percentage of the population with access to: facilities connected to a public sewer or a septic system, poor-flush latrines, simple pit or ventilated improved pit latrines.

*** When you control for GDP runoff no longer remains signficant ($p<.15$), but the percent of population with access to an improved water source still remains highly significant ($p<.001$)

de Sherbinin, Alex. (2003). Relationship Between Physical Water Availability and Development Indicators in Africa. Open Science Conference of the Global Water Science Project, 7-9 October 2003, Portsmouth, NH.
<http://www.ciesin.columbia.edu/pdf/desherbinin_GWSP.pdf>

Annette, David Kay, Lorna Fewtrell, and Jamie Bartram. 2002. Estimating the Burden of Disease from Water, Sanitation, and Hygiene at a Global Level. Environmental Health Perspectives VOLUME 110, NUMBER 5, May 2002
<http://www.who.int/quantifying_ehimpacts/global/en/ArticleEHP052002.pdf>

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**Subject: Re: [PERNSeminar_Population_and_MDG7] FW: id21News 172 - focus on people and protected areas**
**To: fdffd@ibiologia.unam.mx**
**Cc: pernseminars@ciesin.columbia.edu**
**From: Ken Cordell <kcordell@fs.fed.us>**
**Date: Fri, 9 Sep 2005 15:24:20 -0400**

Dear Mr. Diaz.

Your interest in this topic is much needed, not only in developing but also in "developed" countries. I am preparing a plenary presentation on global nature based tourism and its economic impacts for the upcoming Wild Planet Forum and the 8th World Wilderness Congress. As well, many others are presenting at the WWC various aspects of protected lands such as the relationships between indigenous populations and land protection policies. You can view the Congress program at http://www.8wwc.org/index.htm. You should be able to pick up some names and topics of people working in this area. We are as well working in this area, mainly looking at tourism and recreation demand and its impacts for the U. S. You can see some of our work at our web site at www.srs.fs.fed.us/trends. I hope this is helpful.

Ken Cordell, PhD
Project Leader and Senior Scientist
Eco-Tourism Studies
Forestry Sciences Laboratory, Office 238
320 Green Street
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706-559-4263 (Fax 706-559-4266)
OUR WEBSITE www.srs.fs.fed.us/trends

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**From: SESALMONY@aol.com**
**Date: Sat, 10 Sep 2005 11:41:28 EDT**
**Subject: [PERNSeminar_Population_and_MDG7] Fwd: [PERN Seminar_Population_and_MDGs]absolute global human population numbers**
**To: pernseminars@ciesin.columbia.edu**

Dear Colleagues:

The explicit invitation and expert moderation by Dr. Alex de Sherbinin encourages me to share with you apparently unforeseen data that appear to contradict popular and even scientific ideas regarding the human population.

In the splendid background paper from my Chapel Hill, NC neighbors Dr. Bremner and Dr. Bilsborrow, we find population science that is helpful to us to the extent it presents generally accepted thought and consensually validated data. The authors also appear to implicitly confirm the wide agreement among scientists that it has been difficult to make

theoretical progress or conduct research because everywhere, it seems, humankind is seen as essentially different from other species and the human world is viewed as composed of manifold intricately connected things which interact in extremely complex ways: therefore, the population dynamics of humans are effectively relegated to the preternatural realm and are believed to include so complicated and enormous a number of factors as to be unsuitable for empirical research or else unknowable.

An adequate theory of human population numbers could be useful if it was to objectively explain the increase and decrease of our numbers. Perhaps correlation data from Hopfenberg and Pimentel (2001); a recent mathematical formulation of this biological phenomenon by Hopfenberg (2003); and an unpublished manuscript regarding genetic feedback and behavioral plasticity in the regulation of human population numbers by Hopfenberg (2005) provide a basis for both theoretical advances and scientific research.

According to Hopfenberg and Pimentel (2001), the governing dynamics of human population numbers is a natural phenomenon. Their data provide an empirical presentation of a non-recursive biological problem. Human population growth is a rapidly cycling positive feedback loop, a relationship between food and population in which food availability drives population growth and this growth in human numbers gives rise to the misperception that food production needs to be increased even more.

Data of Hopfenberg (2003) and Hopfenberg and Pimentel (2001) indicate that the perceived need to increase food production is a mistaken impression, a denial of the physical reality of space-time. If people are starving at a given moment in time, increasing food production cannot help them. Are the starving people supposed to wait for sowing, growing and reaping to be completed? Are they to wait for surpluses to reach them? Without food they would die. In such circumstances, increasing food production for people who are starving is like tossing parachutes to people who have already fallen out of the airplane. The produced food arrives too late; however, this does not mean human starvation is inevitable.

If the new data are somehow on the correct track, then human population dynamics are not biologically different in essence from the population dynamics of other species. We do not find hoards of starving roaches, birds, squirrels, alligators or chimpanzees in the absence of food as we do in many modern civilized human communities today because these non-human species are not annually increasing their own food production. Please take note that among tribal peoples in remote original habitats, we do not find people starving. Like non-human species, "primitive" human beings live within the carrying capacity of their environment. History is replete with examples of early humans and other ancestors not increasing food production annually, but rather living successfully off the land for thousands upon thousands of years as hunters and gatherers of food.

Prior to the agricultural revolution and the production of more food than was needed for immediate survival, human beings supposedly could not grow beyond their environment's capacity to sustain them because human population growth or decline is primarily a function of food availability. The culture of the agricolae gave rise to a shift from

humter-gatherer to food producer and provided the very foundation for an economic system that increases food production. The continuous economic expansion we see today follows a course established at the dawn of our culture and may have reached a point in human history when human numbers, per human consumption and food overproduction could overwhelm the small, finite Earth.

Whatever else we may say about ourselves as human beings, we can most assuredly agree that humankind is a species that evolved within the biological community of life on Earth. The emerging data appear to clarify the population dynamics of humanity as common to the population dynamics of other species. Humankind could be the most incredible species ever to inhabit this place in the Universe. Even so, human beings remain an integral part of the natural world not apart from it and, in so many ways, are like the marvelous non-human species that surround us in what we like to think of as our planetary home.

The current explosion of the human population worldwide is a huge challenge; but we can take the measure of it and find a remedy that is consonant with universally shared human values.

In closing, let me say that this my first PERN seminar, and my first ever seminar of this kind. Also, I need to add that I am a poorly equipped and unprepared psychologist of advanced age and waning faculties, without expertise in population science, "the environment," or MDGs. This presentation does not seem to fit anywhere in the timetable for discussions of MDGs; nevertheless, it pleases me to have come forward with these scientific data. Thanks for your consideration of them.

Sincerely,
Steve Salmony

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References:

Hopfenberg R. Pimentel D. (2001). Human Population Numbers as a Function of Food Supply, Environment, Development and Sustainability, 3(1): 1-15.

Hopfenberg R. (2003). Human Carrying Capacity Is Determined by Food Availability, Population and Environment, 25(2): 109-117.

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**Date: Mon, 12 Sep 2005 08:49:09 -0300**
**To: pernseminars@ciesin.columbia.edu**
**From: Ishiguro <ishiguro@ieav.cta.br>**
**Subject: [PERNSeminar_Population_and_MDG7] Pernseminar Population Dynamics and Millennium Development Goal: Ensuring_Environmental_Sustainability**

Dear participants

On sustainability and human population

The fundamental cause of (almost) all problems facing humanity is the size of human population, multiplied by the mode of living of intense consumption practiced in wealthy nations and aspired to by others. China is the only country that recognizes it and is doing something concrete. If the current trends continue, an environmental and/or social collapse in a global scale will be inevitable in near future and the whole world will have to adopt the one-child policy mostly criticized at present, or some more restrictive policies, or face the collapse of the world civilization. But the world community continues to hold on to impracticable ideals and declares, with a consensus, that a free choice of the number and spacing of children is a human right.

There will be no technological solutions unless the population and the consumption are reduced, because apparently the capacity of the planet has already been surpassed (Footprint analysis).

In order to enable a sustainable global civilization, some basic concepts regarding human existence need to be recognized or changed:
* The Earth is finite in space, resources and capacities of its systems;
* Man is adapted to the current equilibrium in the systems of the Earth;
* A healthy biosphere is essential for equilibrium in the habitats for man;
* The biosphere is maintained by photosynthesis in plants;
* There is a limit to the size of the biosphere;
* An increase of human population means a reduction of those of other species;
* Perturbations in the biosphere as well as in other systems could break the equilibrium;
* In a closed system the effective fertility of each species must be that of replacement;
* There cannot be human rights that lead to the collapse of community;

* The concept of community needs to include all humanity and the biosphere;
* Ultimately man has to live with renewable resources;
* The principles of economy need to be modified;
* The meaning of life must be found in something other than procreation or consumption;
* All ideals cannot be realized;
* Some new rationality needs to be added to the rules of community;
* Evolutionary success of Homo sapiens will be greater in a small permanent community;
* Human population must be reduced.

I am a nuclear engineer and have been thinking of the question of energy but came to the conclusion that there is no solution to the energy and other problems facing humanity unless population question is addressed first of all. I wish to see people, starting with those in technical fields, talk about fertility and population. The current taboo needs to be broken.

Thank you for your attention.

Yuji Ishiguro
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**********



**Date: Mon, 12 Sep 2005 22:39:44 +1000**
**From: "Colin Butler" <Colin.Butler@anu.edu.au>**
**To: pernseminars@ciesin.columbia.edu**
**Cc: <ishiguro@ieav.cta.br>, "Colin Butler-External" <csbutler@iprimus.com.au>**
**Subject: RE: [PERNSeminar_Population_and_MDG7] Pernseminar Population Dynamics and Millennium Development Goal 7: “Ensuring Environmental Sustainability"**

Dear Participants

I rarely participate in this discussion. But I am inspired to do so by Yuji Ishiguro's response. It is unsurprising that such insight is from someone who is not immersed in the population environment debate, and who is neither economist nor demographer.

I refer you all to my paper in Public Library of Science, Medicine, called "Human carrying capacity and human health" (Go to http://medicine.plosjournals.org and search for Butler. This is an open access journal).

I have published a lot more on this subject but all within the public health literature (eg see Lancet, 2004, Vol 364, pp. 2004-06 - this specifically discusses the MDGs, population and environment). One day, I hope, I will find a demography journal who gives this topic the seriousness it deserves.

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**Date: Sun, 11 Sep 2005 21:59:52 -0700 (PDT)**
**From: Albert Wright <amwright2@awright.org>**
**Subject: [PERNSeminar_Population_and_MDG7] Population Dynamics and Target 10 in MDG 7**
**To: pernseminars@ciesin.columbia.edu**

Dear Colleagues,

I am pleased to contribute a short note on the reciprocal interactions between population dynamics and the achievement of target 10 which aims at reducing by half, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.

As an introduction, I think it is important to note that the published JMP data on coverage that are used as a benchmark for measuring progress towards Target 10 do not deal with a central feature of Target 10, which is “sustainable access”; they deal only with access which may or may not be available on a sustainable basis. One important implication of introducing the notion of “sustainable access” is that it might mean that the fraction of people with sustainable access to safe water supply and basic sanitation in 1990 could be significantly fewer than the fraction reported in the JMP. If this is the case, as it likely is, it could mean that the grounds to be covered in order to reach Target 10 would be far greater than had been previously assumed to be the case.

It is important to note also that, other than requiring that access should be on a sustainable basis, the definition for “sustainable access to safe drinking water supply” that is used in the report of the Millennium Development Task Force on Target 10 (namely, Health, dignity, and development: what will it take?) is substantially the same as that used in the JMP. With regard to the definition for “basicsanitation”, however, there is a significant difference. In “Health, dignity, and development: what will it take?”, “basic sanitation” has been defined as the lowest-cost option for securing sustainable access to safe, hygienic, and convenient facilities and services for excreta and sullage (domestic wastewater) that provide privacy and dignity while ensuring a clean and healthful living environment. This definition implies that “basic sanitation” has four salient features: (a) access to it should be on a sustainable basis; (b) it should meet basic human needs of safety, hygiene, and convenience; (c) it should include service for both excreta and sullage disposal; and (d) it should result in a living environment that is clean and healthful. The notion of “lowest-cost option” is included only to underscore the point that, apart from the four salient features, the relative cost of the feasible technology for delivering basic sanitation services may differ from one place to another, depending upon local circumstances and imperatives such as population density and size, access to drinking water supply, and such physical conditions as soil type or level of water table. A key question for discussion is whether all the four salient features of “basic sanitation” need to be present, and why.

One implication of these features is that access to basic sanitation and, for that matter, access to safe water supply, should be available not just at the individual or household level, but also at the neighborhood or community level. This means that even though the eventual target for access to both water supply and sanitation is the individual or the household, the pivotal level for intervention to ensure this access should be the neighborhood or community level. Hence in assessing the reciprocal interactions between population dynamics and strategies for achieving Target 10, consideration needs to be given not only to the population of individuals, but also to the population of communities within which the individuals dwell.

Given that Target 10 does not define absolute numbers of people to be reached by 2015, but rather the proportion of the population at that time that should have been given access to safe water supply and basic sanitation, it follows that the actual numbers of people to be reached would depend upon the population growth rates during the period up to 2015.

Estimates of such population growth rates have been made by various organizations such as the UN Population Division, UNICEF, WHO, the World Bank, and the Stockholm Environment Institute. Based on such estimates, predictions have been made of the number of people to be reached each day, if the target is to be reached. It is apparent from such estimates that population growth rates will affect not only the number of people to be reached by 2015, but also the cost and financing strategies that should be used to reach them. Thus the ability of individual countries to reach the targets will depend, inter alia, both upon their ability to mobilize the required human and financial resources, and upon the strategies for deploying them.

Strategies for pursuing Target 10 will also depend upon the types of settlement within which the target groups are located. These could be rural communities, small towns, large towns or mega-cities. As reported in a recent (2005) World Bank Report on Small Towns Water Supply, about a third of the people in Africa and Asia today live in small towns (2,000 – 50,000). In time, villages in these regions are likely to become small towns; small towns will become large towns (50,000 – 200,000), and large towns will become large urban areas (over 200,000). It has been estimated that for every large town, there are about ten small towns and even more rural communities.

The types and rates of transformations that will take place between these different types of human settlements will greatly influence the choice of strategies for pursuing Target 10. For example, if most of the communities to be reached end up being located in rural areas and small towns, as is suspected would be the case over the next ten years, and if the rural communities, in particular, are located in hard-to-reach remote areas, then the Target cannot be reached unless fast-track strategies that entail the use of mass approaches like the franchising method are used. The adoption of such approaches would help to reach a large number of communities simultaneously while at the same time helping to provide the massive capacity building and technical backstopping that would be necessary.

Other aspects of population dynamics that would pose a challenge in the choice of strategies for achieving Target 10 would include changes in population densities within each of the settlement types as well as the location of the population growth centers in relation to such resources as sources of water supply, public water ways used for various beneficial purposes, and tourist resorts. Another aspect of population dynamics that would influence the choice of strategies for achieving the targets would be changes that might occur in the socioeconomic profiles of people in the different settlement types. Among other things, such changes could influence not only the choice of service levels, but also strategies for cost recovery and, hence, sustainability of service.

So far the focus of my discussion has been on the impact of population dynamics on strategies for achieving Target 10. The question is whether the choice of strategies would also affect population dynamics. It is to be expected that the success and cost of selected strategies would influence the influx or outflow of populations into different types of settlements. However, it does not appear that much work has been done on this. Hence, this is one of the areas where there is a gap in knowledge.

Sincerely,

Albert M. Wright
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**From: "Daniel Kubat" <kubat@netflash.net>**
**To: <pernseminars@ciesin.columbia.edu>**
**Subject:**
**[PERNSeminar_Population_and_MDG7]Population_Dynamics_and_Millennium_Development_Goal 7: Ensuring_Environmental_Sustainability**
**Date: Mon, 12 Sep 2005 10:03:03 -0400**

finally, a sensible definition of sustainability!

Daniel Kubat, professor emeritus of sociology, University of Waterloo,
Canada

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**Date: Mon, 12 Sep 2005 10:08:56 -0500**
**From: Guangqing Chi <guangqingchi@wisc.edu>**
**Subject: Re: [PERNSeminar_Population_and_MDG7] debates on population and environment**
**To: pernseminars@ciesin.columbia.edu**

Dear colleagues,

Regarding debates on population and environment, I have read some related literature and made a summary. Your comments and suggestions would be appreciated.

Throughout the history there have been attempts to understand the relationship between humans and the environment. It was not until the 18th century when Thomas Malthus looked at this interaction systematically. Since then, debates arise regarding the issues of

population-environment. There are five widely recognized positions: neo-Malthus, cornucopian, optimism, political economy, and holism.

The first position is called neo-Malthus by Harper (1996). The argument is that population growth will cause severe, even catastrophic impacts on natural resources and human welfare. Most environmental advocacy groups and environmentalists stand on this position. Malthus (1798) is concerned about population growth, and whether the food production can keep up with it. His argument is that famine will have to happen since population growth is exponential while food production is arithmetic. Since 1960s, neo-Malthus scholars (such as Catton 1980; Ehrlich and Ehrlich 1990; Ehrlich and Holdren 1971, 1972; Holdren and Ehrlich 1974; Meadows et al. 1972; Wackernagel 2001; Wackernagel, Onisto, and Bello 1999; Wackernagel and Rees 1996) started to review Malthus' argument. The key of the neo-Malthusian is that population growth causes exponentially increasing impacts on the environment. Ehrlich and Holdren (1971) has pointed out four reasons for the "exponential." First, in order to increase food production to meet the demands of population growth, a larger proportion of energy, fertilizers, water and pesticides are needed. Second, population growth requires a larger proportion of infrastructure increase. Third, threshold effects may cause much steeper positive slopes in the per capita impact function. Fourth, the cost of treating one more unit of waste increases exponentially. In other words, a population doubling could increase environmental impacts several times. Many neo-Malthusians emphasize the fact of over-consumption. In general, scholars apply the concept of carrying capacity to argue about how much we have consumed and will consume, and conclude that natural resources are over-consumed and population growth has a negative impact on the environment and human welfare. For example, Catton (1980) argues that humans have already overshot their share of carrying capacity. This argument is further supported by researchers (Wackernagel 2001; Wackernagel, Onisto, and Bello 1999; Wackernagel and Rees 1996) who have recently developed an accounting tool of ecological footprint to compare what we have and what we have consumed, and concluded that humans have already overshot the earth's carrying capacity. The reason we can still survive is that we steal it from our future generations and other species. Meadows et al. (1972), in the study of Limits to Growth supported by the Club of Rome, concluded that exponential population growth will cause economic collapse, even if technological progress can solve resource over-consumption and pollution. This problem can only be solved by universal no-growth or steady-state policies.

In contrast, the second group, called cornucopian by Harper (1996), claims that population growth is not a problem at all. They argue that the increase of resource demands caused by population growth and economic development will force humans to seek technology progress, which has neutral or positive effect on environment and human welfare (Boserup 1965, 1980; Simon and Kahn 1984; Simon 1981). They argue that the technology can overcome what the neo-Malthusians see as the limits of natural resources. A typical argument being used is that human welfare has improved dramatically in the past 50 years while population grows so fast. With this argument, Simon has worked with the Reagan administration to end the world population policy.

The third position, which is also environmentally optimistic, lacks scientific supports. It argues that environmental problems caused by human activities are minimal compared to those caused by nature itself, we have made tremendous progress in environmental protection, and the future is bright (e.g., Easterbrook 1995). Such an argument is widely criticized by environmental scientists because it is filled with partial and even flawed scientific understanding of the environment (Courrier 1995; Volokh 1995; Watkins 1995). For example, Easterbrook (1995) misunderstands some scientific terms like global and regional temperature trends, economic growth and economic development, and methanol-burning vehicles and zero-emission vehicles, and argues that reactor plutonium can't be used to make bombs.

The first two views, neo-Malthusian and cornucopian, limit themselves to the debate of economic development and carrying capacity, and do not consider sociological and other dimensions, which are done in the fourth and fifth positions.

The fourth position argues that environmental impacts are the result of the political economy of technological choices, rather than population growth and economic development (Barkin 1991; Commoner 1972; Lappe and Schurman 1988; O'Connor 1988b, 1989; Schnaiberg 1980; Schnaiberg and Gould 1994). These scholars argue that neither neo-Malthusian nor cornucopian positions considers socioeconomic structures. Environmental degradation starts with class and inequity, and its root is structural economic relations. Most environmental sociologists, especially the Neo-Marxists (such as O'Connor 1988a, 1989), are in this position. In critiquing Malthusian argument, for example, Bell (1998) argues that the growth in consumption, production, and population does not lead to environmental pollution theoretically, but the way we do it does.

The fifth, which is actually a holistic position, but categorized by Dietz and Rosa (1994b) as a middle position. It considers population as one factor that affects the environment, besides affluence, technological choice, institutional arrangements and others, rather than as the dominant driving factor (Cohen 1995; Dietz and Rosa 1994a; Keyfitz 1991a, 991b, 1993; Ridker and Cecelski 1979). Most scholars in this position are demographers. Keyfitz (1991a) argues that the population's impact on the environment is mediated by culture, consumption, and values. As Harper (1996) said, population should not be isolated in looking at what affects the environment. Cohen (1995) recognizes that population forecast is a complex work and the statistical quality of forecasts is far from enough. The reason is that it is not only population growth affects the environment working with other factors, but also the environment affects population growth working with those factors. Put short, population growth and the environment influence each other working with other factors. In this sense, this position is not a "middle" position, but a "rational" or "holistic" position. Environmental demography strongly agrees with the explanation of "exponential impacts" by Ehrlich and Holdren (1971), but beyond that, stresses a holistic approach to look at the relationship between population growth and the environment. Although recognizing the role of population growth in this network, unfortunately, demographers especially applied demographers have not implemented this approach to do their homework – population forecasting, because the complexity demands advanced statistical and spatial analysis tools. The nascent Environmental

Demography attempts to apply the holistic approach and statistical and spatial analysis tools to: 1) look at the relationships among the network systematically; 2) to test the validity of population forecasting.

In sum, there are five widely recognized positions in environmental debates: the neo-Malthus – held by human ecologists and advocatory environmentalists – argues that population growth will cause severe or even catastrophic impacts on natural resources and human welfare; the cornucopian – held by economists – claims that population growth is not a problem at all and its impacts can be eliminated by technological progress; the optimism – held by some journalists – declares that human impacts on the environment is minimal compared to those caused by the nature; the political economy – held by environmental sociologists and neo-Marxists – argues that environmental impacts are the result of the political economy of technological choices rather than population growth and economic development; and the holism – held by demographers – considers population as one factor that affects the environment, besides affluence, technological choice, institutional arrangements and others, rather than as the dominant driving factor.

Guangqing

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**From: "Shrwan Khanal" <divya@hons.com.np>**
**To: <pernseminars@ciesin.columbia.edu>**
**Subject: [PERNSeminar_Population_and_MDG7] Respose to Ishigruo's idea**
**Date: Mon, 12 Sep 2005 09:21:04 +0530**

This is my first participation in such cyberseminar. I am really benifiting from the seminar. Thanks for PERN.

I agree with the Ishiguros idea that the current taboos needed to be broken. In fact, the people of developed country have already changed their attitudes towards populaiton and at the same time number of children. However, in case of developing countries it is still very big problem and will remain for coming days. For the sustainable development, all programs should consider the environmental aspects.

I am involved in a NGO and I advocate for the promotion of cycling and protect the enviornment. In fact I have not conducted any research for the actual benifit but we will save plenty of fuel with this especially for the developing countries.

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**Date: Mon, 12 Sep 2005 12:07:33 -0400**
**To: pernseminars@ciesin.columbia.edu**
**From: Ken MacKay <kmackay@uoguelph.ca>**
**Subject: Re: [PERNSeminar_Population_and_MDG7] Pernseminar Population Dynamics**
**and_Millennium_Development_Goal_7:Ensuring_ Environmental Sustainability**
**Cc: ishiguro@ieav.cta.br**

Dear Participants,

I agree wholeheartedly with Prof. Ishiguro. While this seminar is aimed at a very specific topic, the concern with a burgeoning human population is an over-riding issue. Half measures will be unlikely to circumvent eventual collapse unless population levels and/or consumption levels are reduced substantially.

Kenneth MacKay retired from Univ of Guelph (but still studying
population/environment relationships)

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**From: Fabrice De Clerck <fd2119@columbia.edu>**
**Subject: Re:_[PERNSeminar_Population_and_MDG7]**
**Pernseminar_Population_Dynamics_and_Millennium_Development_Goal_7:Ensuring___Environmental_Sustainability"**
**Date: Mon, 12 Sep 2005 13:06:26 -0400**
**To: pernseminars@ciesin.columbia.edu**

In the current issue of Scientific American, Joel Cohen mentions that current projections estimate that the global population will taper off at approximately 9 billion near 2050. This changes and refines the debate substantially from how do we control population growth, to a focus on how do we develop a sustainable an prosperous future for billion cohabitants? The geographic questions are also quite interesting, in particular as developed countries reach "equilibrium" conditions, and developing countries continue to rise. How will interactions between the north and the south change?

Fabrice De Clerck

**********

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"Everything not given is lost"

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**From: "Alex de Sherbinin" <adesherbinin@ciesin.columbia.edu>**
**To: <pernseminars@ciesin.columbia.edu>**
**Subject: [PERNSeminar_Population_and_MDG7] Biodiversity conventions speak out on Millennium Development Goals**
**Date: Mon, 12 Sep 2005 18:05:01 -0400**

The message below, jointly produced by the biodiversity-related conventions, makes reference to the importance of the sustainable use of biodiversity in a "highly populated planet." There will be a number of environment-related events in conjunction with the first day of the World Summit <http://www.un.org/summit2005/>, which is this Wednesday. Although we had originally thought to produce a statement for distribution at these events, PERN's steering committee determined last week that it was a bit late to create a credible statement.

Even if we had chosen to do so, recent postings suggest that it would have been difficult to reach a consensus. Without wishing to get into the merits of the different opinions that have been expressed, I would just state the obvious, which is that some of the views that have been aired (such as the view that the one child policy should become universal) stand in stark contrast to those proposed by Secretary General Kofi Annan in his document "In Larger Freedom <http://www.un.org/largerfreedom/> : towards development, security and human rights for all." Many participants in this seminar undoubtedly share a common concern for the future of our planet. However, there are probably significant differences among participants about the most desirable (or

necessary) means to the end of "sustainability" and even what sustainability means. (We are not the only ones with conflicting world views - the BBC reports http://news.bbc.co.uk/2/hi/science/nature/4223912.stm that the summit document is now highly contested, with some doubts that negotiations will succeed, and with the earlier focus on the MDGs becoming muddier rather than clearer.)

Hopefully what we can agree upon is that by implementing the MDGs, the world will be a better place. Win-win solutions may not be possible in all cases, and we are likely to be confronted by many tough choices in the future, but if we undermine the MDGs by claiming they are too little too late, an opportunity will have been missed. I hope we can get the discussion back to some of the issues framed in the background paper - while recognizing that there is a bigger backdrop to our discussions and that, indeed, the future may be far less certain than UN, IPCC, and other projections may lead us to believe.

Alex de Sherbinin (PERN Coordinator)

-----Original Message-----
From: Dwight Peck [mailto:dpeck@iprolink.ch]
Sent: Monday, September 12, 2005 2:30 PM
To: ramsar-forum@indaba.iucn.org
Subject: [Wetlands Forum] Biodiversity-related conventions speak out on Millennium Development Goals

On the eve of the 2005 World Summit -- the high-level plenary meeting of the 60th session of the UN General Assembly in New York City, 14-16 September -- the heads of the secretariats of the five global biodiversity-related conventions have issued a joint statement calling upon the world's leaders "to recognize that to make the MDGs a reality in a highly populated planet, biological diversity needs to be used sustainably and its benefits more equitably shared". Their statement reviews the importance of maintaining biodiversity for the task of finding solutions for nearly all of the world's present and future challenges and ends by urging "governments and civil society to act in helping to conserve and use biological diversity sustainably, thus ensuring all a share in the benefits of a diverse world."

The five biodiversity-related conventions are the Convention on Biological Diversity (CBD), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on Migratory Species of Wild Animals (CMS), the Ramsar Convention on Wetlands, and the World Heritage Convention.

Best regards, Dwight Peck, Ramsar.

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Biodiversity
Life Insurance for our Changing World

This week, in New York, leaders of the world will review progress made towards achieving the Millennium Development Goals (MDGs). These goals embody the international community's aspirations for a better world, where hunger and poverty are eradicated, all people enjoy basic rights, and equity and health prevail in all countries. We call upon the leaders to recognize that to make the MDGs a reality in a highly populated planet, biological diversity needs to be used sustainably and its benefits more equitably shared.

Biodiversity is the variety of life on earth: genes, species, ecosystems. The services we use from ecosystems, such as clean water, food, fuel and fiber, medicines, and climate control, cannot be provided without biodiversity. Failure to conserve and use biological diversity sustainably will perpetuate inequitable and unsustainable growth, deeper poverty, new and more rampant illnesses, continued loss of species, and a world with ever-more degraded environments which are less healthy for people. Unless we change the way we use natural resources and distribute the wealth generated, the MDGs will be remembered only as a utopian ideal.

The importance of the conservation and sustainable use of biodiversity to achieving the MDGs has already been recognized by world leaders in their support for achieving a significant reduction in the rate of biodiversity loss by 2010 - the so-called 2010 target. They set this target because biodiversity is disappearing at an unacceptable rate as a result of human activities. Habitat conversion, overexploitation, pollution and climate change are driven by an ever increasing demand for natural resources. This requires urgent and concerted action. We must sustainably manage and protect biodiversity, guarantee the continued provision of ecosystem goods and services and ensure that the world has the capacity to adapt to future changes.

As advances in reducing poverty and improving well-being for our growing human population are made, we will more clearly understand the need for effectively functioning ecosystems. A wide range of crop and livestock genetic diversity is essential to ensure that our agro-systems can adapt to new challenges from climate, pests and diseases. The biological wealth in marine environments will be needed to feed growing populations and provide livelihoods for coastal communities around the world. Wetlands are needed as water regulators to protect us from floods and storm surges, to help in moderating climatic change with other ecosystems such as forests, and to act as living filters for pollutants and excess fertilizers. We must not forget that biodiversity is central to many of the world's cultures, the source of legend and myth, the inspiration for art and music. It is the basis for medicinal knowledge, drawing on the property of a variety of plants and animals for healing. Provision of these services across all these ecosystems depends on maintaining biological diversity.

We, the heads of the secretariats of the international Conventions dealing with biological diversity, emphasize the important role that biodiversity plays in the achievement of all the MDGs. Biodiversity can indeed help alleviate hunger and poverty, can promote good human health, and be the basis for ensuring freedom and equity for all. All of us rely on

biodiversity, directly or indirectly for our health and welfare. The 2010 biodiversity target is thus the foundation for our well-being, and continued sustainable existence. We must ensure that biodiversity will be available for us, and for all future generations. We thus urge governments and civil society to act in helping to conserve and use biological diversity sustainably, thus ensuring all a share in the benefits of a diverse world.

This message was sent to you at: adesherbinin@ciesin.columbia.edu

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**Date: Mon, 12 Sep 2005 17:05:13 -0700**
**To: pernseminars@ciesin.columbia.edu, <pernseminars@ciesin.columbia.edu>**
**From: Robin Marsh <rmarsh@nature.berkeley.edu>**
**Subject: [PERNSeminar_Population_and_MDG7] regarding Wed. and the World Summit**

Dear Alex -

Thanks for reminding us of this week's important Policy Dialogue as part of the World Summit. In fact, the Policy Dialogue on "Environment for the MDGs", Wed. 14 of September, 2:30 - 6:00 p.m. (Eastern Daylight Time), sponsored by the Poverty and Environment Partnership, will be webcast in full and this can be accessed from the UNDP site: www.undp.org/pei. Many may wish to listen in.

It's understandable but a missed opportunity that PERN is not able to submit a statement for consideration by this high-level policy group, mainly because many of us trust PERN to express concerns about population and the environment in a nuanced and wise way that would draw and merit consideration. As a back-up perhaps there could be a PERN representative at the Dialogue who would bring up this issue from the audience. Possible?

Human rights still very much include the right of girls, women and families to reproductive health and well-being. And we know well that the poor suffer disproportionately from degraded and scarce natural resources, as well as polluted urban environments. Policy makers need to be able to connect lack of access to family planning with worsening poverty outcomes, in many if not all situations. It seems that in this political climate that does take a fair amount of courage.

At UC Berkeley we will be hosting an international conference on Population, Health and the Environment: Sharing Results and Planning the Next Generation (June 19 - 22, 2005).

We hope a number of cyperseminar participants may wish to attend. Details to be forwarded to PERN later.

Best regards,

Robin Marsh
Center for Sustainable Resource Development
UC Berkeley



**Date: Tue, 13 Sep 2005 09:28:46 +0800**
**From: xzheng <xzheng@pku.edu.cn>**
**Subject: Re: [PERNSeminar_Population_and_MDG7] Respose to Ishigruo's idea**
**To: pernseminars@ciesin.columbia.edu, pernseminars@ciesin.columbia.edu**

Dear All,
The Cyberseminar is very benifit for us. We would like to have more topic in the seminar.

keep in touch,
xiaying

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Xiaoying Zheng, PhD, MD
Director and Professor

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**From: "Mocherla S.R.Murthy" <mocherla_s@hotmail.com>**
**To: pernseminars@ciesin.columbia.edu**
**Subject: RE: [PERNSeminar_Population_and_MDG7] Biodiversity conventions speak out on Millennium Development Goals**
**Date: Tue, 13 Sep 2005 19:29:50 +0530**

Dear sir

Biodiversity is essential for sustainability of resources. What ingredients makes biodiversity in otherwords what types of species of living and what type non-living things make biodiversity. In the absence of proper guidelines, conservation of the existing biosystem and developing desirable biodiversity becomes difficult. Therefore tangible defintions are needed to promote biodiversity. Man is continuously disrupting the ecosystem for his benefit particularly in urban areas of the globe. Further, in dry and arid regions biodiversity is lost due to vissicitudes of the climate.

Population dynamics holds good for the reasons of consumption of natural resources at a faster rate.

We have already discussed this issue in our earlier cyber seminars.

Yours sincerely
Prof. M.S.R.Murthy
Professor and Chairman
Department of Population Studies
Sri Venkateswara University
Tirupati-517502, India

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**From: SESALMONY@aol.com**
**Date: Tue, 13 Sep 2005 21:46:09 EDT**
**Subject: [PERNSeminar_Population_and_MDG7] [PERN Seminar_Population_ and MDGs] human population dynamics**
**To: pernseminars@ciesin.columbia.edu**

Dear Colleagues:

Forgive my confusion, but in the light of what I am to understand here, human population dynamics is an issue that has been put to rest in earlier cyber-seminars. Such a view stands in sharp contrast to another perspective, one which suggests that an understanding of human population dynamics does not matter, that human population dynamics is not about absolute numbers, that human population dynamics has so many variables as to be unsuitable for empirical study, and that human population dynamics is even unknowable.

Additionally, we have the well established view of Simon, Christy, Lomborg, et al which suggest that the small, finite planet we inhabit is a virtual cornucopia, and that the expansion of the artiificially designed, man-made, prevailing world economy is an endless as well as a 'successful' invention, not subject to the limits of physical reality. Forgive me, once again, but do these ideas begin to look somehow not quite right?

Emerging data help us understand that human population dynamics is indeed knowable. The empirical evidence from Hopfenberg and Pimentel indicates that organisms, from microorganisms to human organisms, have common dynamics which govern population size.Their research and data from other colleagues also appear to indicate that certain unbridled activities of the human population --- human propagation, human consumption and human production trends ---- are patently unsustainable and also could put at risk biodiversity, the integrity of global ecosystems and, perhaps, future generations of human life on this good Earth.

If it is not a problem for our esteemed colleagues in population science to do so, I would like to ask these them to kindly respond to the data from Hopfenberg and Pimentel, and not leave the field of study to be filled, even by so remarkable and wonderful a perspective as the one put forward here on September 12 by a nuclear engineer, Dr. Yuji Ishiguro. Unchallenged evidence from Hopfenberg and Pimentel support many of Dr. Ishiguro's assertions. Why is a nuclear scientist appealing here to scientists in disciplines outside population science to examine the population dynamics of Homo sapiens?

Whatsoever is is, is it not?

Thanks for the time taken to rigorously examine data related to certain distinctly human over-growth activities and for whatever clarifications are provided here and now, during this seminar.

Sincerely,

Steve

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**Date: Wed, 14 Sep 2005 03:55:52 -0700 (PDT)**
**From: Meshach Owho Ojile <mesh_owho@yahoo.com>**
**Subject: Re: [PERNSeminar_Population_and_MDG7] Moving to Target 10**
**To: pernseminars@ciesin.columbia.edu**

Dear Alex and other colleagues,

My name is Meshach Ojile, a lecturer in the Dept. of Geography and Environmental Management with the Niger Delta University, Bayelsa State, NIGERIA, and presently conducting a PHD research in population dynamics and environmental changes. aturally, PERN has being most helpful and the ongoing cybersenminar afford me more opportunity to read others' views on this population-environment relationships.

Now to the discussion on Target 10, which is to "Halve by 2015 the proportion of people without sustainable access to safe drinking water and sanitation." I was hoping that by today (Wed, 14/9), responses would have poured in as in the other since Alex alerted us to move ahead since last week Friday.

Anyhow, i have misgivings about achieving this target using the stated indicators (i.e., Proportion of population with sustainable access to an improved water source, urban and rural, and Proportion of population with access to improved sanitation, urban and rural)especially in the less developed countries and particularly in my country Nigeria where the political evconomy does nor favour it even if the government of the day makes loud noise about it.

Here's why: in the late 90s to 2000, only about 20-24% of the people living in the Niger Delta (home of the natural resources of my country and lifewire of the economy) have access to potable water supplies. In fact, the last available data according to a national demographic and health survey(NPC, 2000)reported that only about 4% of rural households actually obtain drinking water from pipes in their residences, as compared with 24% for urban households. Also, in urban areas, 26% of households obtain drinking water from public taps, versus 10% of rural households, while about 32% obtain drinking water from rivers and streams.And in relation to sanitation, about 3 out of 10 Nigerians do not have a safe way of disposing their human waste.

The above situation has given rise to increase high morbidity and mortality, because water is sourced from all kinds of places that are not hygenic and thus water-borne diseases become common.

Given the above situation, is it reasonable to expect that in 10 years time, water could be available to 50% of the population? One hd the view that democratic governance would provide better platform to increased quality of life, especially when one realises that some of the developing countries like my own country have access to huge finances and revenues that would have made it a lot easier to implement people friendly policies.

The question is, how can population-environment science help in conveying the seriousness of the situation to the policy makers.Also, how can the donor agencies help in alleviating the conditions so that half of the population can actaully have access to safe drinking water by 2015? I shall appreciate sincere responses.

Thank you very much for the opportunity.

Meshach Ojile.


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**From: SESALMONY@aol.com**
**Date: Wed, 14 Sep 2005 09:34:56 EDT**
**Subject: [PERNSeminar_Population_and_MDG7] {PERN Sminars_Population_and_MDGs] population and food**
**To: pernseminars@ciesin.columbia.edu**

Dear Colleagues:

At the time of the establishment of the IUSSP Organization three original committees were formed. Among them was the Research Committee on Population and Food. It has not been possible for me to find data from the Committee's work. In light of emerging data on human population numbers and food supply, human carrying capacity and food availability, seemingly endless economic expansion, biodiversity loss, and environmental degradation, and limitations of the growth of certain global activities supposedly imposed upon human beings by biophysical reality, would it be appropriate to request the recovery of the Population and Food Committee's research and the re-constitution of the Committee? This point of view suggests that humankind has not somehow successfully sidestepped or else defied the limits of either biological or physical reality.

Thanks yet again to Dr. Alex de Sherbinin and all participants in this discussion for producing so superb an opportunity to exchange ideas and data.

With complete confidence in science as God's greatest gift to humanity, I remain

Sincerely,

Steve

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**From: "Alex de Sherbinin" <adesherbinin@ciesin.columbia.edu>**
**To: <pernseminars@ciesin.columbia.edu>**
**Subject: RE: [PERNSeminar_Population_and_MDG7] Moving to Target 10**
**Date: Wed, 14 Sep 2005 11:00:57 -0400**

Dr. Ojile raises some important points. If an oil rich nation such as Nigeria still has 75% of its urban population unserved by piped water, and if only 24% of the population in the Delta region has access to potable water, it brings into question the feasibility of reaching the goals. I've pasted below, for those who are interested, the summary of an opinion piece by scholars at the Center for Global Development, in which the authors write "Promising too much leads to disillusionment and can erode the constituency for long-term engagement with the developing world." (CGD's president, Nancy Birdsall, was a co-coordinator of the Millennium Project task force for Gender and Education, so these are not criticisms from 'outsiders'.)

I do know that the Millennium Project is engaging in some pilot projects to demonstrate the potential for reaching the goals quickly and at low cost. Perhaps Dr. Wright would be able to share with us if there are any millennium projects relating to water and sanitation. One of the points he made in his statement is that there are economies of scale in working in urban areas, so that would suggest a natural starting place for meeting these goals.

One issue that has not been directly addressed, I believe, is the impact of piped water on household water consumption. Presumably once a pipe reaches a home the volume of water consumed must double or more, compared to water brought in with buckets from standpipes or from water vendors. Thus, if one of the strategies for meeting Target 10 is to increase the number of households connected to water and sanitation infrastructure, this will have important impacts on water consumption and the proportion of water resources required for the domestic sector, thereby potentially reducing the amount of water available for agriculture, industry and ecosystem services (which is usually last on the list). [Yes water is renewable - but its useability is potentially diminished, and if it is moved from one place to another (e.g. piped to urban areas), it will not necessarily be available to other sectors 'upstream' such as agriculture.]

Lastly, Dr. Ojile asks, "how can population-environment science help in conveying the seriousness of the situation to the policy makers." This is a really important question. For our research to be relevant, we need to make the connection to policy. (For examiple, hopefully someone briefed the relevant ministries, including the ministry of finance, on the survey results that showed such low water and sanitation coverage for southern Nigeria.) PERN has organized, together with colleagues from Africa, a session at the forthcoming IHDP Open Meeting on "Making Population-Environment Research Relevant to Policy Makers" (see Session 109 at http://openmeeting.homelinux.org/abstract_listing.asp). We would welcome the participation of anyone who will be in Bonn for this meeting (9-13 October). Together with this cyberseminar, it represents an important step towards making our collective research more relevant to policy dialogues.
Speaking of policy dialogues, the Millennium Project did emphasize to us that they would be most interested to learn of success stories – reconciling population, environment and development objectives - relating to any of the targets under MDG7. So please do send us short project descriptions if you have them, either to the list or directly to myself.

Shortly I will be posting a statement by George Martine to initiate the discussion on Target 11, but discussion can certainly continue on Target 10 through the end of the seminar, which is Friday.

Alex de Sherbinin
PERN Coordinator

What's Wrong with the Millennium Development Goals?
Michael Clemens and Todd Moss

09/12/2005

The Millennium Development Goals (MDGs) have become the yardstick by which international development efforts are judged. Together, they represent the world's targets for dramatically reducing extreme poverty by 2015 while promoting gender equality, education, health and environmental sustainability. Can they be reached? CGD Research Fellows Michael Clemens and Todd Moss argue that that the answer is an emphatic "no" and that this perceived failure could have far-reaching negative consequences. They first analyze the economic growth rates of today's developing countries and compare them to the rates that would be needed to reach the MDGs. They conclude that to meet the MDGs, developing countries would have to grow extremely rapidly, out-performing even the historical rates of progress of the rich countries today. From their conclusions: "The vast majority of developing countries will miss most of the MDG targets in 2015. Nearly all African countries will miss most of them. But this will not be a sign that poor countries have failed, or that aid has been a waste. Nor will it

primarily be because donors did not spend the right amount of money. At the same time, many of the world's poorest countries will in all likelihood make great progress in improving the quality of life of their people-and aid will almost certainly have played a part. It would be a shame if the MDGs, in trying to make the case that the world can and should help the world's poor, wound up undermining the cause by over-reaching on the targets and over-selling on the efficacy of aid." The full Brief can be downloaded at: http://www.cgdev.org/content/publications/detail/3940

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**From: "Alex de Sherbinin" <adesherbinin@ciesin.columbia.edu>**
**To: <pernseminars@ciesin.columbia.edu>**
**Subject: [PERNSeminar_Population_and_MDG7] Contribution by Dr. George Martine on Target 11**
**Date: Wed, 14 Sep 2005 11:37:32 -0400**

Target 11 of the MDGs - Good Marksmanship Won't Help Much!
*Comments by Dr. George Martine, Consultant (former Director, UNFPA's Country Support Team Office for Latin America), E-mail: georgermartine@ yahoo.com*

*[PERN Coordinator's Note: In his contribution, George Martine takes a critical look at Target 11. Contrary to recent postings that suggest that the MDGs may be overly ambitions, Martine writes that target 11 – which cites improvement in the lives of an absolutate number of slum dwellers rather than a proportion of the total urban poor population – is significantly under the mark of what truly needs to be achieved. He writes that providing slum dwellers with sanitation is tied to tenure, and that the lack of secure tenure in urban informal settlements is "attributable to thefailure to plan ahead, and the unwillingness to accept inevitable in-migration and growth in cities." He suggests that municipalities provide for the land needs of recently arrived migrants before the fact instead of trying to implement remedial actions in the context of haphazard development after the fact.]*

Target 11 proposes, "To have achieved, by 2020, a significant improvement in the lives of at least 100 million slum dwellers." Indicators: (1) Proportion of population with access to improved sanitation; (2) Proportion of population with access to secure land tenure.

Four points merit discussion here:

* What does the improvement of environmental conditions for 100 million slum dwellers mean for urban poverty reduction?
* What actions are necessary to meet projected targets for improved sanitation?
* What needs to be done to secure land tenure for a huge number of slum dwellers?
* How do these issues fit in the overall picture of urban growth, poverty and P/E relations?

**The 100 million mark**

*Does improving the conditions of 100 million slum dwellers over a 20-year period signify a huge improvement for the world's urban poor?*

According to UN HABITAT, the slum population of the developing world in 2001 was in the order of 924 million (http://www.unhabitat.org/programmes/guo/documents/Table4.pdf). Urbanites tend to be better off than their rural counterparts, but the long-term trend is to increase the concentration of population and poverty in urban areas. By 2020, the slum population is projected to increase to 1,477 million. Hence, achieving Target 11 (of improving conditions for 100 million slum dwellers) would mean that only 11% of the original slum population would see a change for the better. It would also mean that, by 2020, the number of slum dwellers not attended by such measures would have swelled to nearly 1.4 billion. Clearly, the problem has to be approached from a different angle. Granted, the HABITAT figures may be inflated, but it seems beyond dispute that achieving the target will hardly make a dent in addressing the problem, let alone attacking its roots.

**Improving Sanitation and Providing for Other Needs of Slum Populations**

Improving access to safe drinking water unquestionably reduces poverty. However, the ease with which slum dwellers can be provided with sanitation and other facilities is itself closely tied to land tenure. A significant part of the squalor and misery of the new urban populations stems from the fact that they are forced to live in uninhabitable areas and have little opportunity to improve their conditions because of precarious land tenure. This is attributable to the failure to plan ahead, and the unwillingness to accept inevitable in-migration and growth in cities. The only option for poor people is to occupy those lands that nobody else wants, or to invade plots that are being held for speculation. Normally, the resulting pattern of occupation is haphazard. Thus, when slum dwellers try to improve their conditions, or when local governments finally try to provide them with minimal services and reduce negative ecological impacts, the costs of doing so become astronomical. Just putting in a road for public transportation, or providing channels for water or sewage, requires tearing down existing constructions. Lack of planning and inadequate location makes it very difficult to provide the poor with basic infrastructure - water, sanitation, electricity, access roads, and waste management services - or to redress the accumulated ecological damage a posteriori.

**Access to Secure Land Tenure**

This is undoubtedly a key factor, as argued above, but improving land tenure for the poor requires a pro-active attitude that is rarely found in practice. Future urban growth will be fueled largely by poor people. If given secure access to a decent piece of land, poor people themselves often transform their residences and neighborhoods at minimal costs to the public sector. Traditionally, governments have taken a negative stance towards urban growth and this has prevented an effective approach to dealing with the land needs of the poor. The mechanisms that currently organize land markets-land speculation and serendipity-obviously cannot be trusted to provide social and environmental solutions. The failure to plan ahead for the accommodation of poor people also contributes to the ecological degradation of the cities themselves. Other alternatives - such as the public sector maintaining land banks and selling plots of land to poor people on the installment plan are difficult, yet feasible.

**Broader Lessons for the Future**

The tragedy of Target 11 is not so much that it will inevitably fail to attend the needs of the great majority of slum dwellers by 2020, but that it inadvertently helps to shift attention away from the discussion on what really needs to be done in order to prepare for the inevitable short-term doubling of the urban population. The most effective way to minimize the problems of poor urban dwellers is to provide for their land needs before the fact. This requires planning ahead, and learning to live with inevitable urban migration and growth, instead of partial remedial actions.

Planning for the land needs of the poor is critical but itself is only one aspect of a broader and critical issue of land use that will escalate rapidly as the world's urban population doubles in little more than a generation. Left to its own devices, urban expansion, especially in Asia and Africa, will sprawl over lands rich in biodiversity or agricultural soils, degrade water sources, deforest hinterlands, contaminate soils and saturate local capacities for absorbing solid waste. Regulating urban land use is, admittedly, extremely difficult; it requires a longer-term vision than the duration of most political mandates. Hence, no politician espousing this cause can expect to reap immediate political windfalls. New initiatives will require ingenuity and a political will that will not be forthcoming unless awareness is first raised drastically.

Who's worrying about this? Nobody, it appears. Indeed, there is precious little public support, at the national or international level for actions aimed at reducing the social, economic and environmental costs of enormous and inevitable urbanization in coming decades. Focusing on alleviating the symptoms - such as improving some slum areas - regrettably serves to detract attention from the broader issue and thus retards awareness that a much more ambitious approach needs to be taken urgently.

The MDGs and their respective targets evidently reflect the best of intentions. Nevertheless, they tend to have a narrow prism and induce people to focus on some of the trees, rather than on the forest; as a result, they concentrate world attention on patching up a few holes in the scenario when, in fact, a whole structure needs rebuilding. Target 11

is not only ineffectual, but it detracts attention from the broader issue, namely the need to take a proactive stance in order to deal effectively with inevitable and massive urban growth in the near future, and thus help reduce poverty and environmental degradation.



**Date: Wed, 14 Sep 2005 12:48:09 -0400**
**From: "Susana B. Adamo" <sbadamo@email.unc.edu>**
**To: pernseminars@ciesin.columbia.edu**
**Subject: Re: [PERNSeminar_Population_and_MDG7] {PERN Seminars_Population_and_MDGs] A comment**

In their background paper, Bremner and Bilsborrow indicate that other population characteristics in addition to population growth are important for understanding population-environment relationships, and thier influence on achieving the MDG7 targets.

I would like to comment, very briefly, about population distribution in Argentina in relation to targets 10 and 11. Population growth in Argentin is not high (the mean annual rate for 1991-2001 was 10.1 per thousand), with a population of 36.3 millions in 2001 for an area of 2.7 million km2.

Rural-urban migration in Argentina started back in the 1940s, it intensifid in the 1960s, and declined in the 1980s. Today, almost 90% of Argentina's population lives in cities, and around 1/3 is concentrated in the Great Buenos Aires Metropolitan Area.

Overall (and oversimplifying), Buenos Aires metropolitan area has (comparatively) better living conditions, infrastructure and availability of basic services that other areas of the country, but at the same time has higher air, water (blue and green) and soil contamination. It is in the areas of higher contamination and worse access to services where the poorest people live, which of course is not new. Poverty has increased sharply in the last 5 years, and access to basic services has deteriorated.

On the other hand, rural populations have a hard time accessing basic services, because of isolation, remoteness and small numbers (sometimes they seem invisible). As depopulation continues in some rural areas below critical numbers, schools and post offices close (arising, in my opinion, issues of social sustainability, but that's a different matter). Rural populations are exposed to a different set of environmental problems arising from agriculture and resource extraction activities (past and present), land degradation, and water sources depletion.

NOTE:
A comment for Steve: if you are interested in finding research on Population and Food by population scientists, you may browse the archives of Population and Development Review (www.popcouncil.org/publications/pdr/default.htm), the working papers of the Population Council (www.popcouncil.org/publications/wp/prd/rdwplist.html), and IUSSP publications (http://www.iussp.org/Publications/7listsale.php). Of course, this is not an exaustive list.

Susana Adamo

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**Date: Wed, 14 Sep 2005 12:59:18 -0400 (EDT)**
**To: pernseminars@ciesin.columbia.edu**
**Subject: RE: [PERNSeminar_Population_and_MDG7] Moving to Target 10**
**From: "PREM BAHADUR BHANDARI" <pbb115@psu.edu>**

I found very interesting discussion in this issue. I liked the issues raised by Dr. Ojile and Dr. Alex. I just wanted to add a couple of things---

I am Prem Bhandari from Nepal (a lecturer of the Tribhuvan University, Nepal), and currently a student of rural sociology and demography (with population and environment interest) at the Pennsylvania State University, USA. Nepal has tremendous fresh water resources and is second after Brazil in terms of the availability of the quantity of fresh water.

SEASONALITY OF SAFE WATER DISTRIBUTION
When we look at the government documents, it is mentioned that over 70% of the people have access to safe drinking water. Does that mean that are these people drinking safe

water all round the year? I doubt this figure. For example, Kathmandu Valley (the capital city), the largest metropolitan area of the country always has water scarcity. Whereas, households in many rural areas (over 80% population lives in rural areas) have regular water scarcity particularly during summer (during rainy season, water is muddy and unsafe for drinking) and winter. They have to travel long distance and spend many hours to fetch the water. In my experience, many more people in Nepal (than just 30%) are deprived of safe drinking water.

CONFLICT BETWEEN WATER SENDING AND RECEIVING AREAS
Moreover, piped water has to come from somewhere. In the case of Nepalese hills, upstreams are important sources. If you divert water from upstream water sources to provide water to the people of other areas (socalled urban areas), upstream people will have to sacrifice this resource (they have to export water for nothing). Because water is being used for household purposes, agriculture, animals and so many other purposes. There are many chances of facing conflicts between water importing and exporting areas (that's what is happening in many rural areas....I have experienced this situation in my own village in Nepal). (Moreover, economies of scale is always important to provide safe water to sparsely scattered settlements and receiving donor support for countries like Nepal is always important).

In this situation, how realistic will be the yardstick in meeting the MDG within 10 years is an important question. My purpose here is not to see this goal pessimistically, but just wanted to be pragmatic in terms of achieving the goal.

Thank you,

Prem

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Prem Bhandari
Ph D Candidate
Department of Agricultural Economics and Rural Sociology and The Population Research Institute
Pennsylvania State University, University Park, PA 16802

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**Date: Wed, 14 Sep 2005 13:33:20 -0500**
**From: "Ma. Fernanda Figueroa" <fdffd@ibiologia.unam.mx>**
**To: pernseminars@ciesin.columbia.edu**
**Subject: [PERNSeminar_Population_and_MDG7] About access to water and sanitation**

In relation to the reduction of the percentage of population that does not have acces to safe drinking water and sanitation, there are some parallel situations between Mexico and what goes on in Nepal according to Prem Bhandari.

1. Distribution of water through the country is very heterogeneous: most of the people and economic activity is concentrated in the dryest regions, and the needs of the population of many regions are sacrificed to fulfill the needs of urban population. Mexico City is one of the most dramatic examples of unsustainability in the use of water.

2. As in almost any other country, the percentage of population of urban areas lacking these services is lower than in rural areas. But the percentages of population with access to water and sanitation declared by the goverment is higher than the reality: in Mexico City there is a high proportion of population that has the infrastructure at home, but that lacks running water most of the year (or it is very scarce).

3. In rural areas, the spatial distribution of population is very important in achieving this goal, there is still a strong tendency towards population dispersion: there is still a high percentage of population living in remote and very small settlements, thus the investment needed to reach that population with services is very high. Also rural population depends highly on rivers and lakes, but contamination levels are extreemly high (and will continue to rise).

4. As we have discussed earlier with Dr. Falkenmark document, What will be the consequences of delivering water for so much people; though it is an ethic "must", is there enough water to sustain people, food production and ecological systems (which suffer fron water scarcity when it is diverted for human needs, and that has to do with biodiversity conservation)?.

I did not want to be pessimistic but, are we being reallistic, taking into account the expected population size in 2050?

Kind regards
Fernanda Figueroa

--
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**********



**Date: Wed, 14 Sep 2005 14:08:21 -0400**
**From: gyc4@columbia.edu**
**To: pernseminars@ciesin.columbia.edu,**
**Alex de Sherbinin <adesherbinin@ciesin.columbia.edu>**
**Subject: Re: [PERNSeminar_Population_and_MDG7] Contribution by Dr. George Martine on Target 11**

Dear Colleagues,
I am very pleased to join in this discussion of population dynamics and MDG 7 and have enjoyed contributions thus far. In my capacity as an associate to the UN Millennium Project Task Force 8, charged with providing recommendations to the Secretary-General on Target 11, I am able to report that much of Dr. Martine's concerns with the Target were shared by the Task Force.

More specifically, in the Task Force 8 report, A Home in the City, we proposed that the Target itself be realigned with its original intention, found in the Cities Without Slums initiative – which was to stop new slum formation, in addition to improving the lives of current slum dwellers. The Task Force itself offered the following formulation: "By 2020, improving substantially the lives of at least 100 million slum dwellers, while providing adequate alternatives to new slum formation" (2005:3).

It is also important to point out that Target 11 itself does not call for improvements in the environmental conditions alone for 100 million slum dwellers – but for improvement in their lives – which is of course a more wide-reaching target. In short, this calls for improvement in the physical and non-physical living conditions of slum dwellers, recognizing that both are required for the achievement of either.

A few more specific comments to the text submitted to this seminar:

Dr. Martine was correct to point out that "urbanites tend to be better off than their rural counterparts." However, I think that in every opportunity we have, it is important to highlight that averages and statistics play tricks on us. As many in this discussion know and have studied (here, I would defer specifically to Dr. David Satterthwaite's pioneering work), the health conditions of slums dwellers often match that of their rural counterparts.

It is also important to point out that the urban poor are among the most efficient users of environmental resources, as such it is the urban expansion of the more affluent segments of society that arguably could cause the greatest environmental stresses.

Regarding land, I could not agree more with Dr. Martine's point that markets alone "cannot be trusted to provide social and environmental solutions", and that planning is required to achieve the *full intentions* of Target 11. My wording here regarding the Target is also intentional – as I disagree with the position that the MDGs or Target 11 shifts attention away from the heart of the matter.

The MDGs are far from a narrow prism, though their interpretation or acknowledgement unfortunately is indeed too often of a narrow nature. The Goals are purposefully wide-reaching in their substantive meaning. They are complimented by targets and indicators that are meant to facilitate proactive planning – i.e., in order to achieve MDG 7 by 2015 or 2020, what needs to be done today, a year from today, etc.; and further, how might we measure the results of such actions.

Most actors concerned with Target 11 already agree that improvement for 100 million slum dwellers is only a drop in the bucket, and are already looking at ways to plan alternatives to future slum formation. The greater challenge is thus in convincing those outside of "the choir", so to speak, to acknowledge the importance of urban at all. Here, I am perhaps a little more optimistic than my colleague. Dr. Martine was correct to point out that political administrative tenures pose a special obstacle to long-term planning and interventions, but luckily several groups – both within and outside of political administrations - are and have been dedicated to improving the lives of slum dwellers.

A quick glance at the composition of Task Force 8 provides a snap shot of such actors, including Slum Dwellers International, UN-HABITAT, municipal and national housing/community development representatives, researchers, etc. Such groups have successfully highlighted attention to the challenges faced by slum dwellers for decades. The challenge is to support efforts at linking up the excellent work of these existing players and helping them move their efforts up to scales that could significantly impact the lives of 100 million slum dwellers today as well as the urban poor of tomorrow.

Sincerely,
Gabriella Carolini
Senior Associate, Task Force 8
UN Millennium Project

**********

**Date: Thu, 15 Sep 2005 06:40:19 +0100 (BST)**
**From: Ramakrishnan Narayana <ramky2020@yahoo.co.uk>**
**Subject: Re: [PERNSeminar_Population_and_MDG7] About access to water and sanitation**
**To: pernseminars@ciesin.columbia.edu**

Mr. Figueroa's point on the mis-match between the government data and the actual scenario raises a fundamental question namely, how far the data provided by the government sources on people below poverty line and people with less access to drinking water. Even more deepr question are: what is poverty? How government agencies define poverty? How people below poverty line are extimated by the government agencies? etc, etc. Unless or until we address the fundamental issues in relation to data on poverty-water related issue, we may not be able to do anything. As a person who was working with various government offices in India, I know how the relevant data are being 'generated' for various purposes that do not reflecet the gorund reality at all.

Ramkrishnan.

**********



**From: SESALMONY@aol.com**
**Date: Thu, 15 Sep 2005 06:34:07 EDT**
**Subject: [PERNSeminar_Population_and_MDG7] [PERN Seminar_Population_and_MDGs] 3 questions, 2 comments, 1 plea**
**To: pernseminars@ciesin.columbia.edu**

Dear Colleagues:

Has the culture of the agricolae so completely idealized the individual that we cannot realistically "place" the human species within the natural order of living things?

Does the predominant economic system on the planet require continuous, maximal growth for its survival?

At its current scale and rate of growth, is seemingly endless economic expansion not only unsustainable on a finite planet but also an imminent potential danger to biodiversity, global ecosystems, and Earth itself as a fit place for human habitation by future generations?

Declining population growth in many countries worldwide need not blind us to the fact that absolute global human population numbers continue to increase precipitously, growing by an estimated 200,000 to quarter million people every 24 hours.

It is not too late to acknowledge limits to certain global human growth activities and to accept Earth's limitations by choosing the alteration of human behavior.

Limit increases in human production, consumption and propagation; work together; save the world.



**From: "Mocherla S.R.Murthy" <mocherla_s@hotmail.com>**
**To: pernseminars@ciesin.columbia.edu**
**Subject: Re: [PERNSeminar_Population_and_MDG7] Contribution by Dr. George Martine on Target 11**
**Date: Thu, 15 Sep 2005 17:34:05 +0530**

Dear sir

Almost all governments are concerned with slums as they are the places of anti-social elements, places of squalor, and places of source of endemic diseases. Some countries with restrictive policies could prevent slums. India is facing a daunting task of providing amenities to these populations. Several attempts relocate them proved futile. Several administrative rules have been broken by politicians and other vested interests.

Recent incessant rains have brought lot of misery to the slum dwellers and others living in old colonial buildings in Mumbai, india.

At the moment providing help to several millions of slum dwellers is a drop in a bucket of water. Howerver, they need help.

Prof. M.S.R. Murthy

**Subject: RE: [PERNSeminar_Population_and_MDG7] Contribution by Dr. George Martine on Target 11**
**Date: Thu, 15 Sep 2005 09:27:51 -0400**
**From: "MONTGOMERY, MARK" <MMONTGOMERY@popcouncil.org>**
**To: <pernseminars@ciesin.columbia.edu>, <pernseminars@ciesin.columbia.edu>, "Alex de Sherbinin" <adesherbinin@ciesin.columbia.edu>**

I too would like to follow up the comments of Martine and Carolini on slum dwellers.

(1) On the rate of urban growth as a factor that exacerbates the difficulties of service provision and hinders improvements in well-being: We need to remember the rule-of-thumb employed by the UN Population Division, that in poor countries about 60 percent of the urban population growth rate is due to natural increase, the excess of urban births over urban deaths. It is all too easy to think that urban growth is a matter of migration alone. Migration (and reclassification) is certainly important, but far from the whole story. The payoff to considering the natural growth component for cities is that it underscores the importance of providing adequate access to family planning and other reproductive health services for urban dwellers. The U.S. National Academy of Sciences report, Cities Transformed (2003), to which David Satterthwaite and I contributed, showed clearly that urban dwellers, and especially the urban poor, lack this access, and levels of unmet need for family planning are high (and higher still for the urban poor) if not quite as high as rural levels. In this as in other areas of health, the knowledge and access to services of the urban poor closely resemble those of rural villagers. Investments in family planning and reproductive health services---in their scope and quality---can have a major impact on urban growth overall.

(2) On the urban poor and slum-dwellers. We use these terms as if they were synonyms, but they are not. UN-Habitat acknowledges that in many cities, as many poor residents live outside the slums as inside them. And as we all know, slums themselves are internally heterogeneous in terms of the living standards of their residents. What proportion of slum-dwellers are poor? What proportion of the urban poor are slum-dwellers? No one really knows. This is an area in urgent need of research attention.

Why? Because many of the strategies employed in connection with Target 11 are "place-based" strategies, built on the assumption that the poor are spatially concentrated. This is the sensible starting-point for policy, but we also need to think about the poor who happen to live outside slums. How numerous are they? How can they be identified?

Note, too, that UN-Habitat's new methods for estimating the number of slum-dwellers (which I applaud, as they are a vast improvement over the methods used 10 years ago!) are actually methods for estimating the number of urban poor rather than slum-dwellers as such. The "spatially concentrated" aspect of slums is not directly factored into these estimates.

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**From: SESALMONY@aol.com**
**Date: Thu, 15 Sep 2005 19:56:36 EDT**
**Subject: [PERNSeminar_Population_and_MDG7] 5th Annual Earth Day Summit on The Human Population**
**To: pernseminars@ciesin.columbia.edu**

Dear Colleagues:

Please mark your calendars on Thursday, April 20, 2006 for a meeting will occur that evening which focuses on a predicament looming before the human community, a potential problem that takes its mushroom-like shape from certain unbridled human activities presently over-spreading the surface of the small, finite, noticeably fragile planet we are blessed by God to inhabit. The event is to be in the Chapel Hill, NC Town Hall Council's Chamber between 7 and 10 PM. Information regarding the event can be obtained by emailing me directly.

Thanks to all of you.

Steve
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**To: pernseminars@ciesin.columbia.edu**
**Subject: Re: [PERNSeminar_Population_and_MDG7] [PERN Seminar_Population_and_MDGs] 3 questions, 2 comments, 1 plea**
**From: mavaclan@adb.org**
**Date: Fri, 16 Sep 2005 10:23:56 +0800**

Hi! This is my second PERN Seminar and it is without doubt full of very interesting and poignant discussions which I have shared in many of my classmates in environmental management.

I am by no means an expert like the other contributors but I do agree with the comment below on the seeming requirement for maximal growth for survival. We have to change our consumptive lifestyle and erase the foreboding feeling in some that less consumption would be fraught with inadequacy. How do we delink improving lives from increasing

consumption? I think most of us if not all have first hand experience in this. Can you recall your first job and the "basic" salary we used to receive? And how now, despite our "higher" salaries, we still don't seem to have enough to meet our needs? As we go earn higher, does our basic needs increase?

cheers,
meyan
*~*~*~*~*~*~*~*~*~*
Mary Anne V. Aclan
Project Assistant
Regional and Sustainable Development Department
Asian Development Bank
www.adb.org

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**From: "Salonius, Peter" <psaloniu@nrcan.gc.ca>**
**To: "'pernseminars@ciesin.columbia.edu'" <pernseminars@ciesin.columbia.edu>**
**Subject: [PERNSeminar_Population_and_MDG7] RE: [PERN Seminar_Population_and_MDGs] 3 questions, 2 comments, 1 plea**
**Date: Fri, 16 Sep 2005 04:46:54 -0400**

Mary Anne V. Aclan has written about the connection that is drawn (mostly in the developed world) between GROWTH and [economic] survival. She asks how we can alter the impression that there is a linkage between "improving [economic] lives" and "increasing consumption".

There is a theory that it is possible for a country with a declining population -- (usually assumed to produce a GROWTH-DEFICIENT economic depression ) --to actually strengthen its economy and increase per capita wealth through affirmative recycling policy ---- see the web site of

SCIENTISTS FOR POPULATION REDUCTION:
http://www.scientists4pr.org <http://www.scientists4pr.org/>

then -- Click on OUR POLICY then go to OVERVIEW and scroll down to

(a) Greater prosperity with declining numbers (see text below).

For a more comprehensive look at an actual country scenario

--- Click on OUR POLICY and then go to RUSSIAN CASE STUDY

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

(a) Greater prosperity with declining numbers<?XML:NAMESPACE PREFIX = O />

It is generally recognized that a free enterprise economy requires an <http://www.scientists4pr.org/stats.htm#trade> ever-expanding market in order to remain buoyant, hence the trend towards globalization. Declining population levels world-wide would tend to shrink the market. The major problem when there is a declining population is that there is a decline in the demand for housing, particularly new housing. The whole construction sector of the economy suffers which in turn flows through to all support industries. Real estate values decline as do rental returns and occupancy rates in established housing.

This organization is advocating that population levels should be either static or in decline in every country in the world, and indeed within every state/province within every country. It is recognized that were such a situation to occur, without effective counter-measures, the global economy would spiral into an irreversible depression. By way of counter-measure we are advocating that governments can adopt an affirmative recycling policy.

Quite simply land is reclaimed for the purpose of regenerating wilderness. The owner of the land that is reclaimed is paid not just the market price of the land, but is paid a price that would allow him/her to buy a property elsewhere. This would mean a win-win situation for the farming community. The farmer whose property is reclaimed is paid more than market value which could not be obtained by any other means. As more and more farms are reclaimed, those farms remaining would escalate in price because there is less competition and less farms available for sale.

The same win-win situation would apply for people who live in small country towns. The owners of properties in those towns that are reclaimed will receive a sufficient price for their property to enable them to buy a comparable property in another country town should they so desire. This in turn would increase the demand for housing in remaining country towns, which in turn would escalate the values of those properties and stimulate local commerce.

Generally an affirmative recycling policy means that the owner of the property recycled receives more than its current market value, and the values of other properties escalate because they are more in demand. Such a policy, properly implemented, would actually make a free market economy more prosperous.

Another effective counter-measure is our first proposal outlined above of distributing money to underprivileged families in developing countries for it would increase their spending potential and add a significant new sector to the global economy.

The money that is currently being channelled into conventional 'aid' to Third World countries and 'assistance packages' to farmers as well as 'welfare' payments to people in depressed rural areas in developed countries would be sufficient to begin a substantial implementation of these new policies.

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Peter Salonius
Scientists for Population Reduction
http://www.scientists4pr.org <http://www.scientists4pr.org>

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**From: "Alex de Sherbinin" <adesherbinin@ciesin.columbia.edu>**
**To: <pernseminars@ciesin.columbia.edu>**
**Subject: [PERNSeminar_Population_and_MDG7] Final day of PERN cyberseminar on Population Dynamics and MDG 7**
**Date: Fri, 16 Sep 2005 09:41:14 -0400**

Dear Participants,

We'll be closing the list server later today (21:00 New York time), so I encourage last contributions to the discussion.

As I understand it, Jason Bremner and Richard Bilsborrow will be taking the results of the discussion along with their background paper to develop an article for publication. They will acknowledge the contributions/comments made by participants should they be included in the paper.

I wish to thank all of you who have participated thus far. If you have been waiting for the right moment to post a comment, this is the time!

Best wishes,
Alex de Sherbinin
PERN Coordinator

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**To: pernseminars@ciesin.columbia.edu**
**From: Derya ALTUNBAÞ <daltunbas@comu.edu.tr>**
**Subject: [PERNSeminar_Population_and_MDG7] Population and MDG7**
**Date: Fri, 16 Sep 2005 13:56:31 GMT**

Dear Alex de Sherbinin,

I copied my text and sent it again. If there is a problem I can try it again. Thanks.

Kind Regards,

Derya Altunbas.
Bremner and Bilsborrow offer a discussion document that explain relationships between population and MDG7. Thanks for this. It is very useful for me. I've read all discussions carefully, in the PERN seminar. I would like to mention about the land rant factor is also important in settlements at the slum areas. Especially, uncontrolled housing at the public areas leads to  expansion of unhealty conditions in cities of the developing countries. Watersheds and farm lands are used residential purpose that cause to natural disaster and diseases. Investments for infrastructure are always costly for municipalities to the poor population that live in these areas. Administration of the cities, their budgets plays important role for this development. There are multidimensional problems here that interrelated with eachother. Social, economic, organizational and national- international political solutions are necessary. The solutions will change scale to scale, from a country to another.

Firstly, rehabilitation or renovation of the cities have to be done for the slum areas. Secondly, it is necessary to take preventive measures with new principles for deterioration of the environment. For example, planning process doesn’t work and houses are built before planning in developing countries. Therefore, if MDG targets include to prevent poverty, have to formulate priorities for rehabilitations in agriculture, industry and in settlement areas. Especially, try to prevent pollution in urban areas, cleaner- renewable energy for industry and soil conservation are very important for the sustainability of the ecosystems. Because of the industrial location and urbanization effect to the soil quality on the arable land, at the same time water quality decreases with the industrial wastes. In view of the environmental justice, environmental pollution has no border at the same time no price, unfortunately. Negative external economies can effect to another country or next generations. Poverty come to population together with poverty in environment. Because of the cost benefit analysis in developing countries short term and long term development decisions are another important factor for the environmental degredation.  Consumption attittudes of world population are also

important factor for the poverty of population. Like a chain each of them interrelated with others. Priorities have to seriously revise to achieve MDG from a country to another. What type of development ?

Dr.Derya ALTUNBAS-(TURKEY)
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**From: SESALMONY@aol.com**
**Date: Fri, 16 Sep 2005 17:59:31 EDT**
**Subject: [PERNSeminar_Population_and_MDG7] Population Dynamics from a Psychological Perspective**
**To: pernseminars@ciesin.columbia.edu**

When a psychologist thinks a patient is suffering from a mental illness, that determination is a clinical judgment. However, general standards of whatsoever is normal are not clinical judgments, but rather matters of socio-cultural norms, conventions and mores that are replete with scientifically validated perceptions of reality alongside misperceptions of what is real. Deeply disturbed mental patients so drastically distort reality and behave in such maladaptive ways that their perceptions are not shared widely with others and their behaviors do not serve as "models" for the behavior of other people. By contrast, governments, social entities and cultures seem not to distort reality so sharply, yet misperceptions of what is real do remain and are transmitted along with scientific facts. Because some misperceptions (e.g., endless economic growth on a small, finite planet) of reality are valued by those people who share them in governance matrices, social orders and cultures, misperceptions can be passed around among many people in one generation as well as passed down from one generation to the next as if reality were represented in these illusory transmissions.

Of particular interest is a culture because it presents its membership with much that is real, but also with elements of the illusory. If a culture represented only what is real, there

would be no need for science. From a psychological standpoint, because humans are shaped early and pervasively by cultural transmissions (i.e., both what is real and what is illusory) in our perception of reality, it is an evolutionary challenge for humankind to see the world as it is. In the provision of evolving science as guide and standard, has God not given humanity a fine tool by which we may come to distinguish reality from illusion? To the extent we are successful in perceiving, accepting and embracing reality, our chances for survival are supposedly enhanced.

With what is real and what is illusory in mind, it may be that a term of art from psychology is useful here, folie a deux. The term means two people share an identical distortion of reality. This term gives rise to folie a deux cent million for a social or religious sect and to folie a deux billion for a culture. These terms refer to misperceptions of reality passed around widely by many people and held tightly as beliefs. For example, in light of emerging data of human population dynamics, what would it mean for humankind to hold onto the preternatural, to a belief that human population dynamics are different from the dynamics of other species? What could our failure to learn, communicate and change based on whatsoever is real mean for biodiversity, for ecosystems, for future generations of life on Earth?

Once again, thinking as a psychologist, at least one way of setting the highest standard of what is normal for an individual, or a culture for that matter, is in terms of an individual human being and a mass of people being able to distinguish between the preternatural and the natural, illusion and reality.

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**From: SESALMONY@aol.com**
**Date: Fri, 16 Sep 2005 18:52:15 EDT**
**Subject: [PERNSeminar_Population_and_MDG7] Population Dynamics and Choosing a Scope of Observation**
**To: pernseminars@ciesin.columbia.edu**

Imagine for a moment that we are looking at an ocean wave, watching it move toward the shore where it crashes at our feet. For thousands upon thousands of years the waves came to the shore where they harmlessly lapped onto the shore. But today we are viewing a much larger wave, like the tsunami in 2004. In no ones memory are there images of such a thing. And stories of our ancestors do not include anything like it. There we stand. The giant wave is moving toward us; however, at the same time, there are many molecules in the wave that moving in the opposite direction, against the tide. We cannot see the molecules headed back out to sea because we are focused upon the

wave. If we observe that the propagation of the human species is like the wave and the reproduction numbers of countries around the world are like the molecules, it may be inaccurate for the latter numbers to be looked at as if they tell us something meaningful about the former. Perhaps absolute global human population numbers and population numbers from countries are moving in different directions.

Choosing the scope of observation is like deciding to look at either the forest or the trees, the wave or the molecules in the wave. In psychology we call this a "forced choice" situation. It is not possible for an observer to track both simultaneously. Then, absolute human population numbers is a species propagation phenomenon, in a way different from the numbers generated by counting newborns in country after country.

The established facts in many countries' reports of substantial declines in their rates of population growth need not keep us from seeing that prodigious growth of the global human population is occurring simultaneously. Despite two world wars, ubiquitous local conflicts, famine, pestilence, disease, poverty and other occasions for great loss of life in the 20th century, the human population has skyrocketed from approximately 1.6 billion to over 6 billion people. At least to me, the propagation of the human species worldwide we can see occurring since the year 2000 has the potential for presenting humanity with a serious challenge in the 21st century.

**********



**From: "Alex de Sherbinin" <adesherbinin@ciesin.columbia.edu>**
**To: <pernseminars@ciesin.columbia.edu>**
**Subject: [PERNSeminar_Population_and_MDG7] Conclusion of the Cyberseminar on Population Dynamics and MDG 7**
**Date: Mon, 19 Sep 2005 15:11:47 -0400**

Dear Colleagues,

The cyberseminar ended as of Friday. I would like to thank all of you for participating actively. I would especially like to thank the UN Millennium Project for co-sponsoring the seminar, and three of the project's Task Force members for agreeing to serve as invited experts: Malin Falkenmark of the Environment Task Force, Albert Wright of the Water & Sanitation Task Force, and Gabriella Carolini of the Slum Dwellers Task Force. In addition, we were privileged to have invited contributions by Roger Bonilla of the Central American Population Center (Costa Rica) and George Martine (Brazil). Each of their statements is available for download in PDF from the cyberseminars http://www.populationenvironmentresearch.org/seminars.jsp page.

As I mentioned in a previous posting, Jason Bremner and Richard Bilsborrow intend to revise the background paper for publication. We will alert PERN members when it is available. Dr. Bilsborrow has indicated that he was pleased with the number and quality of comments they received.

Let me take this opportunity to invite those of you who are not yet members of PERN to join. Becoming a member is free of charge, and you will receive approximately 8-10 What's New bulletins a year and your name, research interests and contact information will appear in the membership directory (public listing is optional but encouraged). To become a member, please follow this link http://www.populationenvironmentresearch.org/signup.jsp and fill out the online form.

The PERN Steering Committee recently had a teleconference to discuss forthcoming cyberseminar topics, and we have a number of excellent choices for 2006. We will keep you posted.

Once again, thanks for your participation, and we look forward to future seminars.

Alex de Sherbinin
PERN Coordinator.

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