

Global Sustainable Development Report (GSDR) 2019 - Call for Inputs

<<https://docs.google.com/forms/d/e/1FAIpQLSeSjDMLFP44iwTf58-aDCoKnQrNKTyprimlZa2dx7cnzpFEOW/formResponse>>

or

<<https://docs.google.com/forms/d/e/1FAIpQLSeSjDMLFP44iwTf58-aDCoKnQrNKTyprimlZa2dx7cnzpFEOW/viewform?fbzx=2306309874093889000>>

DEADLINE: 1 December 2017

Blue was uploaded to the web site by Tak Utsumi on November 18, 2017.

Background on the GSDR 2019

The GSDR, mandated by the United Nations' Member States in the outcome document of the 2012 Rio + 20 conference, is meant to strengthen the science-policy interface and provide a strong evidence-based instrument to support policymakers in promoting poverty eradication and sustainable development. Following the adoption of Sustainable Development Goals (SDGs) in September 2015, it has become a quadrennial publication, and it will be informing the 2019 High Level Political Forum for Sustainable Development (HLPF), the apex body for follow-up and review of the SDGs and the 2030 Agenda. For the first time, the report is being drafted by an independent group of scientists (IGS), supported by a task team of six UN-system agencies. The IGS was constituted in December 2016 and commenced working immediately. (Profiles of the 15 IGS members, and the mandate for the group, are found here: <https://sustainabledevelopment.un.org/globalsdreport/2019>)

Call for inputs

As part of its outreach efforts, the IGS is soliciting inputs from a diverse group of scientific and non-scientific communities, from developed and developing countries and regions, in the form of publications supported by short abstracts or descriptions of case studies. Currently, we are requesting contributions in four major areas: (1) interactions among SDGs and their targets, (2) transformation pathways towards sustainable development; (3) looking beyond the SDGs (major issues identified by research which are not explicitly taken into account in the SDGs), and (4) the role of science for sustainable development.

We are interested both in peer reviewed scientific publications and other sources of knowledge which are or can be documented in written form, i.e. reports, working papers, 'white' papers, evaluations, etc.

To make a contribution, please proceed to the section or sections of the questionnaire that you would like to complete. Please complete the "About you" fields before submitting. Contributions received will be duly acknowledged in the GSDR.

DEADLINE: 1 December 2017

I. About you

Name

Takeshi Utsumi

Email

takutsumi@glosas.org

Institution

GLObal Systems Analysis and Simulation Association in the U.S.A. (GLOSAS/USA)

Country of residence

United States of America

Country of origin

Japan

Gender

Male

Field of expertise

Computer Simulation

Select next section to answer. (If you would like to complete more than one, you will have the opportunity to do so.) *

Interactions among SDGs and their targets

Here we are calling for contributions that provide evidence of how progress towards any one of the SDGs or targets affects the set of options to reach any other Goal or target, and what solutions and/or

policies may minimize incoherence in SDGs implementation and maximize positive synergies between them.

(X) I. Interactions among SDGs and their targets

Transformation pathways

The analysis of interactions among SDGs and their targets underpins the analytical understanding of the transformations – behavioral, institutional and societal changes – needed to help achieve them efficiently and in mutually supportive ways. The IGS invites contributions on key issues, obstacles and opportunities for defining and proceeding along such transformation pathways.

(X) II. Transformation pathways

Looking beyond the Goals

While the 2030 Agenda was designed as a universal and comprehensive blueprint for the future, there are nonetheless issues and trends not mentioned in the SDGs that have the potential to have a significant impact on the achievement of the Agenda. We are seeking inputs on such issues, with an emphasis on concrete solutions for confronting them.

(X) III. Looking beyond the Goals

The role of science for sustainable development

The GSDR aims to advance the science-policy interface, in order to promote more effective sustainable development policies and their implementation. We therefore seek inputs that explore the interplay between science, policy making and society, highlighting the roles of different stakeholders in your particular context.

(X) IV. The role of science for sustainable development



I. Interactions among SDGs and their targets

With integration and inter-connectedness being central principles of the 2030 Agenda, it is clear that the 17 SDGs and their targets are inextricably linked with one another, in complex and sometimes unanticipated ways. Pursuing one SDG and its related targets may lead to co-benefits as well as complex trade-offs for reaching other SDGs, creating winners and losers in terms of development options.

There has already been considerable scholarship on the interactions among the SDGs and their targets, including this recent report (<https://www.icsu.org/current/press/new-report-from-scientific-experts-provides-a-unique-guide-to-translate-sustainable-development-goals-into-reality>) by the International Council for Science (ICSU).

The IGS would like to collect additional knowledge that may guide development actors and policy makers navigating interactions among SDGs. Here we are calling for contributions that provide evidence of how progress towards any one of the SDGs or targets affects the set of options to reach any other Goal or target, and what solutions and/or policies may minimize incoherence in SDGs implementation and maximize positive synergies between them. Please make your contribution by providing information about your knowledge source in section (a) below, and then we kindly ask you to fill in the survey in section (b) or (c), but preferably both sections. Thank you very much!

(a) Source of knowledge

Please link your publication(s) or report(s) relevant to the issue of SDG interactions. If you prefer to upload, please email as an attachment(s) to gsdr2019@gmail.com *

This section is sequel to the Section III below. So, please read it first.
Replies to this section can be made well with our ECOWAS colleagues, once our project will be funded. However, without their participation at this moment, our response is as follows.
More to be sent to the specified email address [<gsdr2019@gmail.com>](mailto:gsdr2019@gmail.com).

Please describe your analytical approach, including the methodology used. Furthermore, indicate to what spatial scale and geographical region/place your knowledge applies to and at what time span you assume your insights are valid. (3500-character limit – **actually 2000**)

On analytical approach and the methodology used, visit References in ANNEX I of our msg sent to [<gsdr2019@gmail.com>](mailto:gsdr2019@gmail.com):

We are now preparing a grant application to the National Science Foundation to work on our project with (1) University of Port Harcourt in Nigeria, (2) Kwame Nkrumah University of Science and Technology in Ghana, and (3) University of Ouagadougou in Burkina Faso for the following three years.

Major coalition institutions are:

1. Stevens Institute of Technology organizes computer simulation workshops, and maintains a central computer system through which exogenous data will be exchanged among the participating parties' simulation models.
2. GLOSAS/USA will globally coordinate this Project.
3. Millennium Institute has expertise on system dynamic simulation model.
4. Energy Mentors International LLC provides expertise on fossil fuels, clean and renewable energy systems, energy cost analysis, projects evaluation, planning, and education.
5. The Center for Understanding Change will interlink sector models of iSDG of the various ECOWAS countries,
6. Simulation Exploration Experience (SEE) & KSC, Center for Life Cycle Design, National Center for Simulation, NASA.
The mission of the SEE initiative is to champion, challenge, and create collegiate-level simulation education globally. Faculty, students, government and industry partners work together as an international inter-university team. Each university team is faculty-led and chooses its own project with Solar Energy to be the next simulation challenge.
7. School of International and Public Affairs (SIPA) at Columbia University will conduct teaching policy courses with the combined use of normative gaming negotiations and quantitative simulation models in international political science field. The focus will be on Energy Development Policy, firstly for Nigeria, Ghana and Burkina Faso, followed by other ECOWAS countries.

(1912 characters)

(b) General Insights on systemic interactions

Please describe or list the interaction or interactions (between SDGs or between individual targets within a single SDG or between targets across different SDGs) that your publication analyzes. (3500-character limit)

See the References in ANNEX I of our msg sent to <gsdr2019@gmail.com>.

Please provide a summary of your insights regarding these interactions. We invite, in particular, analysis using a systems approach to identify positive and negative feedback loops and their transformative potential for sustainable development pathways. Please describe the reasons why the interactions should be addressed, what stakeholder groups are particularly affected, and how transformation can be achieved. Finally, please mention existing knowledge gaps. Links to further information may be added as well. (3500-character limit)

See the References in ANNEX I of our msg sent to <gsdr2019@gmail.com>.

(c) Assessment of interactions between individual targets

We recognize that interactions occur at many levels, in many different geographical contexts, and over a range of time scales. It is nonetheless useful to compare the relative significance of these interactions, and to this end, we invite respondents to **use a 7-point scale (developed by ICSU in the above referenced report) to assign a value to the significance of a given interaction.** This scale is relevant to interactions among targets, characterizing positive interactions as: +1

(‘enabling’), +2 (‘reinforcing’) or +3 (‘indivisible’), and negative or trade-off interactions as: -1 (‘constraining’), -2 (‘counteracting’), or -3 (‘cancelling’). Interactions seen as neutral are given a 0. For more information on this scale, see here: <https://www.icsu.org/cms/2017/03/SDGs-interactions-framework.pdf>

Using the pull-down menus below, please **highlight up to three pairs of targets** and assess each pair with the 7 point ICSU scale described above. After you have made your selections, please provide a narrative explanation for each assessment in the fields provided. (Samples below) Given the comprehensive and universal nature of the Agenda, there are of course countless ways in which the targets can interact with each other, but we ask you to limit your analysis to the three pairs that you find most significant, based on your field of expertise. Kindly also note that your analysis should take into account the direction of the impact--action to advance the first "from" target would exert influence on the second "to" target.

For reference, please find the SDGs and their targets here:
<https://sustainabledevelopment.un.org/post2015/transformingourworld>

From targets,

Choose 3 (extracted From/To Target selections from above SDG UN link)

Goal 7. CLEAN ENERGY --

Ensure access to affordable, reliable, sustainable and modern energy for all

7.1 By 2030, ensure universal access to affordable, reliable and modern energy services

7.2 By 2030, increase substantially the share of renewable energy in the global energy mix

7.3 By 2030, double the global rate of improvement in energy efficiency **AND**

7.4 By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programs of support

To targets, Choose 3

Goal 8. ECONOMIC GROWTH --

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all in least developed countries

8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries

Goal 3. GOOD HEALTH --

Ensure healthy lives and promote well-being for all at all ages

3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

Goal 9. INFRASTRUCTURE --

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

Detailed Definition of Selected Pairs: For Review and Discussion reflecting iSDG+SIPA models and simulations for ECOWAS countries Transition to Clean and Renewable Energy

**Pair 1: From 7.1 To 8.1,
From Affordable Reliable Energy To Economic Growth
Interaction Score +2 (“reinforcing”)**

**Pair 2: From 7.2 To 3.9,
From Renewable Energy To Good Health
Interaction Score +3 (“indivisible”)**

**Pair 3: From 7.3 To 9.4,
From Energy Efficiency & Technology To Resilient Infrastructure
Interaction Score +3 (“indivisible”)**

Characters: 2315/3500

Target interactions (Pair 1)

**Pair 1: From 7.1 To 8.1,
From Affordable Reliable Energy To Economic Growth
Interaction Score +2
Assessment by 7-point scale (Pair 1)**

From target
Choose
7.1

To target
Choose
8.1

Assessment by 7-point scale (Pair 1)
Choose
2 <<< This Interaction Score From 7.1 To 8.1

Target interactions (Pair 2)

**Pair 2: From 7.2 To 3.9,
From Renewable Energy To Good Health
Interaction Score +3**

From target
Choose
7.2

To target
Choose
3.9

Assessment by 7-point scale (Pair 2)
Choose
3 <<< This Interaction Score From 7.2 To 3.9

Target interactions (Pair 3)

Pair 3: From 7.3 To 9.4, From Energy Efficiency & Technology To Resilient Infrastructure Interaction Score +3

Assessment by 7-point scale (Pair 3)

From target

Choose

7.3

To target

Choose

9.4

Assessment by 7-point scale (Pair 3)

Choose

3 <<< This Interaction Score From 7.3 To 9.4

Explanation of your 7-point assessment(s)

Using the fields below, please provide a narrative explanation of your assessments of the target pairs you highlighted above. If you highlighted more than one pair, please indicate which pair you are referring to. In each field, you can describe more than one pair, as long as you begin each description by indicating Pair 1, Pair 2 or Pair 3. (all answers have a **3500-character limit**)

(**Sample answers** are adapted from above referenced ICSU report)

Short account supporting your assessment

SAMPLE ANSWER

Pair 1 (From 2.3 to 15.1, Score -2) Intense agriculture and revenue increase based solely on agricultural productivity without sustainability may counteract ecosystem protection and increases deforestation and land degradation.

Pair 2 (From 8.8 to 3.8, Score +3) Safer working environments reduce exposure to hazardous chemicals.

Your answer

Referenced: iSDG Ref Doc,

https://docs.google.com/document/d/1L6tZbjTwWtD_S3qbjtTkoy4XrgyBNwQLx9YagkEYICM/

[pub#h.1o97atn](#)

Pair 1: From 7.1 To 8.1: (From Affordable Reliable Energy To Economic Growth)

Energy and economic policies based on robust model simulations will promote capital investment projects for extensive access to affordable, reliable, modern, and clean energy supplies in Nigeria and Ghana, and later other ECOWAS countries. The iSDG model can help build new capacity based on Levelized Cost of Electricity (LCOE) for each energy, including natural gas and renewables. The iSDG model can assess whether such energy policies can encourage through fiscal/tax incentives and subsidies the formation of joint-ventures with foreign companies for local manufacturing facilities for renewable energy equipment. The iSDG model can assess the impact of joint-venture clean energy investments on higher economic growth, more employment, lower poverty, and improved online e-learning for education and training of students and policy-makers.

Pair 2: From 7.2 To 3.9: (From Renewable Energy To Good Health)

Medical research shows the negative impact of high-carbon emissions on public healthcare costs, due to chronic pulmonary, cardiac, and cancer, caused by toxic pollutants in the air, water, and soil. The iSDG model can help build new capacity based on LCOE for each fuel, including natural gas and renewables, which cause less/no air pollution. Similar emissions and health problems exist in the Transport sector of many developing countries. They run cars and trucks on diesel and gasoline, which cause smog in urban areas. The major cities in ECOWAS have little or no electric mass-transit systems. Present technologies have lower costs of electricity from solar/wind, electric cars/trains and batteries, other renewables, and natural gas supply and power generation. Reduction in carbon and pollutant emissions by 2030 will significantly reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination from existing energy and industrial facilities and will promote construction of new clean and renewable power and transport systems in less developed countries. The effective use of preventive e-healthcare will help in online monitoring and screening populations in urban and remote areas of ECOWAS for potential disease from air and water pollution emissions due to the local power generation and transport systems.

Pair 3: From 7.3 To 9.4: (From Energy Efficiency & Technology To Resilient Infrastructure)

Extracting higher energy efficiency with improved technology in power generation and transportation offers the highest benefits at the lowest costs in ECOWAS countries. Use of the iSDG model can evaluate the impact on infrastructure from high energy efficiency and new technology with less/no carbon emissions.

For example, the iSDG model could evaluate a High-Speed Rail System (HSRS) in Ghana from south to north based on electricity generated from natural gas or wind turbines along the route. The HSRS would impact citizens, commerce of products transported by rail, food supplies imported in southern ports and distributed in northern areas.

The iSDG model could also evaluate the impact on infrastructure from “hybrid” power plants in Nigeria in many distributed generation facilities which would run on solar/wind power during the day and on natural gas during the night, until economic batteries are available.

3499 characters

Affected stakeholder groups (winners, losers)

SAMPLE ANSWER

Pair 1 (From 2.3 to 15.1, Score -2) Short-term beneficiaries may be farmers and agribusinesses, while deforestation and land degradation may affect the same stakeholders in the medium term as well as national and international stakeholders of public goods (land productivity, carbon sequestration, biodiversity, etc.).

Pair 2 (From 8.8 to 3.8, Score +3) Workers and their communities benefit from improvements in working conditions and reduction in exposure to harmful chemicals.

Your answer

Pair 1: From 7.1 To 8.1, Score +2: (From Affordable Reliable Energy To Economic Growth)

Most benefit would be to energy-intensive factories and businesses that depend on affordable and reliable energy. ECOWAS country governments will benefit from higher economic growth, foreign investment in local joint ventures, and higher employment.

Pair 2: From 7.2 To 3.9, Score +3: (From Renewable Energy To Good Health)

Consumers and manufacturers will benefit from low-cost renewable clean energy for use in power generation and transportation. Citizens living near electric power facilities and traffic congested areas will benefit from lower carbon emissions and other pollutants. Government will benefit from lower healthcare costs and preventive telemedicine and e-healthcare for chronic disease due to lower carbon emissions and toxic pollution.

Pair 3: From 7.3 To 9.4, Score +3: (From Energy Efficiency & Technology To Resilient Infrastructure)

Stakeholders that will benefit from higher efficiency and new technology energy projects include utilities, independent power producers, large industrial plants, and mass-transit systems sponsored by the Government. If efficiency gains are passed on to the consumers, they will also benefit from lower prices and convenience due to the improved infrastructure.

1,307 Characters

Policy options for transformation to sustainability

SAMPLE ANSWER

Pair 1 (From 2.3 to 15.1, Score -2)

Support multi-functional agriculture and diverse landscape mosaics by ensuring land rights and regulating access to land.

Pair 2 (From 8.8 to 3.8, Score +3)

Strengthen unions and regulate to protect labour rights and health and safety in the workplace.

Your answer

Pair 1: From 7.1 To 8.1, Score +2: (From Affordable Reliable Energy To Economic Growth)

Evaluate and propose Fossil Fuels Energy Policies with Carbon Pricing based on local cleaner energy (natural gas) and lower emissions refined low-carbon products (LPG, gasoline) to promote economic growth and employment.

Pair 2: From 7.2 To 3.9, Score +3: (From Renewable Energy To Good Health)

Evaluate and propose Renewable Energy Policies based on investment tax credits and other subsidies to promote zero-emissions distributed power generation based on solar/wind power and mass-transit systems based on electricity. Evaluate Policies for telemedicine and e-healthcare to screen and monitor patients online for chronic disease due to carbon and toxic emissions.

Pair 3: From 7.3 To 9.4, Score +3: (From Energy Efficiency & Technology To Resilient Infrastructure)

Strengthen tax and financial incentives for higher efficiency and new technology infrastructure projects in power generation & transportation.

997 Characters

Please feel free to communicate here with the Independent Group of Scientists, with any questions, comments or information not addressed above. (3500-character limit)

Cause and Effect Diagram of system dynamic modelling diagrammatically depicts the above interactions for easy understanding. We strongly suggest that you should adapt the use of system dynamic methodology – see also Decision Engineering (*) <https://en.wikipedia.org/wiki/Decision_engineering>. We would be very happy to help you on this with the Millennium Institute in Washington, DC, which is the renowned think tank on the use of this methodology, together with our telecommunication technology necessary for interlinking distributed simulation models.

(*) System dynamics is the main stream of the “Decision Engineering/Intelligence” <https://en.wikipedia.org/wiki/Decision_engineering>, which basic idea is that decisions are based on our understanding of how actions lead to outcomes. Decision intelligence is a discipline for analyzing this chain of cause-and-effect, and decision modeling is a visual language for representing these chains. Professor Jay W. Forrester at MIT, the originator of the system dynamics methodology, emphasized the importance of this understanding on the intricacies of interrelations among world social affairs over the prediction capabilities of the systems dynamics methodology. Our project is to promote this understanding among young aspiring future leaders and government officials. This is to promote rational scientific and critical thinking for the capacity building among young aspiring future leaders, federal and local government officers with the use of simulator/trainer in civil society organizations periodically – particularly along the conduct of “Peace Gaming” (*) on the issues of Winners and Losers of climate change, as transforming the adversaries to the collaborators. This understanding lead to the global peace. Senator Fulbright once said: “Learning together and working together is the first step to achieve global peace.” “Attaining Peace” should be the mandatory premise of the United Nations.

(*) The word coined by Takeshi Utsumi <https://en.wikipedia.org/wiki/Takeshi_Utsumi>, which is equivalent to the War Gaming of the US Department of Defense.

PEACE GAMING ON THE SCALE OF PENTAGON WAR GAMES

The Second Generational Multinational Forces propose adapting state-of-the-art war game strategies for peacekeeping. -- by Sarah Lum
<<http://tetworld.tripod.com/peacegaming.html>>

Utsumi, T., : "Globally Collaborative Environmental Peace Gaming" <<http://tiny.cc/gtgzoy>> -- This is a paper published at the First International Computer Communication Conference (predecessor of Internet) in Washington, DC in October, 1972 <<http://tinyurl.com/3mucrf2>>

2614 characters

Select next section to answer or submit the form *

- I. Interactions among SDGs and their targets
- II. Transformation pathways
- III. Looking beyond the Goals
- IV. The role of science for sustainable development
- Submit the form

II. Transformation pathways

The analysis of interactions among SDGs and their targets underpins the analytical understanding of the transformations—behavioral, institutional and societal changes—needed to help achieve them efficiently and in mutually supportive ways. As the 2017 Secretary-General’s SDG Report (found here <https://unstats.un.org/sdgs/report/2017/>) shows, current rates of progress are not adequate to achieve all of the SDGs by 2030, and therefore, society, institutions and individuals must make fundamental changes in order to achieve the Agenda. The global community decided on the 2030

end points, and transformation pathways must be developed in order to get us to that destination—to take us from where we are now to where we want to be. Transformations will allow for more win-win situations, and help minimize the trade-offs that currently characterize some SDG related policies or solutions. Clear priorities (which may differ according to different regions and countries) for investments, policies and changes aimed at promoting sustainable development must be defined.

The IGS, therefore, invites contributions on key issues, obstacles and opportunities for defining and proceeding along such transformation pathways.

Please link your publication(s) or report(s) that describes a transformation (or transformations) that advances the 2030 Agenda, particularly one that is based on interactions among SDGs and/or their targets. The publication(s) or report(s) can address a pathway or roadmap that will achieve the needed transformation and that can guide various stakeholders involved in sustainable development (e.g. researchers, policy makers, professionals, civil society) in their pursuit of the 2030 Agenda. If you prefer to upload, please email as an attachment to gsdr2019@gmail.com. *

This section is sequel to the Section III below. So, please read it first.

Replies to this section can be made well with our ECOWAS colleagues, once our project will be funded. However, without their participation at this moment, our response is as follows.

More to be sent to the specified email address <gsdr2019@gmail.com>.

Please describe this transformation and the pathway that will lead to it. Flows between administrative borders—which may shift burdens, create positive externalities and raise issues of subsidiarity—will be of particular interest. Please indicate the relevant geographical areas and whether the transformation occurs at the local, national, regional and/or global levels. Feel free to indicate several levels if appropriate. (3500-character limit)

Our Nigerian colleagues will work with us on their “Transition from Fossil Fuel to Clean Renewable Energy.” It is said that 40% of their off-shore oil goes to the U.S., since it is low sulfur preferred for power generation plants with low corrosions, hence 95% of the Nigerian government revenue comes from it. On the other hand, former Vice President Al Gore proposed to reduce 30% of such oil usage for electricity generation in the U.S. When this policy is enacted, it would be a serious blow to the Nigerian government’s revenue.

Our project plans to study the interactions between the both countries as interlinking socio-economic-energy-environmental system dynamics simulation models of both countries via broadband Internet. Incidentally, this model-based quantitative simulation will be in addition to the current normative (role-playing) qualitative gaming on the off-shore oil discovery scenario in Nigeria, which gaming study has been going on for the past 7 years at the School of International & Public Affairs (SIPA) of Columbia University.

Our study will include the installment of clean energy generation plants in remote rural areas to where we can extend global e-learning and e-healthcare via broadband WiFi with the use of Japanese ODA fund.

Our Ghanaian colleague will work with us on the installment of high speed rail system (HSRS) as introducing Japanese Shinkansen (a bullet train) technology. This will be run with electricity generated by wind as the case of all rail-road system in the Netherlands. This will also be made with the use of Japanese ODA fund.

The studies with the interlinked system dynamics simulation models for Nigeria and Ghana will certainly bring social transformation along meeting with the Sustainable Development Goals (SDGs).

(1,779 characters)

Please feel free to communicate here with the Independent Group of Scientists, with any questions, comments or information not addressed above. (3500-character limit)

Your answer



III. Looking beyond the Goals

While the 2030 Agenda was designed as a universal and comprehensive blueprint for the future, there are nonetheless issues and trends not mentioned in the SDGs that have the potential to have a significant impact on the achievement of the Agenda. We are seeking inputs on such issues, with an emphasis on concrete solutions for confronting them. A strong basis in scientific evidence will be critical, and future-oriented creative thinking will be needed as well.

Please link your publication(s) or report(s) that analyzes an issue, not explicitly mentioned in the SDGs, that has the potential to undermine the Agenda's overall success if it is not addressed (or that has the potential to have an unexpected positive impact).

**If you prefer to upload, please email as an attachment
to gsdr2019@gmail.com. ***

This section is sequel to the Section III below. So, please read it first.
Replies to this section can be made well with our ECOWAS colleagues, once our project will be funded. However, without their participation at this moment, our response is as follows.
More to be sent to the specified email address <gsdr2019@gmail.com>.

Please provide a short description of this issue, noting that it can be either newly emerging or an old concern on which there are new science-based insights, or an old issue that has been neglected for other reasons. (3500- character limit)

A simulation is an indispensable tool for decision-making since world phenomena are getting more complicated beyond human perception. There is also an urgent need to promote a rational, scientific and critical thinking approach to policy analysis and decision-making among government officials and future leaders based on facts and figures, especially on confrontation-prone issues. System dynamics simulation model can foster such thinking with the use of “integrated SDG” (iSDG) model of the Millennium Institute <<http://www.isdgs.org/#!/documentation/kri3x>>.

For the sake of accuracy of the model, we advocate that each sector model of the SDGs needs to be constructed separately by the experts of the sector with their computers located at their premises, and there are 17 sectors in the SDGs. We plan to interlink those 17 distributed simulation models together with the use of the NASA/SEE’s Distributed Observer Network (DON) <<https://software.nasa.gov/software/KSC-13775>> and/or the system dynamics solver of the Center for Understanding Change (C4UC). This will produce a comprehensive socio-economic-energy-environment model of an individual country.

The comprehensive country models will then be interlinked with our proprietary technology to form “Electronic ECOWAS” since “No Single Country Can Exist Alone.” This will enable them to study any economic consequences out of, say, EBOLA epidemic.

Leaders also need to learn how to live peacefully with their neighbors. A more thorough knowledge and understanding of their inter-relationships offer the possibility of transforming adversaries into global collaborators. We are now creating “Electronic ECOWAS” in cooperation with Global University System (GUS), which is a UNESCO/UNITWIN/Networking/Chair program at the University of Tampere in Finland, which was established with a fund from the World Bank in 1999. This is a consortium of major educational and healthcare institutions in ECOWAS countries -- So far, University of Port Harcourt in Nigeria, Kwame Nkrumah University of Science and Technology in Ghana, and University of Ouagadougou in Burkina Faso. This will later be expanded to “Electronic African Union” and eventually “Electronic United Nations.”

GUS in each ECOWAS country will then act as a think-tank to advise policy for fulfilling SDGs to their local governments as well as to enhance their capacity building of young federal and local government officers and aspiring young future leaders with global e-learning and e-healthcare, on their policy analysis and decision-making with the use of their socio-economic-energy-environment simulation models as promoting rational scientific and critical thinking among them.

This will provide regular and transparent global cooperation with collective and shared responsibilities in a democratic fashion.

(2,836 characters)

Please outline policy options for addressing this neglected issue. (3500- character limit)

In the past over four decades, we have prepared to this direction;

- (1) Initiated globalization of Internet (2 blogs at <http://tinyurl.com/3mucrf2>),
- (2) De-monopolized and de-regulated Japanese telecom policies <http://tiny.cc/0274ny> <http://tiny.cc/8xseoy>, these two actions were emulated in various countries and enabled more than 4.5 billion people around the world use email and cell phones nowadays, in a sense, we have made a social transformation precedence in global scale with the policy-change made in 1970s.
- (3) Initiated “Global Lecture Hall” global video-conferencing <http://tiny.cc/1874ny> which initiated global e-learning and e-healthcare movements,
- (4) Established “Global University System (GUS)” UNESCO/UNITWIN/Networking Program at the University of Tampere, Finland with the fund from the World Bank <http://tiny.cc/mb84ny>, -- major higher educational institutions of participating countries will become members of this GUS as forming federated network of academic experts,
- (5) Interlinked GLORIAD (Global Ring Network for Advanced Application Development – total \$300 million from various governments https://www.revolvy.com/topic/GLORIAD&item_type=topic) broadband network with ACE (Africa Connect with Europe -- \$700 million from European Union <https://www.africaconnect2.net/Pages/Home.aspx>) optical submarine cable along west coast of Africa, thus enabling Africans to connect with numerous advanced research and higher educational institutions in northern hemisphere.

We are now forging ahead to the next development stage with our technologies on the interlinking distributed simulation models in regional, national, and local level to form “Electronic ECOWAS,” “Electronic African Union,” and ultimately “Electronic United Nations.”

For the successful implementation of the SDGs, it is absolutely necessary to have spirits of togetherness with sharing and collaboration among participants on every level.

The SDGs is still a very new concept, especially in developing ECOWAS countries. We will then firstly provide comprehensive and intensive education about it among faculties and graduate students at selected higher educational institutions in those countries. This education will include not only the SDGs but also negative/positive feedback and cause-and-effect mechanisms of system dynamics based on Cybernetics Theory. They will then construct scenarios for normative (role-playing) qualitative gaming and model-based quantitative simulation.

The execution of the country model will be available in repetitive mode – even at WiFi spot -- to form a simulator/trainer, which transform the acquired knowledge to wisdom as par “Acquired Knowledge with Action Becomes Wisdom.”

Education about the SDGs, system dynamics methodology, simulator/trainer will be made for the capacity building of federal and local government officers and young aspiring future leaders in civil society organizations periodically – particularly along the conduct of “Peace Gaming” (mentioned above) on the issues of Winners and Losers of climate change, as transforming the adversaries to the collaborators.

The participating GUS academic groups (Nigeria, Ghana, and Burkina Faso, so far) will construct application for the Japanese ODA with the use of comprehensive study with the SDGs simulation models they have developed.

3,338 characters

Please indicate whether you would be willing to prepare a background paper on this issue, if requested.

Yes

No

Please feel free to communicate here with the Independent Group of Scientists, with any questions, comments or information not addressed above. (3500 - character limit)

We have now received an invitation to submit a full grant application to the US National Science Foundation (NSF) (*) on our project of "Creating Electronic ECOWAS," which application is titled “Globally Collaborative Research Network for SDGs.” We would be greatly appreciated if you can kindly introduce us to some technical person at the Statistic Division of the UNDESA. We would like to find out if our simulation models of SDGs can align with their data gathering system, and if we can utilize their data system for our simulation models.

(*) Our project affiliates with NASA’s lunar exploration simulation program, “Simulation Exploration Experience (SEE)” <<https://www.exploresim.com/>>, which is mentioned above. Our ECOWAS colleagues are now joining to it. This and NSF’s fund would make our ECOWAS colleagues to doubly eligible to apply for a grant to the Partnerships for Enhanced Engagement in Research (PEER) program <https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504726>.

If they have a global data bank, and if our simulation model can make real-time access to the data bank, our simulation model could become a real-time simulator/trainer for young policy analysts and aspiring future leaders (**), as enabling their hands-on

learning as pa “Knowledge with hands-on learning would become wisdom,” e.g., the “Peace Gaming” (mentioned above) among ECOWAS countries along the economic consequences at the outbreak of EBOLA, which could often transform adversaries to collaborators.

(**) President Obama once made an analogy between the US economy and a huge oil tanker. Since there is now a simulator/trainer for the captain of such a ship maneuvering through, say, New York harbor, why not to have a simulator/trainer for, say, ECOWAS countries?

Since we are in New York City area, we would be very happy if we can come to your office at the UNDESA to describe our project – preferably any day (after 2:00 pm) from November 1st (except Thursday due to a teaching duty).

Lastly, your web site did not have “SAVE” at the end, so that we had to reload all the items whenever we had to revise the entries. Please provide such a feature at your web site in the future.

2,181 characters

IV. The role of science for sustainable development

The GSDR aims to advance the science-policy interface, in order to promote more effective sustainable development policies and their implementation. We therefore seek inputs that explore the interplay between science, policy making and society, highlighting the roles of different stakeholders in your particular context.

Please link a publication(s) or report(s) that analyzes the science-policy interface, with an emphasis on innovative examples relevant to the SDGs. If you prefer to upload, please email as an attachment to gsdr2019@gmail.com . *

This section is sequel to the Section III above. So, please read it first. Replies to this section can be made well with our ECOWAS colleagues, once our project will be funded. However, without their participation at this moment, our response is as follows. More to be sent to the specified email address <gsdr2019@gmail.com>.

Based on this publication or report, please describe the underlying model, mechanism or process of science-policy, science-society or

science-policy-society interface, that demonstrably advances sustainable development. Kindly note that the context can be countries, regions, or systems, and that the examples should be strongly rooted in scientific evidence. You can also include examples of negative impacts. (3500- character limit)

[See the reference papers listed above.](#)

Please feel free to communicate here with the Independent Group of Scientists, with any questions, comments or information not addressed above. (3500- character limit)

Overall, there is also the point that while we are proposing to do this ECOWAS Energy study in our project using iSDG model mentioned above, there is also value in applying the iSDG model more broadly. It would be a very valuable tool for UNDESA to use in more of its SDG work to help more countries develop and implement better policies over time and avoid negative side effects. We would be happy to work with UNDESA on this.

429 characters