

# Next Steps for advancing Gender Summit' Contribution to the UN SDGs

**10-11:15am, Friday, January 28, 2016**

**Heisook Lee Ph.D.**

**Gendered Innovation research Center(GIRC)**

# Gender Dimensions in STEMM Research



# Seoul Gender Summit Declaration

## Seoul Gender Summit Declaration to Advance Gendered Research, Innovation and Socio-economic Development in the Asia Pacific



# Gender-based Innovation for the UN SDGs

“Just to have **one** of the 17 Sustainable Development Goals devoted to gender equality, I think this is not enough... every SDG must have a gender dimension. **I would like to suggest that gender is the overarching goal of all the sustainable development goals.**”

- **Lee Yee Cheong** at the **GS6-AP**  
Malaysian Chairman, UNESCO (ISTIC)



A collage of images related to gender equality and sustainable development. It includes a woman in a blue sari standing in a field of red flowers, a woman in a purple patterned top standing in front of a building labeled "TREASURY", and a group of people wearing hard hats. A large white circle in the center contains the ADB logo and the text "SUSTAINABLE DEVELOPMENT GOALS" and "Join the conversation. #action2015". To the right of the collage is a red square with the number "5" and the text "GENDER EQUALITY" and a white female symbol with an equals sign inside. Below this is the text "End all forms of discrimination and eliminate all forms of violence against all women and girls everywhere".



# The Role of Gender-based Innovations for the UN SDGs

## Toward 2030 : Better Science and Technology for All

### The Role of Gender-based Innovations for the UN Sustainable Development Goals

Toward 2030: Better Science and Technology for All



Edition 1

Managing Editors: Prof Heiseok Lee & Dr Elizabeth Pollitzer



#### Goal 1 End poverty in all its forms everywhere

Extreme poverty rates have been cut by more than half since 1990. While this is a remarkable achievement, one in five people in developing regions still live on less than \$1.25 a day, and there are millions more who make little more than this daily amount, plus many people risk slipping back into poverty. Poverty is more than the lack of income and resources to ensure a sustainable life: limited access and exclusion. Economic growth promotes equity

what the learning points are, and how these might be replicated or adapted in other situations.

Gender-related poverty considerations in assessment of impact of large infrastructure projects, such as energy, transport, communication on livelihood-providing ecosystem services.

#### Existing Research relevant to SDG1

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Clancy JS, Skutsch M and Batchelor S. (2002) *The Gender-Energy-Poverty Nexus. Finding the energy to address gender*

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Madise N, Zulu E and Ciera J. (2007) *Is poverty a driver for risky sexual behavior? Evidence from National Surveys of Adolescents in Four African Countries*. *African Journal of Reproductive Health* 2007; 11(3): 83-98.

UN-Women. (2014) *The World Survey on the Role of Women in Development 2014: Gender Equality and Sustainable Development*. UN-Women. [unwomen.org/en/digital-library/publications/2014/10/world-survey-2014](http://unwomen.org/en/digital-library/publications/2014/10/world-survey-2014)

#### SDG1 Targets: Snapshot of Topics

Eradicate extreme poverty

Reduce the number of people (women, children) living in poverty, and made vulnerable through experiencing a variety of poverty dimensions

Implement social protection systems in rural and urban areas for the poor and vulnerable

Ensure equal rights to economic resource basic services, ownership and control over and other forms of property, inheritance, natural resources, new technology, financial services

Build resilience of the poor and those in vulnerable situations to climate-related extreme events, and other shocks and disasters

Enhance cooperation and mobilization of resources, to end poverty in all its dimensions

Create policy frameworks based on pro-gender sensitive development strategies support accelerated investment in poverty eradication actions

#### Gender knowledge needed to achieve SDG1

Determinants of rural-urban poverty, effectiveness of the coping strategies by women and men.

Gender-sensitive multi-dimensional conceptualisation and measurement poverty and its relationships with gender inequality, gender norms, and gender stereotypes of poverty.

Gender factors in accessing and benefiting from ecosystem services (e.g. as source of cash, food, employment links to poverty alleviation).

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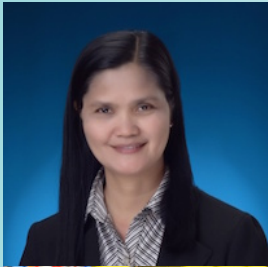
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# UN SDGs and Gendered Innovation Forums



2016 WISet Gendered Innovation Forum

## UN SDGs and Gendered Innovation Forum

2-4pm, Thursday, January 28, 2016



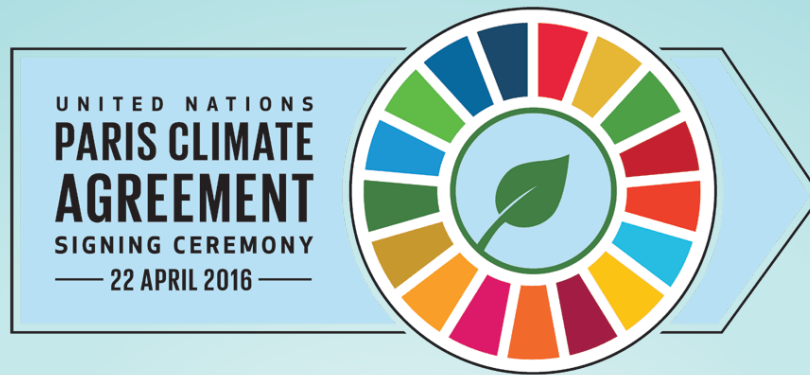
**Conference: Gender-based Innovation for the  
UN SDGs organized by WISet and UN SDSN**

**Date: 2015.12.18**

**Venue: Press Center, Seoul, Korea**

**<Photo=Reporter Jin Young Song>**





More than 170 governments declared an end to the fossil fuel era on April 22, 2016 , using the signing ceremony for the landmark Paris agreement as an occasion to renew their vows to fight climate change.

# Understanding of gender dimension in Climate Change

## Energy consumption in buildings and female thermal demand

Boris Kingma\* and Wouter van Marken Lichtenbelt

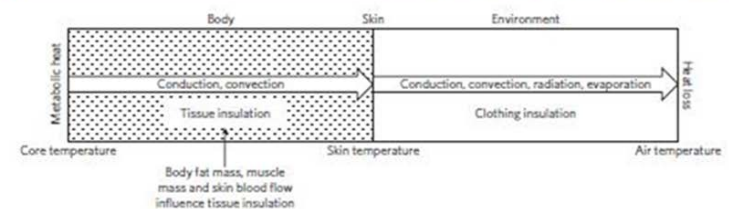
Energy consumption of residential buildings and offices adds up to about 30% of total carbon dioxide emissions; and occupant behaviour contributes to 80% of the variation in energy consumption<sup>1</sup>. Indoor climate regulations are based on an empirical thermal comfort model that was developed in the 1960s (ref. 2). Standard values for one of its primary variables—metabolic rate—are based on an average male, and may overestimate female metabolic rate by up to 35% (ref. 3). This may cause buildings to be intrinsically non-energy-efficient in providing comfort to females. Therefore, we make a case to use actual metabolic rates. Moreover, with a biophysical analysis we illustrate the effect of miscalculating metabolic rate on female thermal demand. The approach is fundamentally different from current empirical thermal comfort models and builds up predictions from the physical and physiological constraints, rather than statistical association to thermal comfort. It provides a substantiation of the thermal comfort standard on the population level and adds flexibility to predict thermal demand of subpopulations and individuals. Ultimately, an accurate representation of thermal demand of all occupants leads to actual energy consumption predictions and real energy savings of buildings that are designed and operated by the buildings services community.

is linked to thermal discomfort through the PPD (ref. 9). Two main input variables for the model are metabolic rate and clothing insulation; however, the accuracy of these variables is in general poorly defined<sup>10,11</sup>. Nevertheless, standard reference values for the metabolic rate and clothing are tabulated and used worldwide<sup>2,12,13</sup>. With respect to the metabolic rate, the metabolic equivalent (MET) is used to express the metabolic cost of an activity relative to the resting metabolic rate, and its value (1 MET = 4.186 kJ kg<sup>-1</sup> h<sup>-1</sup> ≈ 58 W m<sup>-2</sup>) is set by convention based on the resting metabolic rate of only one 70 kg, 40-year-old male<sup>3</sup>. This may have significant consequences because 58 W m<sup>-2</sup> may overestimate resting heat production of women up to 35% (ref. 3). Similarly, with increasing age, basal metabolic rate decreases<sup>14</sup>. Thus, current indoor climate standards may intrinsically misrepresent thermal demand of the female and senior subpopulations<sup>10,15</sup>. The PMV/PPD model uses the metabolic rate to calculate the environmental conditions that satisfy thermal balance between the body and the environment (see Fig. 1, right part: skin to environment). However, from a biophysical perspective, thermal balance within the body has to be satisfied as well (see Fig. 1).

Thermal balance within the body is dictated by both metabolism and the composite thermal insulation provided by tissues (that is, body composition and skin blood flow). The influence of



## LETTERS



**Figure 1 | Schematic view of human heat balance.** Heat balance from core to skin (within body) and from skin to air (between body and the environment). The open arrows denote heat flow within the body via conduction through tissues and convection through blood flow; and between the body and environment via conduction, convection, radiation and evaporation. Body tissue insulation provides resistance to metabolic heat within the body and determines the temperature gradient between core and skin. Likewise, clothing also provides resistance to body heat loss and co-determines the temperature gradient between skin and air.

# Grandma Solar engineers, Barefoot College Empowering villages and women





# Sustainability Science & UN SDGs: Analysis of Elsevier



## ANNUAL GROWTH RATE IN PUBLICATIONS

7.6%, double the Scopus average growth rate

## FIELD-WEIGHTED CITATION IMPACT

30% higher than the world average in the period 2009-2013

## INTERNATIONAL COLLABORATION

African countries are well connected with the USA, Canada and Europe

## HOT TOPICS IN INTERDISCIPLINARY RESEARCH

Pollution & health, water, and energy & fuels

This analysis better connects science and SDGs and may attract more scientists into the field of sustainable development.

# The Role of Gender-based Innovations for the UN Sustainable Development Goals

*How Gender Summit  
can contribute to the UN SDGs?*

*“What are our next steps?”*

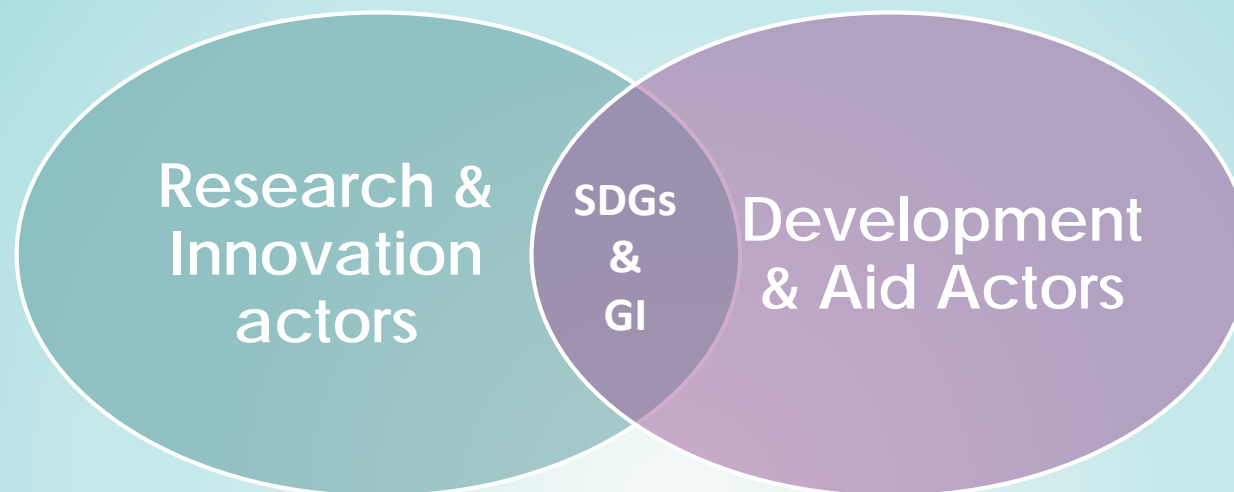
# Advance scientific evidences of gendered research embedded in SDGs

- Explain how gender matters in each 17 UN SDGs
- Produce big data analysis on gender dimensions in science connecting 17 UN SDGs as in the Sustainability Science
- Produce new knowledge and scientific evidence relevant to the targets of each SDGs
- Develop case studies how the different gender parameters interact for the successful implementation toward SDGs
- Promote cross cutting benefits of adapting gender based research and innovation relating sustainable development
- Produce practical examples of SDGs implementation actions which link to Seoul Gender Summit Declaration

# Promote knowledge exchange partnerships

- ▶ **Set up standing scientific advisory board with leading experts in Science and Sustainable development**
- ▶ **Set up regular dialogue between researchers and development experts**
- ▶ **Build continuing partnership with higher education to implement gender and sustainability science agendas into curriculum**
- ▶ **Work closely with media to increase better public understanding of better impact and benefits of gendered innovation towards SDGs**
- ▶ **Promote and connect outreach programs linking gender based innovations and SDGs**

# Connect & Communicate to Create SDGs & GI actors



**Gender Summits**  
**Funding Agencies**  
- NIH, NRF, NSF, . . .

**EU H2020**

**Professional Journals**  
**Societies & Associations**  
GenPort, KOFWST,  
Elsevier Foundation,

**UN:**

UN Women, UNDP, UNESCO, UNIDO,  
UN ESCAP, UNCTAAD. . .

**OECD,**

**USAID, EuropeAID,**

**World Bank, ADB,**

**NordForsk**

**Oxfam,**

**UN 2030 SDGs Korea Network just created recently.**

**Gracias**  
**Thank you**

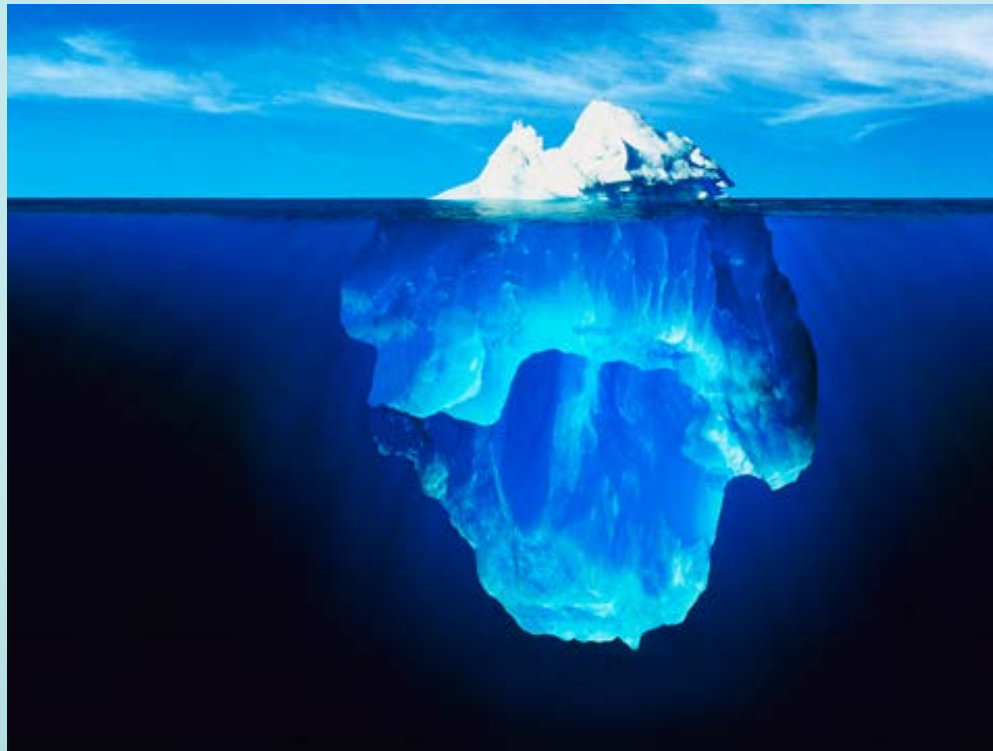


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