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Towards sustainable societies: the transformative vision, perspective and role of women



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Outline

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- Sustainable societies and global challenges
- The transition towards sustainability: the unity of knowledge
- Women, science, sustainability and gender equality
- Sustainable societies have a women's face







Sustainable society: addressing global challenges

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- Poverty
- Health
- **Global climate change**
- □ Loss of biological diversity
- Weakened ecosystem services

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- Natural disasters
- Energy crisis
- Water stress



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Which kind of knowledge to address global challenges and build sustainable societies?

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- From the analytical approach towards integration of elements to complex systems
- Breaking down of disciplinary boundaries
- Bridging academic and nonacademic world in order to connect research and social changes towards sustainability

Science is built of facts the way a house is built of bricks; but an accumulation of facts is no more science than a pile of bricks is a house" (Henri Poincaré)

The unity of knowledge



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The new landscape of science

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Transition to sustainability

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"a transition from the period when humans were a disruptive force on the planet Earth to the period when humans become present to the planet in a manner that is mutually enhancing"

Thomas Berry, The Great Work: Our Way into the Future



The Sustainability Discourse

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- Innovative holistic perspective on the human and ecological dimension of society
- Opportunities to reconnect science to society and to build a new basis for research and development as a key precondition for both science and society to flourish
- Democratic and participatory process of changes and transformation



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Transition to sustainability: sustainable science

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- Sustainable science is aimed at finding sustainable solutions in a complex world characterised by factors which may be generated locally, but with their impacts affecting people globally and across generations
- Sustainability science as complexity science
- Interaction of multiple-complex, dynamic, non-linear, self-organising systems under conditions of increasing uncertainty
- Sustainability science implies not only involving different disciplines, but going beyond disciplines towards « transdisciplinarity »



Trandisciplinarity: dialogue and mutual learning

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focus on lifeworld problems

□ transcending and integrating disciplinary paradigms

participatory research; and

□ the search for a **unity of knowledge** beyond disciplines.



UNESCO's Action towards sustainability and transdisciplinarity

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□ The important MAB (Man and the Biosphere Programme) with over 580 sites - 114 countries around the world

□ The Intergovernmental Oceanographic Commission, an extremely important programmes relating to the oceans

□ The International Hydrological Programme related to the management of the water resources

International Geological Correlation Programme

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Connecting women, science and sustainability

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Gender equality and Sustainable Societies: a close interconnection

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Sustainable society means:

- □ Social and economic justice
- Poverty alleviation
- Women's rights
- Women's empowerment
- Sustainability
- Participation

All are women's issues



Figure 1. The gender gap in science

Women as a share of total researchers, 2007 or latest available year

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Source: UNESCO Institute for Statistics, September 2009.



Gender Gap in STI : some figures

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- In 121 countries with available data, women represent slightly more than one-quarter of researchers (29%). but regional disparities occur, for example 46% in Latin America and the Caribbean compared to 15% in Asia
- In 37% of these countries, they represent less than one-third.
- Only about 15% of countries have achieved gender parity, and only a handful of others have more female researchers than male.
- In Africa, it was estimated that about 33% of researchers were women. In Guinea, the female share was as low as 5.8% (data for the year 2000), while the highest share was found in Lesotho at 55.7% (in 2004).



A new insight on why women opt out of Science, Technology, Engineering and Mathematics (STEM)

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More women show interest when:

□ S&T is intimately connected to solving human problems and maintaining the environments on which people depend for their quality of life

□ S&T is seen as communication, a way to connect people in terms of enable communities to strengthen their activities and culture, and maintain themselves in a globalized world

□ The S&T agenda is shaped by women's needs, perspectives and values.





Inspiring, - Promoting – Engaging the next generation of women scientists:

the challenge of sustainability and transdisciplinarity

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- Going beyond figures and numbers
- Beyond the affirmative action and equality itself to transformation
- Increasing the number women in science higher education, in scientific careers and in heading scientific institutions is only the first and necessary step, *"a conditio sine qua non"*



The active participation of women in sustainable society have been ignored by many development plans: women as *beneficiaries*

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UNESCO's vision on Gender S&T for sustainable societies

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Facilitating the integration of gender perspectives, vision, knowledge and skills in the design, implementation and evaluation of STI policy;

Empowering women as **agents of change** and not just beneficiaries of STI.



Holistic Science and Technology Policy Design

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Gender perspective linking:

- knowledge
- policy
- values
- economy
- ecology
- society
- national regional and international environment



UNESCO's Commitment to Gender Equality and to S&T and Engineering in Natural Sciences

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- Supporting the participation of women in the definition of problems, priorities, methodologies, and the design and uses of S&T shaping the science policy agenda.
- Emphasis on **networking**, **research**, **advocacy**, **capacity-building** and sharing of good practices to producing science policy that fully integrate the gender equality perspective
- Supporting **key role of women** in the transmission, preservation and elaboration **of local and indigenous knowledge** related to sustainable development, natural disaster preparedness and response, biodiversity conservation and climate change
- Particular focus on gender dimensions of engineering and basic sciences. Activities include the UNESCO-L'OREAL Partnership "ForWomen in Science" consisting of fellowships for young women scientists
- Gender mainstreaming in water sciences, capacity development, education and research via the activities of IHP and WWAP. and improving gender balance in water-related networks
- In the ecological and earth sciences, the importance of the role of women and **gender-balanced approaches in biodiversity conservation** through the MAB programme

UNESCO's Programme and Budget for 2010 and 2011 (36 C/5)



Sustainable societies have a woman's face

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Knowledge, experiences, vision and reflections of women have been in some case crucial to the creation of the concept of sustainable development



Gro Harlem Brundtland





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"Sustainable development is development that meets the needs of the present without compromising the ability of future generations"

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Chipko movement





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'What do the forests bear? Soil, water and pure air'.



Rachel Carson



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"It is a wholesome and necessary thing for us to turn again to the earth and in the contemplation of her beauties to know of wonder and humility"

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Barbara Ward





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"We have forgotten how to be good guests, how to walk lightly on the Earth as its other creatures do.."

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"Throughout Africa, women are the primary caretakers, holding significant responsibility for tilling the land and feeding their families. As a result, they are often the first to become aware of environmental damage as resources become scarce and incapable of sustaining their families."



Final words Building sustainable societies: a great scientific, ecological and ethical challenge

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Women have some answers as well as new questions: all around the world they have built alternatives that are based on different values, different visions of the future.

Vision of solidarity rather than competition, transformative action, construction rather than destruction



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