Present and future of gender equality policies in higher education:
contributions to human and sustainable development

Compiled by **Gloria Bonder**

Coordinator of the UNESCO Regional Chair on Women,
Science and Technology in Latin America
Coordinator of the UNITWIN Network on Gender Equality

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Prologue[1]

The articles gathered in this publication were prepared by representatives of UNESCO Chairs[2] that integrate the UNITWIN Network on Gender Equality[3], coordinated by the UNESCO Regional Chair, Women, Science and Technology in Latin America, based at the Latin American School of Social Sciences (FLACSO) Argentina.

They all share descriptions, analyses and proposals on the role that Higher Education (HE) plays, and/or needs to play, in order to promote and guarantee gender equality as a fundamental condition for improving the quality of learning processes, its representativeness in research and its contribution to the development of equal, just, supportive, safe and sustainable societies. Many of them provide a historical overview of the role played by university institutions in the construction of paradigms, values and social practices that reproduce diverse forms of inequality, including those related to gender. Therefore, they stress the urgent need to promote significant changes in these institutions in order to achieve the above mentioned goals, although they also warn about the obstacles and resistances that this proposal raises both in universities and in some sectors responsible for designing and implementing public policies.

Although not all the articles are based on the same theoretical and methodological approaches, they share a fundamental premise: the urgent need to mainstream the gender equality perspective in university policies and its cultures. Based on this

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[1] Mercedes Tissera Carón, member of the UNESCO Regional Chair in Women, Science and Technology, collaborator in the elaboration of the document.

[2] Ronni Alexander - UNESCO Chair on Gender and Vulnerability in Disaster Risk Reduction Support, Kobe University, Japan.
Virginia Maquieira D'Angelo- UNESCO Chair on Policies on Gender and Equal Rights between Women and Men, Universidad Autónoma de Madrid, Spain.
Araceli Alonso and Teresa Langle de Paz - UNESCO Chair on Gender, Wellbeing and a Culture of Peace, University of Wisconsin-Madison, USA.
Mary Koutselini - UNESCO Chair on Gender Equality and Women's Empowerment, University of Cyprus, Cyprus
Rosa Rojas Paredes - UNESCO on Chair Gender, Leadership and Equity, Universidad de Guadalajara, México.
Patricia Ruiz Bravo and Aranxa Pizzarro - UNESCO Chair on Gender Equality in Higher Education Institutions, Pontifical Catholic University of Perú, Perú.
Elyès Jouini and Thomas Breda - UNESCO Chair on Women and Science, Université Paris Dauphine-PSL, Francia.

[3] The UNITWIN Network on Gender Equality was created in 2023. Its antecedent is the Global Network of UNESCO Chairs in Gender that was created in 2010 by UNESCO together with the UNESCO Regional Chair for Women, Science and Technology in Latin America. The Network is currently integrated by 16 UNESCO Chairs from different countries that develop research, training and advocacy activities on gender-related issues.

assumption, valuable questions have been formulated in order to understand the current situation of university environments and their relationship with social contexts. Among them: How do gender inequalities express in Higher Education Institutions (HEIs) and how do they relate to the socioeconomic and cultural conditions of different countries? What actions, policies and/or programs are currently being implemented in universities to promote and integrate gender equality, with what strategies and methodologies, and what are their results? Which role should HE play to contribute to the achievement of the 2030 Agenda and the Sustainable Development Goals (SDGs)? How to build a responsible and proactive university practice attentive to the social, economic and cultural problems that persist and intensify in different contexts? What socio-cultural, economic, political and technological factors are affecting HE and what are their different consequences?

The articles of the Chairs from Peru, Mexico, Cyprus and France share some views on the persistence of gender inequalities in university environments and practices, despite the progress made in recent decades. They highlight the increasing access to HE of historically excluded social groups, especially women and gender diversities. They also propose to expand and strengthen the changes achieved through the implementation of policies and programs that transform institutional structures and cultures, questioning the knowledge and values that reproduce sexist assumptions in research, curricula and pedagogical practices.

Patricia Ruiz Bravo and Aranxa Pizarro Quiñones in their paper "Trouble in Academia? Gender Equality in Higher Education Institutions", point out the contributions of research and feminist analysis in order to expose a university model based on meritocratic values, with the aim of promoting the progress of "objective" knowledge and achieving academic excellence based on traditional canons. Their critique shows how this approach has contributed to the "naturalization" of different manifestations of gender-based violence, among other problems.They present the actions carried out by their UNESCO Chair to make the university community aware of these problems and promote their eradication. They raise the importance of building links with other HEIs, both regionally and internationally, to enhance these processes of change.

The article by **Rosa Roja Paredes, "Gender Policies in Public Higher Education Institutions in Mexico"** share this last argument. It highlights the value of connection and collaboration at the national, regional and international levels, particularly among UNESCO Chairs on gender, to increase the legitimacy of proposals for institutional

transformation promoted by international recommendations[4]. It also highlights a process that is not usually mentioned in studies on gender equality policies in universities: the contributions of the four waves of feminism to the early advances in the institutionalization of the gender equality perspective in Mexican HEIs. According to the author, this set of factors had positive effects in strengthening transformations in the normative order, the governance and management of institutions, the dissemination of knowledge, and particularly, the link between the university and the society.

Thomas Breda and Elyès Jouini, in their paper "Girls underrepresentation in math" thoroughly analyze the causes of gender inequalities in scientific fields, particularly in mathematics, provide explanations for this phenomenon and recommendations for overcoming it. They propose a wide range of strategies to reduce gender gaps and encourage the participation of women in these fields. Among them, the development of longitudinal analyses that contribute to the understanding of the manifestations of inequality in the different educational stages and in the professional lives of those who choose them. They also suggest studies that relate gender inequalities to other social inequalities.

Another group of articles, integrated by the articles of the UNESCO Chairs of Spain, Japan and the United States, emphasizes the importance of the effective commitment of HE to the fulfillment of the 2030 Agenda for sustainable development, and in particular, with the SDG 5[5]. Although they recognize the theoretical and methodological challenges for achieving these objectives, they highlight the contribution of ongoing experiences in their contexts, and suggest other interventions that should be developed in the future.

The article **"The 2030 Agenda for sustainable development and gender equality. Transformative tensions" by Virginia Maquieira** highlights the critical and creative potential of this Agenda.She questions the discourses that characterize it as a merely rhetorical instrument and highlights its capacity to provide evidence to support transformations in multiple social dimensions. Also recognizes that its wide dissemination and acceptance by different actors has contributed to the development of a global awareness of the risks of current social, economic and political models. The author recommends that gender studies should play an active role in this process, from within the university level, by transforming teaching practices, questioning the legitimacy

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[4] Among the international recommendations, Rosa Rojas Paredes highlights the CEDAW, UNESCO's World Declaration on Higher Education for the 21st Century, the 2018-2028 Action Plan of the Third Conference on Higher Education in Latin America and the 2030 Agenda.
[5] Sustainable Development Goal 5 defined by the United Nations is focused on "Achieving gender equality and the empowerment of all women and girls".

of established knowledge, encouraging cooperation between the university and public, private and civil society organizations.

In a similar regard, **Ronni Alexander in "Contributions from higher education to a safer world: Leveraging a gender sensitive approach to inclusive disaster risk reduction"** proposes that HE should contribute to the construction of safer societies that are prepared to confront disaster and crisis situations. Based on the experience of Kobe University after the great Hanshin-Awaji earthquake of 1995, the author proposes that HEIs should identify and analyze in their programs and interventions the particular needs and problems of different genders, existing inequalities, and use this knowledge to optimize responses to risk situations. It also affirms the need for universities to guarantee equal access and opportunities for all people, question hegemonic masculinities, promote peaceful lifestyles and develop communication channels that encourage social inclusion.

Finally, the article **"Synergizing Higher Education and Community Engagement Towards the 2030 Agenda for Sustainable Development" by Araceli Alonso and Teresa Langle de Paz** highlights the transformative role of HE in contributing to the achievement of the goals of human security, peace and sustainable development. The authors provide examples of educational practices that link university practices and community-based programs, integrating a gender equality perspective. In particular, they refer to their university's gender and women's studies course aimed at addressing the health demands of women and girls living in remote and isolated communities in southeastern Kenya. Through this experience, they show the importance, yet the complexity, of synergizing between an interdisciplinary HE program and transformative interventions in communities of great need and disadvantage.

All the articles that integrate this publication highlight, with different emphases and arguments, the role that universities could or should play, not only to ensure gender equality in their environments, but also to generate knowledge and proposals for action that can contribute to the implementation of human and sustainable development policies. This is a very significant change in the social representation of HEIs, in the priorities and purposes that are assigned to the production of academic knowledge and in the progressive acceptance of the contributions of universities to the definition and implementation of sustainable and comprehensive public policies.

As a whole, this publication invites us to reflect on: How to strengthen the proposals and actions to promote gender equality included in the articles in order to advance towards

their sustainability and mainstreaming in all dimensions of HE[6]? How do the structural transformations that are demanded of HE relate to the construction of just, sustainable, supportive and creative societies?

These questions are attracting increasing attention and concern in academic circles, in research, in the formulation of HE policies and in international organizations. Recently, UNESCO has warned that "business as usual is neither sufficient nor acceptable to ensure that people fully exercise their right to higher education in free, peaceful and just societies" (UNESCO, 2022)[7]. Therefore, it proposes substantial and multidimensional transformations of these institutions starting from "reimagining our future" (UNESCO, 2021)[8] and from there defining the conceptions and lines of action to improve educational experiences and outcomes for all.

In this sense, UNESCO states clearly that what has been achieved so far cannot remain as partial or isolated solutions in institutions with limited or lack of awareness of the causes and consequences of the vertiginous social, economic, cultural, political and technological transformations. This scenario challenges the epistemological premises, methodologies and contributions of HE to promote a human development that guarantees gender equality and provides creative and effective responses to the global challenges of today and their specific expressions according to the contexts.

The UNITWIN Network on Gender Equality has the experience and commitment to take on these challenges.

Gloria Bonder
Director of the Gender, Society and Policies Department, FLACSO Argentina
Coordinator of the UNESCO Regional Chair on Women, Science and Technology in Latin America
Coordinator of the UNITWIN Network on Gender Equality

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[6] The different dimensions of HE includes: curricula, teaching practices, pedagogy, policies, interpersonal relations, evaluation criteria, institutional cultures, social representations of universities, among others.

[7] UNESCO, 2022. Más allá de los límites. Nuevas formas de reinventar la educación superior. Working document for the World Conference on Higher Education. May 18-20, 2022.

[8] UNESCO, 2021. Reimagining our futures together: a new social contract for education. Report of the International Commission on the Futures of Education.

Trouble in Academia? Gender Equality in Higher Education Institutions

Patricia Ruiz Bravo
Aranxa Pizarro Quiñones[9]

1. Introduction

In Peru, the struggle for gender equality has a long history. Since the 1970s, efforts to confront this injustice have been diverse and sustained. Non-governmental organizations, the state, academia, feminism, social organizations, activists and recently companies have been important actors in this task. However, progress is still far from the objectives set. Changes can be observed in discourse and norms but, unfortunately, they do not translate into practice or into daily life. The problem of violence against women has increased despite the existence of a series of agreements, conventions, and regulations to eradicate it. The same is true of employment and salaries. The gaps between men and women are still significant and during the pandemic the situation has worsened even more. For this reason, initiatives from different civil society organizations, the state and academia continue to seek to close the gaps and achieve greater equality between the sexes.

It is within this framework that the UNESCO Chair on Gender Equality in Higher Education Institutions of the Pontifical Catholic University of Peru was created in 2016. Its main goal is to contribute to forge more democratic universities that make visible and eradicate situations of inequality towards women and LGBTIQ+ population. It also seeks to promote actions for women to develop their capabilities freely and fully, in safe spaces and without violence. Additionally, it seeks to raise awareness of gender inequalities in the different strata of the university, including students, faculty members and staff, so that they can be allies in this struggle inside and outside the university campus. To that end, part of the actions we carry out are focused on raising awareness and training different members of the academic community in Lima and different regions of the country to identify the various problems related to inequalities between men and women;

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[9] Coordinator of .UNESCO Chair on Gender Equality in Higher Education Institutions, Pontifical Catholic University of Peru|

the prevention of gender violence and sexual harassment; and the promotion of more women in science, technology, and innovation fields.

The UNESCO Chair on Gender Equality in Higher Education Institutions was created with the support of the Gender Studies Research Group at PUCP and the master's degree in Gender Studies (MEG), which was the first program focused on gender studies in Peru. The MEG plays an important role in the country by researching and highlighting gender inequalities in the public sector, academia, and civil society from an interdisciplinary perspective. The goals of the UNESCO Chair on Gender Equality in Higher Education Institutions include researching the situation of women in higher education institutions in the country, raising awareness about gender inequalities, and promoting the development of institutional policies that foster more equitable and inclusive academic spaces. In line with these objectives, our lines of work are: (1) research, (2) awareness raising, and (3) equality policies.

2. Gender and Academia

For a long time, universities have been understood as spaces of knowledge, dedicated to objective knowledge, disinterested in worldly things, and concerned with the development of disciplines, the common good and human progress. In this reading, central elements have been meritocracy and the search for truth and justice. From this point of view, universities were thought of as ivory towers where the only concern was academic excellence. However, the critique of this partial vision of universities came from various perspectives, one of which was feminism. Research and studies focused on gender inequalities and gaps, violence and sexual harassment, disadvantages in the workplace, and differential access to primary and secondary education between boys and girls, among others, all external to what was happening within the IES, were developed.

Thanks to the research carried out, this image of the university as meritocratic and neutral has begun to be undermined. It became evident that, as a social institution, it is part of the larger fabric of societies, regions, and communities, and is therefore traversed by social and power relations that affect its mission, objectives, and daily practices. Since their foundation, higher education institutions have changed a lot and the democratization and massification of higher education have been the most important processes of the last decades. In fact, universities are no longer only for the elite. Middle and popular sectors are entering higher education institutions in search of professionalization, but also of progress and social mobility.

Along this path, a second type of research focused on the study of universities themselves from different perspectives: interculturality, social relevance, gender, internal democracy, management, institutional culture, social inequalities, exclusion, etc. The university institution itself was called into question. It was put in the dock. In terms of gender, which is the issue that concerns us, research showed that gender biases were reproduced in universities in different spheres (Buquet 2013, Anker 1998, Bonder 1994, among others).

1. Research by cognitive scientists and social psychologists shows that there are gender stereotypes and biases in various disciplines and university careers. It has been found that there are masculinized professions such as economics, law, engineering, and science (STEM) and feminized professions such as education and humanities, among others. This gender division permeates educational institutions and distances women from scientific disciplines and men from areas related to care, strengthening gender roles and stereotypes.

2. Studies from philosophy and epistemology also showed that the teaching of the different disciplines had an androcentric bias that left aside not only the contributions of women but also their experience and points of view. The paradigm that marks academic knowledge is a patriarchal one that reproduces gender inequalities.

3. Gaps in teaching careers that were detrimental to women both in their careers and in their access to positions of power were also pointed out. The strongly patriarchal institutional culture was also demonstrated, as well as the resistance to change, to democratization and to a democratic institution in its norms and practices.

4. In terms of the students, the prevalence of gender-based violence and sexual harassment has been observed, as well as the lack of a cross-cutting gender approach in studies and institutional practices.

In addition, and because of the changes that have occurred in recent years, important proposals have been developed that seek to move away from the predominant paradigm. There is a strong criticism of the influence of neoliberalism in university work, in productivism and in the unbridled competition to be in the rankings and in high impact indexed journals. These critical reviews do not deny the importance of competition, quality, and academic demands, but warn about the way in which the neoliberal market is setting quality standards, affecting university communities as spaces for dialogue.

They also show that productivism and competition to be in the rankings and in high impact indexed journals generate even greater gaps between female and male professors, since women tend to have less time to research and publish as they continue to be the main caregivers at home. This situation has a direct impact on the processes of hiring, promotion, and teaching bonuses, since these, in turn, are governed by the number of publications in indexed journals. This situation has been exacerbated by the pandemic and the incorporation of studies and remote work at home.

At the UNESCO Chair on Gender Equality in HEIs at PUCP we take this critical position and recognize that universities are social and power spaces in which the struggle for gender equality faces a strong resistance, overlapping, subway but very powerful and difficult to solve. In the following sections, our analysis also introduces the effect of the pandemic in the work of universities, teachers, students and in the development of the Chair.

3. Research on Gender

Achieving gender equality in HEIs is a long and complex process that requires a great deal of commitment on the part of students, teachers, and authorities. To achieve this, it is necessary to have a group of people- a critical mass- committed to justice and gender equality that makes visible the discriminatory, sexist, and misogynist practices that persist in HEIs. The idea is to gather people who can be part of a collective willing to learn about and transform the unjust practices that affect different groups in the university because of their gender and/or sexual orientation. It is important to note that talking about gender equality includes diverse topics such as violence and sexual harassment, explicit and subtle discrimination, empowerment, and leadership of women and LGTBIQ population, gender stereotypes and masculinized careers, among others.

To this end, it is necessary to foster work teams, generate alliances among colleagues, incorporate the gender approach in classes and promote research, artistic or communicational works that include the importance of achieving gender equality as an integral part. This process, in turn, requires the collection, systematization and presentation of data. This is the only way to get the attention and commitment of students, teachers, and authorities.

Within this framework, the UNESCO Chair on Gender Equality at PUCP has joined these efforts and has conducted research on gender equality in STEM careers, sexual harassment both locally and nationally; has promoted research by undergraduate and graduate students through annual competitions; and has made academic

publications nationally and internationally. Below we detail some of the research and publications we have done, in addition to the student competitions we have been conducting since 2019.

Research

- **Prevalence of Sexual Harassment in Universities of the Peruvian University Network**

  Se ha desarrollado una investigación con cinco universidades de la Red Peruana de Universidades para la creación de nuevas políticas de género enfocadas en enfrentar esta problemática. Se realizó un estudio cuantitativo basado en la aplicación de una encuesta a estudiantes varones y mujeres de la Universidad Nacional de la Amazonía Peruana, la Universidad Nacional de Trujillo, la Universidad Nacional del Centro del Perú, Universidad Nacional de San Agustín y la Universidad Nacional de San Antonio de Abad del Cusco. Los resultados de las cinco universidades mencionadas muestran que el hostigamiento sexual es experimentado por un gran porcentaje de la población estudiantil. Frente a esta situación, se está trabajando en la implementación políticas contra el hostigamiento sexual que apliquen para todas las universidades pertenecientes a la Red Peruana de Universidades.

- **Study on Sexual Harassment in Students at PUCP[10]**

  A first diagnosis of the situation of sexual harassment towards undergraduate students at our university was carried out in 2018. Its development is framed in a comparative study among a set of international universities including: Universidad Nacional Autónoma de México, Universidad Nacional de Colombia based in Bogotá, Instituto de Altos Estudios de Posgrado del Estado de Ecuador, Universidad Nacional de Costa Rica and Pontificia Universidad Católica del Perú. The diagnosis consisted of the application of an anonymous survey to a sample of the total number of undergraduate students in the 2018-I semester. The survey questions were previously agreed upon by the researchers responsible for the participating universities, to compare findings. For the application of the surveys,

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[10] For more information see: https://catedra.pucp.edu.pe/unesco/en/lineas_trabajo/english-international-study-on-sexual-harassment/

we had the support of a group of volunteer students, who were trained and supervised by this same institution.

- **4EqualScience: mujeres en la ciencia en cinco universidades de la Red Peruana de Universidades[11]**

We aimed to analyze the academic careers of men and women dedicated to science, observing the gender differences that exist. The study focuses on female and male teachers and researchers in the areas of science and engineering at five public universities in the departments of Iquitos, Trujillo, Huancayo, Cusco and Arequipa. For this purpose, an online survey was applied and answered by 713 teachers. In addition, 31 in-depth interviews and two focus groups were conducted. The results show that female teachers account for around 20% of the total and that their academic career faces difficulties linked to subtle discrimination, family burden and their self-perception as a woman-mother who must take care of several tasks. In addition, quantitative data show that there are differences, especially in engineering careers (fewer women, fewer positions, more difficulties). Finally, we found greater differences between men and women in the qualitative data. This information provides a better understanding of the mechanisms of marginalization that affect women throughout their academic career.

Contests and publications

- **Research contests**

With the aim of promoting the inclusion of the gender perspective in the research of undergraduate and graduate students, we created the annual *Research and Gender Perspective Essay Contest*. This is an interdisciplinary event that was initially conceived nationwide, but since its second edition it has become an international. The gender perspective includes, among others, the situation of inequality of women, queer and LGBT studies, the discussion around masculinities, an intersectional look at gender, harassment and sexual violence, sexual division of labor, etc. with the intention of promoting its use as a useful

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[11] To see more information: https://catedra.pucp.edu.pe/unesco/en/lineas_trabajo/4equalscience-mujeres-en-la-ciencia-en-cinco-universidades-de-la-red-peruana-de-universidades/

tool for conceptual and analytical analysis that allows a better understanding of reality.

- **Publications**

Publications in high impact indexed journals have become a central axis in the development of academic careers and in the prestige of HEIs. However, access to journals is not always easy for students, since they usually involve costs for downloading articles or subscribing to the journals. In Latin America, this has begun to create a barrier for the research of students and even teachers. In Peru, for example, many universities do not have subscriptions to high impact journals or only have access to past volumes. This generates very large differences between those who have access and those who do not, and this generates differentiated consequences in their academic and research work and in the promotion of their professional careers.

Given this situation, at the UNESCO-PUCP Chair we seek to contribute to the democratization of knowledge and the incorporation of students into the academic discussion through our publications, all of which are always open access. Among our publications, we have the ones that result from the winning essays of the annual research contest for students. They are refereed publications by undergraduate and graduate students from different regions of Peru and the world. We also have two publication projects with translations from English to Spanish to give greater access to articles and journals to Spanish-speaking students and people in different areas of academia to avoid the language barrier. Our projects include a *reader* on gender and an online encyclopedia that reflect on various topics from a feminist perspective. In both cases, the original articles have been published in very prestigious journals or books or academic websites.

4. Awareness-raising work

The awareness-raising process is a long and constant process since student groups are renewed as they advance in their academic careers, new teachers join the university and authorities change from time to time. Therefore, in our experience, this is a process that must be sustained and must include the various members of the university: men and women in positions of authority, management, communication, and teaching.

The awareness-raising work we have been developing since the inauguration of the Chair in 2016 has included the development of numerous workshops on various topics: gender approach for the university, prevention of sexual harassment and gender-based violence, empowerment, gender equality policies, mechanisms of discrimination, women, and power, among others. On the academic level, we have organized several international conferences with renowned professors from Spanish and English-speaking universities. The inter-university dialogue is fundamental for the process of sensitization and promotion of gender equality in the HEIs because it confronts the local academic reality with that of colleagues in other universities. This allows us to learn about new arguments, theories, proposals for change, ways of analyzing the problems that concern us, as well as fostering interdisciplinary and international dialogue and the systematization of good practices.

We have also carried out activities related to the promotion of women in scientific careers in conjunction with the Faculty of Science and Engineering of our university and the Peruvian Network of Science, Technology and Gender. This has been a key issue since, if we look at the figures in Peru, women represent only 19% of university professors doing research in engineering and technology, and 17% of full members of the National Academy of Science (INEI, 2010; ANC, 2016; Gibney, 2016). At the Pontifical Catholic University of Peru, for the 2019-1 semester, only 10% of the total number of senior faculty members in the Department of Engineering were women and only 24% of the total number of students in the Faculty of Science and Engineering were women. Below, we will outline some of the activities we have been carrying out and their impact on this area since we started in 2016.

Workshops

They seek to train the university community on gender inequalities, discrimination mechanisms, prevention of sexual harassment and gender violence, and the importance of adopting equality policies. Using a participatory methodology that combines theory with cases, playful activities and multimedia tools that seek reflection and learning, adjusting to the needs of the group. The workshops have been implemented for authorities, teachers, teaching assistants, students, and staff. The activities carried out by the UNESCO-PUCP Chair include the creation of the content and support material; the management of the workshops, including previous coordination meetings to know the needs of the target audience that will participate in the workshops; and their implementation.

Conferences

Since the creation of the UNESCO Chair on Gender Equality in HEIs at PUCP, we have held a series of conferences that have sought to promote gender equality, women's participation in scientific and engineering careers, women's leadership, the insertion of gender issues in public and private agendas, the development of gender policies, the elimination of gender violence, among others. One of the events that stands out are the *Master Classes on Gender Equality* inaugurated in 2017 and held annually by a renowned academic. This event stands out for its interdisciplinarity, thematic breadth and diverse audience. Among the speakers we have had Sally Haslanger (MIT), Breny Mendoza (Cal State, Northridge), and Linda Alcoff (CUNY). We inaugurated the *UNESCO-PUCP International Conference on Gender* with Eva Illouz (The Hebrew University of Jerusalem) in 2021.

Artistic experiences

In 2020, we launched the "Peruvian women in times of pandemic" photography contest. We were looking for photos that portrayed, from the point of view of Peruvian women, the different ways in which the pandemic generated by covid-19 had affected their daily lives. At the end of the call, the images selected by a committee specialized in gender, art and photography participated in a virtual photographic exhibition organized by the UNESCO Chair on Gender Equality in Higher Education Institutions. The call was nationwide, and we received 177 photos, from which we selected 60 photos for the exhibition.

In 2021, we launched a second call entitled "Distance education in times of pandemic". In this case, we were looking for photos that portrayed the challenges, problems and solutions arising from distance education, as well as the way in which it has reconfigured personal, social, and family dynamics as it has moved from the public space to the home. At the end of the call for entries, we received 53 and 26 photos were selected for the virtual exhibition organized by us and publish on our website and social media.

With the support of the PUCP Innovation Office and the National Library, we organized the staging of the play *Our Great Adventure in Science* in December 2019. The play presents the story of three scientists through the eyes of Emilia, Mariana and Dieguito, three children who will live a story of friendship, creativity, and solidarity with the aim of promoting, disseminating, and encouraging interest in science and technology among children.

Women in Science

Gender gaps in careers related to science, technology and innovation are manifested in the academic and professional careers of teachers and students. In response to this situation, we have developing various strategies to raise awareness and promote this fields of study and research among girls, adolescents, university students and faculty members. Our goal is to get more women to participate and thrive in these areas. We have developed activities such as workshops, conferences, artistic events, among other in alliance with professors from the Faculty of Science and Engineering, especially from the Mechatronics Section of our university, with teachers from universities of the Peruvian Network of Universities and with the Peruvian Network of Science, Technology and Gender.

The work with science and engineering teachers has included awareness-raising workshops on gender equality, sexual harassment and violence, and equality policies, as well as workshops focused on identifying gender gaps, discriminatory mechanisms, and empowerment. This has been a key step to make visible the discrimination they experience daily and the will to fight for institutional changes to achieve a fairer academic environment. Likewise, the UNESCO-PUCP Chair has supported the *L'Oréal Peru National Award for Women in Science* 2017, which recognizes the trajectory of outstanding women scientists.

We have also supported workshops with high school students to promote their interest in careers in science, technology, and innovation and, as we mentioned above, we organized the staging of a play for children in collaboration with the Innovation Office at PUCP. With the Peruvian Network of Science, Technology and Gender, we have sought to get more female students not only interested in STEM careers, but also to question scientific paradigms and the epistemology of science from a feminist perspective through academic reflection. In 2021, we organized the conferenced *Doing science as feminists? Reflections from situated epistemology* with Carme Adán.

5. Promoting Equality Policies

The UNESCO Chair on Gender Equality in HEIs seeks to implement policies that promote gender equality through research and awareness-raising considering the inequalities faced by women in their academic career and their work as students, faculty members and researchers, as well as those engaged in administrative work. The implementation of policies that promote gender equality in HEIs is aligned with the *National Education Project by 2021* (R.S. N° 001-2007-ED) prepared by the Ministry of

Education and the National Education Council in 2007, whose Policy 4.3 aims to "overcome gender discrimination in the education system", and with the *National Gender Equality Plan-PLANIG 2012-2017*, whose strategic objective 3 seeks to "reduce educational gaps between men and women".

However, it is important to recognize that, just as sexism and misogyny are embedded in our daily practices and attitudes, they are also embedded in universities. Therefore, although many universities have adopted gender equality policies as a bid to achieve a more just academic community, this does not mean that they have been successfully implemented. It is possible to speak of an institutionalism in dispute that, pushed by feminist faculty and students, has been gradually permeating the discourse of the authorities.

Even so, the adoption of gender policies faced major barriers to make them effective. One of them is the lack of infrastructure and funds, both of which are necessary if we want to have a team in charge of the implementation of the policies and the raising of awareness of the people at the university community. The UNESCO-PUCP Chair has contributed with research necessary to make visible situations of gender inequality and with various forms of awareness-raising strategies that we have detailed in the previous section. We will now describe the three policy axes that are being carried out at our university.

Gender Equality

In 2015, the Pontifical Catholic University of Peru approved the Gender Equality Policies for Teaching. However, the fact that the policies were approved did not imply that male and female faculty members agreed with them. In fact, many faculty members felt threatened, and more than a few women said that the existence of the policies placed them in a disadvantaged position: they felt that the adoption of the policies would cause their colleagues to point out that they were getting the job or promotion because they were women, since the policies included affirmative actions, without recognizing their training, effort, and merit. As a result, female faculty members did not use the policies, loosing opportunities and reproducing the inequitable gender system. In this context, we sought to raise awareness in the University community about the importance of adopting the policies making visible the inequalities that occur throughout the academic career of female faculty members. We have done this through workshops in Lima and in universities in other regions of the country. It is a long and constant process because new teachers enter, and the patriarchal wall remains.

Sexual Harassment

For years, higher education institutions have ignored gender-based violence and sexual harassment as an endemic problem in the institutional culture. It is only in recent years, with the testimonies of victims and survivors, that this problem has entered the public domain and has been considered by the authorities. However, institutional responses have been slow and, in many cases, ineffective. This has led students to take to the streets and to the use of social networks to make these events visible and denounce them in search of justice.

As Fernández (2019) points out, highlighting and eradicating gender violence and sexual harassment in HEIs involves recognizing that the institutional culture is not modified because regulations are adopted, norms are modified and committees are created, but requires "questioning the exercise of power, the use of positions of hierarchy, the representations about men and women, the unfair gaps that such representations generate, among the most salient aspects" (Fernández, 2019: 72). To achieve this, it is essential to develop a critical mass that is committed to transforming sexist practices that have enabled and legitimized gender-based violence and sexual harassment that are affecting different groups in the university, being women and LGBTIQ+ population usually the most affected.

From the UNESCO Chair on Gender Equality in HEIs at PUCP, we have contributed to the fight and visibility of sexual harassment and gender violence from different fronts. We have carried out the first diagnosis of the situation of sexual harassment in our university and we have supported the realization of a diagnosis in five universities of the Peruvian Network of Universities. We have also carried out several workshops, conferences and training and awareness courses on sexual harassment and gender violence both in our university and with universities nationwide.

Sexual Diversity and Inclusion

Traditionally, talking about gender discrimination in academia has meant talking about the discrimination faced by female students, faculty members and researchers. This used to respond to a binary view of gender that, for a long time, occupied the feminist agenda. However, as new voices have been incorporated into the feminist movement, its demands, needs and proposals for change have been broadened. This is the case with the contributions and critiques of the LGTBIQ+ movement, queer theory and trans studies. Their rightful claims have shown the importance of recognizing and validating the diverse gender identities and sexual orientations that have been systematically

marginalized from different social spaces, including academia (Bettcher, 2014). In this regard, questioning the binary view of gender has meant, in turn, adopting policies that, on the one hand, make visible the struggle and the violence experienced and, on the other hand, contribute to changes in institutional culture.

In the case of the Pontifical Catholic University of Peru, the *Policy for the Respect of Gender Identity* was approved in 2017. It was an initiative of the student movement *Reforma Trans PUCP* in response to the discrimination and violence that trans and non-binary gender students were experiencing on campus. The denial of identity, that is, the categorization of students in a manner contrary to their own sense of identity is a form of transphobia that must be eliminated from universities (Bettcher, 2014). Along these lines, in addition to the Policy for the Respect for Gender Identity, the Norms Related to the Inclusion of Social Name (2018) are approved to achieve a correct identification of trans and non-binary gender people in the university community.

6. Concluding remarks

In this last section we would like to point out, from a critical point of view, the advances but also the difficulties we have faced to achieve our objectives. It is not a question of presenting achievements and limitations as an autonomous list, but to see how in the advances that are achieved there are also difficulties to be faced. This is a dynamic process since, as we have pointed out, universities are institutions rooted in specific spaces, cultures, and times. They are affected by global phenomena, academic trends, political demands, and changes in the social composition of the different countries in the region.

In the process of achieving greater gender equality in HEIs, we can see that the greatest difficulty lies in the institutional structure and culture itself. Its patriarchal character permeates it since its foundation and this is reflected in the academic organization, in the institutional culture and in daily practices. As Buquet points out (2013), women are intruders at the University. We have entered a space that does not belong to us, that is alien and hostile to us. In this context, the advances in equality policies are a significant step forward but we must watch carefully because having achieved certain equality policies does not imply that they are implemented and achieve changes.

Universities resist, through their staff, their regulations, their offices, the information they provide (or not). What already seems to be an achievement is hindered by an apparent small thing that nevertheless is destined to cut the process short. For

example, incomplete files, new requirements, lack of time, delays in responding, etc. As Ahmed (2016) points out, the problem is more difficult in those institutions that have offices or directorates that aim to develop programs for the benefit of diversity. In these cases, what happens is that the institutions think that by having the office everything is already solved or being solved without going into thinking, nor discussing the necessary bases for that transformation.

In our case, it is assumed that given the policies, change comes almost automatically. It is only a matter of good will when the opposite is true. Change does not occur because each of the gears of the institution continues to function for reproduction, not for change. The unintentional oversights, the lack of transparency in competitions, the absence of a critical look at the curricula or the androcentric biases of the sciences are not taken as a priority. They are treated as secondary issues and/or complementary to the real changes, i.e.., those that put universities in the rankings, in the successful labor market, in the summits of power.

These processes are not explicit and sometimes, they are not even conscious. They take for granted that this reality is the reality and not one, among other possibilities. Achieving this change is a difficult and long-term task. The intersection between patriarchy and neoliberalism in universities makes the wall stronger, unbreakable and with the appearance of modernity and excellence – institutionality is in dispute.

From Latin America, new approaches from the social sciences and feminism have pointed out the importance of looking critically at the paradigms of Western knowledge that are part of the university canon. They have proposed and argued the relevance of a decolonial approach that questions the coloniality of power and the colonization of the imaginary that permeates the various national institutions, including universities. With this approach, gender equality policies are called into question if they do not have an intersectional and inclusive perspective to the different diversities. In this context, trying to innovate and seek policies and changes with this approach in mind implies many alliances between groups that do not always sit down to dialogue.

It is possible to identify a tension between feminist professors and students in Latin America. Students have been discussing a non-binary view of gender issues and the mechanisms of discrimination that occur in universities, which has not been the central focus of traditional feminist demands. We can speak of new feminisms and new agendas that emphasize the recognition of sexual orientation and gender identity as axes of discussion and student militancy. In addition, with the denunciations of sexual harassment that have come to light, students have taken to the streets to demand

concrete, efficient and sustained solutions. These student mobilizations have generated friction with the authorities and with feminist professors who occupy positions of authority and have been called "institutionalized feminists". There has been a breakdown in intergenerational relations and feminist agendas nurtured by the lack of confidence in the institutional framework and its lack of action. This has made it difficult to achieve consensus and to weigh in on a common agenda, for which it is necessary to open channels of dialogue and empathy.

In our case, the sexual harassment survey we conducted in 2018 did not have the impact we thought it would, since students criticized that the methodology was only quantitative and did not consider personal experiences that can only be known from a qualitative point of view. Our study, being comparative with universities in other countries, adhered to the criteria and methodology applied by all. Nevertheless, this situation highlighted the importance of opening an intergenerational and inter-institutional dialogue to achieve more alliances within HEIs and support for change.

Since 2020, universities have had to transform themselves into distance education or remote education institutions. This change, in the context of the pandemic due to COVID-19, affected the work of women academics and posed important challenges. According to the studies carried out on the subject, most of them coincide in pointing out the negative impact that long-distance education has had on the work trajectories of women in academia. There has been extension of work schedules and an increase in caregiving tasks and in the schooling of minors at home. The sexual division of labor has not been modified and it is on women's bodies that the burden of care and attention has been placed. A recent study points out the negative effects that this overwork has had on women's mental health. As a result, and with less time and more work, the availability to do research and publish has been affected. It is likely that the consequences of this will be seen in the next two years. In view of this, it is necessary to think of temporary policies that will allow this pandemic not to generate negative results in the labor trajectory as we move ahead.

Finally, we would like to point out the importance of internationalization and regionalization in the development of the Chair. The experiences of exchange and cooperation with institutions in Latin America have been of great benefit. The Act on Gender Project is an example of this collaboration that has allowed us to critically discuss our work and think about joint strategies with many different colleagues from universities across Latin America. Similarly, the work within the country, with regional universities

has been very important to rethink our lines of action from a decolonial and intersectional approach.

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Gender Policy in Public Higher Education Institutions in Mexico

PhD. Rosa Rojas Paredes[12]

Precedents

During the eighties, new Gender research groups emerged from Higher Education Institutions (IES-*as abbreviated in Spanish*) mainly in women and their economic and cultural conditions that characterize their social relations, as the main object of study; in such a way that every study focused on the women conditions are considered a significant precedent in gender studies.

Gender studies nourish and derive from international and national feminist movements which have significantly increased during the last decades, its theoretical development from the 1950s onwards and interdisciplinary nature contributed to the actual knowledge of power relations among genders, proving how these relationships exist in favor of men and are discriminatory to women; what has been shown is that these relationships are created on a social and historical basis, going through all social network, being intersected categories to the related social class, ethnicity, age and sexual orientation; hence, its intersectional, intergenerational and transversal nature.

Four major phases of contemporary feminism in Mexico.

1) The first wave of feminism took place in the late nineteenth and early twentieth centuries, leaded by women from the First Mexican Feminism Congress in Yucatán, mainly claiming for education opportunities and their participation in politics.

2) During the period following the second world war, global and domestic transformations were observed in the economic, social and political activities;

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[12] Coordinator UNESCO Chair on Gender, Leadership and Equity, based in the University of Guadalajara, Mexico.

particularly, the involvement of women into working and education contexts, which unleashed the advent of new feminisms;   hence, the emergence of a second wave of feminism during the 1970s propelled by university and middle class women, unfolding women dominance and exclusion from the social and political lives, dominating, the impact of double day for women, professional and pay inequality, sexuality and reproductive rights for women, marginalized by the dispersion and isolation conditions abroad and within the country. (Lau Jaiven & Cruz Pérez, 2005)

Martha Falcón said: "In Mexico, during the early 70s, pioneer feminist groups emerged; such as, the "*Movimiento Nacional de Mujeres*", "*Colectivo La Revuelta*", "*Lucha Feminista*", "*Movimiento por la Liberación de la Mujer*"; as well, substantial feminist publications, like: *La Revuelta* journal (1975) and the feminist magazine *Fem* (1976).

It must be emphasized that the voice of feminism at that time agreed to the country democratization demands rallied by the students of the 1968 movement.

3) A third wave of feminism happens on the eighties late century; During the third wave, feminists stepped onto as a more empowered movement, showing a stronger organization and forming women-only associations becoming a member of international organizations, bringing in, other urban women movements (dressmakers, civil associations, etc.) emphatically advocating for democracy, non-discrimination and human rights. The feminist voice diversifies embracing diversity in social class, ethnicity, sexual orientation and political engagement. (Lamas, 1996, Lagarde,1996, Lau Jaiven,2005).

    The gender policy reached institutionalization during the feminist movements of this phase, to finally crystallize on the twenty-first century first decade and gain recognition to participate in popularly elected posts, to the impulse of a national democratization.

4) The fourth wave is already in the making, taking advantage of the digital age. New social media arises allowing communication and organization to surf the internet; creativity is getting manifest by youth and internet turns to be an opportunity to articulate and construct common agendas; this new feminism is joint by thematic networks and speaks against violence, in pursuit to denounce feminicides and missing women, white slave trade, child pornography, health and

poor environment; among all. Differently from former feminists, new wavers are acknowledged of and know themselves as subject of rights, to be respected in a natural manner; New wavers do not question, but demand to fulfillment. A new feminism is being constructed waiting to be materialized.

The fourth wave feminism has been influenced by the historic activism,[13] internationally and nationally, millions of women that each day wake up to gain respect and equal opportunities among women and men; vindicating their dignity and full citizenship.

Listing all feminist movements is essential to outline its impact at the Mexican higher education Institutions and to the related institutionalization of the gender perspective, federal, regional and local levels. Feminism has brought organizations, communication media and collaboration means, positioning women at political posts and government roles; female leaders are more visible every day, notwithstanding, the Mexican social and political systems are still patriarchally structured.

Gender path in Mexican Higher Education Institutions (IES)

Through the analysis of the national education system, we are able to identify the Mexican Higher Education, observe its complexity and detect the difficulties for the involvement of the gender perspective. The Mexican Public Education Secretary, (SEP *as abbreviated in Spanish*) stipulates that the Mexican education system is formed by three different education phases: basic, middle and superior. A three-level basic education consisting in pre-school, primary and secondary; A middle superior covering high-school and technical practitioner. A high-superior formed by a technical professional, bachelor and postgraduate with specialties in mastery and doctorate. (SEP 2021). All types of education are available at public and private institutions. This test will only follow the public education system, said institutions which are sponsored by the Mexican government.

Accordingly to the official statistics published by the Higher Education Sub-secretary website, the current Higher Education system is formed by 11 Federal Public

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[13] More than one century of the "Vindication Rights of Woman" by Mary Wollstonnecraft, Flora Tristan,Olivia de Gouges, Clara Zetkin, to Simone de Beauvoir, Susan Sontang, all women from different countries and cultural spheres collaborating in the rights of woman, not leaving behind to Hermila Galindo, Elvia Carrillo Puerto, Atala Apodaca, the pioneers of the contemporary mexican feminism; among other.

Universities, 35 State Public Universities, 23 State Public Patronaged Universities, 51 Technical Universities, 10 Intercultural Universities, 130 Federal Technical Institutes, 126 Decentralized Technical Institutes, 264 Teacher Education Institutions, 87 diverse featured IES. Additionally, the present government has proposed a new modality called "Benito Juárez Welfare Universities" in which to offer, an only professional career, no research nor cultural outreach or dissemination; in such a way that the same might be classified as technical superior schools and not like universities, notwithstanding, the Mexican Public Education Secretary official statistics refers the creation of 100 new units from 2018 to date; a total of 945 public Higher Education Institutions, situated in the 32 Mexican federative entities, forming the whole Higher Education subsystem, characterized by the geographical dispersion, the diversity of education offerings and the limited coordination and collaboration.

Reflections on this study are focused on the universe that forms the federal public universities, state public universities, public patronage state and technical professional universities, a sum of 120 IES.

This grouping of universities shares the same characteristics; a wide and diversified professional education for bachelors and postgraduates, teaching, research and scientific and cultural dissemination, a broad scope and academic and public autonomy, for the most part.

Against the education universe mentioned above, we are now aimed to analyze the interrelation of the feminist movements in Mexico and their impact in the Higher Education system as referred to the public institutions.

The National Autonomous University of Mexico (UNAM-*as abbreviated in Spanish*) as a first reference to be analyzed in their gender academic emerged units and their relation to feminist activism. Gabriela Lozano Rubello, notes the role of an academic group of female students affiliated to the Autonomous Group of University Women (GAMU-*as abbreviated in Spanish*) which, since the latest seventies, met regularly with the purpose to study and debate feminist documents and, who claimed for a free and voluntary maternity, the safety in campus and the eradication of gender discrimination; their actions derived in the constitution of the Psychology college Women Study Center in 1984, accordingly to the author. Six years later, in 1992, the Gender Study University Program was created (PUEG-as abbreviated in Spanish) (Lozano Rubello, 2019).

Various academic units were formed during the eighties with the purpose to investigate in women issues, followed subsequently in the gender study centers[14]. Most of the gender study promoters were related to feminist movements, activists engaged to defend women rights and female professionals dedicated to give women visibility as "subjects and objects of knowledge" (Cerva Cerna, 2017). Its relevance consists on visualizing the existent gender gaps and inequalities in the society, economically, politically, socially and inside the Higher Education Institutions, which are a useful tool in the education sector and which will help in the success to include the gender perspective in the institutional education policies, for the study plans and the education development.

For four decades now of studies about gender in the Higher Education Institutions in Mexico, it could be argued that gender has moved forward in the competition with its academic peers "research in gender relations has gained a position in the knowledge process and the academic investigation, in the exercise and reflection by social organizations and movements, worldwide, and most recently, through the public policies and the federal legislation in the area of rule" (*Ibíd*).

At the beginning, acceptance and financing were obstacles that the researchers faced in order to develop the issues of interest since they were usually underestimated and relegated in front of the organizational priorities, thus, affected mainly for the financing and at the recruitment of employees and their training about the gender issues.

The initial disciplines that imbued in the study of women were psychology, sociology, history, anthropology, among others. Diagnosis about women's lives, the violence, clamping and exclusion suffered by women, were developed, resulting in the promotion to incorporate gender indicators in   the national statistics and in the official databases. It has been a tough work to "incorporate gender perspective in the social analysis since it is the result of an ideational and theoretical attempt that implies, to be placed in exteriority with respect to the natural world of gender, in order to understand the way

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[14] The Interdisciplinary Program in Women Studies (PIEM-as abbreviated in Spanish) was created in El Colegio de México in 1983; As well, the Interdisciplinary Plan in Gender Studies and the Plan in Gender Studies, were created in 1987 in the University of Guadalajara (UDG-as abbreviated in Spanish); the first of which is currently based in the University Center of Economic and Administrative Sciences (CUCEA-as abbreviated in Spanish) and the second on the University Center of Social and Human Sciences (CUCSH-as abbreviated in Spanish); in 1994, the Center in Gender Studies was founded in the UDG; and two years before the UNAM created the created the University Plan in Gender Studies (PUEG-as abbreviated in Spanish), among other.

sexual differences gives rise to a social order and establishes hierarchies and different positions" (Palomar Verea, 2011:37).

The creation of academic groups dedicated to women studies have gradually increased at the Mexican IES, simultaneously with the advance of the feminist theory new paradigms were incorporated to analyze and understand the phenomena affecting the female population, and the violent look and the gender perspective in the research and teaching, slow but meaningful progress.

Non-discrimination, equality and non-violence principles against women hold a significant implication in the education sphere; at first, it means a major access for women to universities. The feminization enrolment, speaking for itself, is not implying an equal treatment and opportunities to institutions and least of all, gender equality. Likewise, the existent academic groups dedicated to women research are not implying gender equality and do not mean the institutionalization of substantive equality policies at IES (Palomar V. 2009, 2011).

Despite all established constraints, restrictions and other attitudes derived from the patriarchal culture at the Higher Education Institutions in the country, a significant progress has resulted from the efforts of academic movers engaged with substantive equality between men and women. The voice of Mexican women during the twentieth century has caused legislative changes in favor of women, propelled new protocols to attend gender-based violence and reached some modifications to the communication codes, especially, related to the inclusive language; empowerment has become more usual in women who are becoming political change actors.

We may say, that, significant advances have been reached, albeit not sufficient, timid and restricted in terms of gender and women rights in the Mexican society; notwithstanding, inside the institutional structure of universities, transformations have not kept up; there are still important lags and gaps in the management of knowledge, the scientific research, the administration and legislation in the Higher Education; University policies have not included a cross-cutting vision of gender, nor an agenda to convert these approaches in a habitual expression of gender equality and equity at Mexican Higher Education Institutions. Consideration must be given when gender and Higher Education are approached, their link is widely based upon "inequality". This model delves into women problems and difficulties faced at the university: the glass ceiling, the failed expectations, women invisibility before their male colleagues, difficulties to conciliate family and work, professional exclusion during promotion processes and other" (Donoso V. & Pessoa de C, 2014: 162).

The incorporation of the gender perspective becomes imperative in order to attend the difficulties expressed by the different authors,[15] additionally to be able to contribute in the civic formation of education quality.

The Research work in gender studies centers and institutes at diverse Higher Education Institutions, have consolidated and have raised important proposals to improve the condition of Mexican women; Scientific and social knowledge and the proposals as presented have evidenced that the Higher Education Institutions are suitable and avant-garde spaces to promote the equality in gender; being their goal to convert the gender perspective into a transversal axis of their study plan of education. Besides the current domestic and international standards contributing to this purpose.

The academic progress in view to institutionalize the gender perspective has been influenced by the new legislation in human rights for women; it is of main importance to consider that the regulatory framework governing, has been building from the seventies; significant is the influence from international legislation, particularly from the Committee on the Elimination of Discrimination against Women (CEDAW 19719); the Beijing Platform for Action (1995), the inter-American convention to prevent, punish and eradicate violence against women (Belem do Pará,1996), the Twelfth Session of the Regional Conference on Women in Latin America and the Caribbean, also known as, the Santo Domingo Consensus (2013).

Nationwide, of the utmost importance was the foundation of the Women National Institute in 2001, during this decade, noticeable progress was made in normativity, among which, the enactment of the General law for Men and Women Equality (2006), the General Law for Women Access to a Free and Non-Violence Life (2007), as well as the Federal Law on Budget and Treasury Responsibility (2006) created to formalize budget responsibilities and as amended in depth in 2014, adding the transversal modifications in gender equality; The order of the Federal Expenditures Budget to rule the planning, approval, exercise, control and assessment of the federal income and outcome; and amendments to the National Planning Law (2011) to add the gender perspective in the national and regional plans; consequently, the creation of the National Plan for Women and Man Equality.

Autonomy is one of the characteristics of Higher Education Institutions, therefore, they are not bound directly to comply with the governmental regulation but, to contribute in its

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[15] *Numerous contributions have been received from our UDG colleagues, outlining, (Palomar Verea, 2009, 2011, 2014; Padilla Muñoz, 2009; Madrigal Torres, 2013; Martínez Moscoso 2012; Marúm E. 2013, 2019, 2020).*

fulfillment through the creation of guidelines, policies and programs approved by their governing representatives which must become a part of the university regulatory framework towards the gender equality as the main object; in this respect, it has been detected the slow progress and important lags; and although the study of gender is a current part of the plans of study of the Higher Education Institutions in Mexico, it has not yet been institutionalized. Through the detection of violence and sexist behaviors inside the Higher Education Institutions in Mexico, concrete and efficient policy measures may be created to attend, sanction and eradicate such.

Four main assumptions must be considered in order to sustain the processes implemented to move to a full institutionalizing of the gender perspective at the universities, as recommended by the working group of 15 Latin America education institutions[16]: gender equality, equal place in society, gender justice, and the building of citizenship; regarding, the creation of institutional policies which will guarantee equal opportunities among women and men in the academic community.

Institutionalism of the substantive parity and gender equality policies must be integrally designed and in keeping with the international and national standards related to women rights; such might imply to amend and upgrade the university legal framework, especially considering the International Declaration on Higher Education in the Twenty first century, the Development Sustainable Objectives (ODS-*as abbreviated in Spanish*) and the Agenda 2030. Gender policy mainstreaming must be one of the institutional development priorities, through the use of effective mechanisms to adequate study plans and programs, teaching methods, teacher education and systematic and continuous strategies for the equal access into the governing and administration groups; thereby, the presence of gender parity in the University policy making positions.

Quality in higher education is a part of the mission and vision of all education institutions, the institutions for the public benefit, and which contribute in the economic and social development, covering the production and service sectors as well as forming quality graduates; as the building of a citizenship based on the respect of human rights and the substantive equality, and, as required by a national democracy.

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[16] Cfr. Project Development and Conclusions report: Changes in process. Towards the institutionalization of Policies and Plans in Gender Equality and Curricular and Pedagogical at Universities and Research Centers in Latin America (FLACSO, Cátedra Regional Mujer, Ciencia y Tecnología en América Latina. octubre 2020).

On the basis of the advances of the gender perspective institutionalizing at the Mexican IES, and based on the experience of the diverse groups of research formed by matter experts, it has been considered to formulate the guidelines to keep on in the building of an integral scope of the institutional gender policy gathering together, quality in education, a substantive equality and the formation to a full citizenship. "In this way, the quality education shall be that which gives the opportunity to all students to acknowledge the abilities necessary to be economically productive, to develop sustainable ways of life and to contribute to the building of peaceful and democratic societies evaluating the social justice and life quality in terms of human capacity" (Donoso V. & Pessoa de C, 2014:161)

Gender Dimension Guidelines in Higher Education

In consideration of the engagement by Higher Education Institutions, standing out the integral and innovative effort they need to make in order to attend, as a priority, their Mission and Vision as the direct link to the social, productive and cultural environments within the country and regions; it results a necessity to embody in their institutional policies the guidelines which will act as an adjuvant with the goals of the National Development Plan and with the applicable regional development plan; additionally to the sectorial education plan and the scientific and technological development plans, and to harmonize all the normativity as a commitment of contribution to the fulfillment of the Sustainable Development Objectives and the Agenda 2030; especially the 4th related to the quality Education; the 5th, related to the gender equality, and 10th related to the reduction of Inequality; among all.

It is, therefore, "necessary to create an integral model of higher education based on comprehensiveness and mainstreaming guidelines relying on the principles of: citizenship and democracy, gender, cultural variety, interculturality, sustainability; human rights and innovation for social development". (Rojas P., 2020) Some achievement would be to count on an educational model featured to evaluate the gender inequality and gaps in order to the design of education solutions involving sensitive gender contents, equal references and contributions by sex, gender, inclusive learning environments and teaching methodologies responsive to gender, including, an inclusive and non-sexist language.

Establishing relevant working areas will ease the complexity to institutionalize the gender perspective in the higher education; such as: a) normativity, b) governance and management c) generational transmission and knowledge dissemination, d) Bonding

with society and gender perspective related Sustainable Development Objectives (ODS-*as abbreviated in Spanish*) among other. Following in detail, the precedents.

1. Normativity

The harmonization of the university legislation which relies on the international and domestic legal principles related to the equality and pursuant to the 10th recommendation resolved by CEDAW, in regards to the relevance of education for the promotion of gender equality and the necessity to guarantee equal opportunities in the access to education. Considering as well, the recommendations by the World Declaration on Higher Education for the Twenty-first century (UNESCO, 1998) in order to include the gender perspective and the human rights, and inclusively, and even, the recommendations of the 2018-2028 Action Plan of the Third Regional Higher Education Conference in Latin America *(*UNESCO/IESAL, 2018*)*, principally, Goals 1 and 2 referring "To ratify the essential role of the IES in order to transform the society at economically, socially, politically, scientifically and cultural levels, in Latin America and the Caribbean, and in full commitment to actively intervene in the consolidation of the social and political democracy, the human rights and the globe protection (Goal 1) and, "To reinforce the ALC IES commitment in regards to the transformation and democratic progress in the society, confirming our republican values and human rights" (Goal 2), this Goal particularly stipulating that: "as of the 2028, ALC IES shall include in their legislation, the principles to reinforce the republican values, the citizenship, the human rights and the gender equality" (Goal 2.1).

Normativity shall include a solid Protocol of Attention, Prevention and Punishment of Sexual Harassment acts at universities with the monitoring by their authorities, formed by individuals enjoying recognition of honest and responsible credibility and performance whose main concern is "zero tolerance against gender violence and sexual harassment". Attention is crucial on violent behaviors and conduct in breach of human rights, since, although no due record has been gathered, it seems a growing issue likewise the increase of voices who dare to speak.

2. Governance and Management

It is of relevance that the governing bodies at Higher Education Institutions institute the gender parity through the inclusion of women and men in a 50% / 50%.

The parity in gender allows for a balanced participation of women and men in the decision making; Parity inside the governing authorities provide the opportunity for women to participate in the social and political decisions around the highest levels in the university governance. It is in fact, an indicator of institutional democracy.

Said balanced participation of women and men shall also be considered in the governance and management at Higher Education Institutions; in this way, a 50% of management positions shall be led by women, which will mean a fair, legal and representative presence by women in the direction of university life.

Planning the institutional development will give us the criteria to contribute in an efficient manner to the inclusion of the gender perspective in all the areas of the institutional life; by starting with the Development Plan at educational institutions, designing a transversal and trans-sectoral vision, through the inclusion of goals, programs and short, medium and long term activities; guaranteeing the necessary financing and sponsoring; additionally to the creation of a system to evaluate, monitor and improvement; in which it is possible to visualize the reduction in gender gaps and inequalities; to stop pretending through a system of transparency and accountability in the gender perspective.

Human resources and promotion parity-based policies towards a vertical segregation of the teaching, administrative and services workforce. Through the creation of programs for constant improvement that rely on the human rights and the women rights in view of a new citizenship and followed by an incentive program and a gender perspective hierarchy structure.

Management in institutions must count on inclusion and non-discriminatory policies related to sex, ethnicity and/or race, religious belief or sex orientation; engagement in dialogue during controversies and promoting the culture of peace and the citizen integral role.

Therefore, management must be agile and modern, which center of attention is the academic community, facilitating the teaching and not affecting with bureaucratic and unnecessary administrative actions.

3. Transmission, Generation and Diffusion of Knowledge

The relevance of the teaching programs relies on the development of competencies, skills and gender attitudes at undergraduates and postgraduates. Skills and competencies for active citizens and towards the human rights.

Culture of peace programs embracing the knowledge and education about substantial equalities and new masculinities in support of changing the patriarchal and chauvinist culture through the inclusion of new values, codes and types of conduct, based upon the respect to human rights and to a healthy coexistence. The building of education institutions that are inclusive and respectful of differences is supported when considering that abilities and intelligence are non-gender dependents; through the respect to LGTBIQ+ groups, is the acceptance of diversity by the academic actors giving the opportunity to open and respectful dialogues.

Previous essays dedicated to the civic formation mention: "the creation of a new citizenship at the Higher Education Institutions in Mexico goes through a thoughtful review of values and the university public sense of mission. Students must, by the end of their professional careers, domain the techniques and progress of their own professions; but, as well, thereto, shall contribute in view of a more inclusive and fair society" (Rojas P., 2019, 2020).

Through producing knowledge, the development of competencies in order to include the gender perspective during the research and the women participation in science; as Donoso et al. said "it must be remembered that women have and have had different historical and social roles, traditions and functions and vital experiences today forgotten by the academy. No reaction is expected upon this statement, since the epistemological process of disciplines and the ideological model have relied on an abstract and universal masculine, white and western upon which the knowledge production has been guided. To get rid of this tradition, the question shall be" (Donoso V. & Pessoa de C, 2014).

Research imposes to distinguish, theoretical analysis from empirical analysis, the effects of sex and gender variables; To identify and extend the gender trends, stereotypes and roles during the activity of research and to propose strategies to their eradication, additionally to include a non-sexist language and to promote the development of studies and investigations departing from complex and interdisciplinary thinking, through articulating the gender perspective.

Different difficulties are appreciated in communication and diffusion; a non-sexist communication is a challenge to which not every academic community is open; the development of skills to a non-sexist communication in teaching, research and diffusion, require the deconstruction of knowledge and language, which means the re-education in linguistics and semantics, a hard target, especially in the senior academic community; as mentioned by Valeria Hasan and Ana Soledad Gil:

the gendered communication is not only to write, inform nor speak about women; it means to understand the gender as a category of transversal analysis during all the communication process; that is to say, all the information, all the topics of different nature, must be treated upon the gender perspective. Thereby, gender distinction may be understood as a descriptive category, in which, inequalities between men and women are visualized; the gender, as an analytic category for the simple interpretation of said inequalities and the gender as a political category that enables the understanding the power distribution between genders, consequently, the discrimination and subordination of women in society (Gil & Hasan, 2016).

Generally, the mass media is the carrier of significant sexist trends; the publications shared are contributors of the traditional reproduction of the gender roles. More often than not, engage discriminatory and aggressive approaches against women; although we observe gradual changes in some of the media, we are away from a mass media based on full respect of the gender equality; the university press is not far from this picture. University media must take into consideration some appropriate policies in this respect.

4. Bonding with society and gendered Sustainable Development Organizations (ODS)

As part of the mission of the universities and generally, of the Higher Education Institutions, is the strong bond with the social, economic and political environment; its appropriateness relies on the preparation of graduates of high academic and professional level, on the contribution of the development and better life quality research, and, naturally, on the solution of specific problems around; it is a duty to contribute in the change of social, economic and cultural patterns preserving today women inequality and exclusion.

The contribution to development is part of the social duty by the universities, in that context, it must be outlined their participation in the fulfilment of the gendered Sustainable Development Organizations (ODS-as abbreviated in Spanish), Brenda Díaz[17] mentioned; "Guide for Universities, Higher Education Institutions, and the

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[17] Assistant to the Reserch of the UNESCO Chair in Gender, Leadership and Equity who developed a posgraduate research in the investigation lines of the UNESCO Chair in Gender, Leadership and Equity through the Project: "The inclusion policy by the Universidad de

Academic Sector" the relevance of the universities in promoting the fulfillment by the ODS and their participation. Regarding, universities participate with ODS from four fundamental pillars: 1) Learning and Teaching, 2) Research; 3) Governance and administration ,4) Outside Leadership. Some of the strategies that allow the diffusion and the implementation of the ODS which might be enabled by the Higher Education Institutions as a basic function and through different lines of action (Kestin *et al*, 2017)", are following.

Strong emphasis is focused on the ODS, the 4th, 5th and the 10th related to quality in education, gender equality and the inequalities reduction, respectively. Albeit the perspective of women human rights is not explicitly mentioned in the Agenda 2030 ODS Goals, it becomes clear in the set articulated that, women collaboration is vital to their accomplishment, thereby the relevance that women participate in the decision making of all, social, economic, political and educational and, cultural directions.

Table 1 ODS relevance and universities contribution

in the fulfilment of Goals 4th, 5th and 10th

University Pillar	Why the relevance in ODS?	What can universities do?
Learning and Teaching	The ODS recognize y the relevance of education for sustainable development and gender equality through the ODS 4th y 5th.	• Giving students the knowledge, skills and incentives necessary to comprehend and face the ODS challenges upon the gender perspective, the inclusion and equality of opportunities • Empowering female students y scholars to their access to the governing bodies and the decision making.

Guadalajara dedicated to the economic incentive program to Indigenous Students in the context of the Sustainable Development Objectives. (Mejìa, 2020).

		● Making aware and moving to youth towards a culture of peace and their participation in a responsible and informed citizenship.
		● Offering thoughtful educational and vocational training in the ODS implementation.
		● Improving the opportunities to the development of skills in students and professionals in addressing the ODS related challenges upon the gender perspective
Research	Encouragement and support to the implementation of every ODS, through the transversal incorporation of the gender perspective and the promotion of the inclusion and reduction of gaps from social inequalities.	● Encouraging and promoting ODS as a topic of research in the university programs. ● Supporting the whole approaches of investigation necessary to address the ODS, through the interdisciplinary and transdisciplinary research methodology upon the gender perspective. ● Supporting and incubating innovative solutions related to sustainable development and upon the gender perspective. ● Actively supporting the implementation of national and regional public policies regarding the ODS Goals; especially the related 4th, 5th and 10th ones. ● Promoting the creation of research networks, national and internationally related to the ODS derived strategic topics. ● Supporting the development of capacities in the three levels of government in

		order such three levels (federal, local and municipal) rely on the ODS investigations to the development of Mexican IES.
Governance Culture and Operation of Universities	Every higher education organization shall align their institutional development goals and normativity towards the strategic issues stipulated by the ODS, especially the related to the substantive equality.	● To align the university governing structures and the operational policies with the ODS goals, the substantive equality or discrimination and the human rights of the university community.
Outside Leadership	In fulfillment of the ODS, all sectors movement and collaboration is required, as well as the development of capacities in order to comprehend and implement the ODS.	● Consolidating the academic and public commitment, and social participation in ODS. ● Opening and facilitating dialogues and the intersectorial and transgenerational actions in the ODS implementation in gender perspective. ● Performing a principal role in the creation of policies and the promotion of sustainable development and substantive equality. ● Proving the relevance of universities during the implementation of ODS, in a culture of peace and in civic formation and its contribution to national democracy. ● Establishing universities' commitment in ODS and its solidarity with society.

Source: Prepared by Brenda Díaz Mejía y Rosa Rojas Paredes, Bothwell, E (2018)

UNESCO Chair in Gender, Leadership and Equity

A review of the UNESCO Chair in Gender, Leadership and Equity by UNESCO in view to the gender mainstreaming in Higher Education Institutions in Mexico. Objectives, plans and activities are a reference from the Mission and Vision,[18] objectives are ambitious and relevant are the challenges and limitations to face. The UNESCO Chair in Gender, Leadership and Equity was held in 2007[19] and over the last fourteen years the occurrence of different actions in investigation, formation and training in gender issues; diploma courses, seminars, conferences, among other modalities. The editorial production and the media press diffusion about the research findings as well as, the diverse opinions of the challenge women face about their rights, have become relevant activities.

In 2018, the Chair of the Advisory Council was created, formed by 25 teachers from national and 10 from international universities. Plans dedicated to include guidelines in inequality, inclusion, interculturality and sustainability were reorganized; today, there are six plans in process: Investigation and Innovation; Bonding and Academic and Social Communication; Training and Education in Gender Equality. Foreign Relations; Promotion of University and Business Leadership; Connection with the Media.

The civilian organizations expanded their participation in the Chair of the Advisory Council. The initial participation was from INDESO AC, becoming a part of the promotion and foundation team; as of today, five additional associations have joined; thereby, the consolidation of the relations with the civilian society and also, the solidarity activities developed with the regional and national feminist organizations.

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[18]**Mission.** To promote the substantive equality among women and men, and the respect to the human rights; fighting for the reduction of all types of gender violence, especially focused on the discrimination, sexual harassment at the Higher Education Institutions. The promotion of gender parity in the decision-making positions at universities and in society. **Vision** "The UNESCO Chair in Gender, Leadership and Equity, is an academic space of national and international prestige due to the excellency in substantive equality and gender equality, and to the academic collaboration and public policies in the defense of the women rights and the Mexican girls and in Latin America"

[19] The Article "Goals and Achievements of the UNESCO Chair in Gender, Leadership and Equity" addresses the creation reasons and process and actions for the first ten years. (Gonzalez R., Marum E., & Rojas P., 2019).

Collaboration relations have been kept with the three level government authorities, especially with the National Women's Institute, the Jalisco Substantive Female and Males Equality Secretariat and the Municipal Women's Institutes.

In regards, six books have been published and the Chair website redesigned. Today, the in-process investigations are as follows; a) Interculturality, Sustainability and Gender in the context of Inequality and Social Exclusion; b) IES participation in the fulfillment of the ODS; c) Civic formation and Academic quality in high superior institutions; d) Citizens in the perspective of: Gender, Interculturality and Sustainability. The continuity participation in the investigation and projects in social intervention, coordinated and financed by the Institute in Social Management and Leadership for the Future, (INDESO A.C.- *as abbreviated in Spanish*) through which an opportunity is provided to work with indigenous women and high marginality rural and urban zones. As well, the launch of a new investigation in university management related to perspective in the Mexican IES, considering the valuation of the gender policies there implemented; said investigation is in collaboration of the university chair of Human Rights in the National Autonomous University of Mexico (UNAM-*as abbreviated in Spanish*).

The connection and collaboration with the UNESCO Chairs established in Mexico, constitute an important space for exchange of ideas and projects; unfortunately, and due to the sanitary emergency caused by the COVID 19, no fluid communication has been established. In regards to the five UNESCO Chairs held in the University of Guadalajara (UDG-*as abbreviated in Spanish*), collaboration has become close and complementary in several aspects.

A significant limitation to the Chair functionality might be the lack of a designated staff, especially for the development of its agenda and their participation. The participation by the research teachers means an extraordinary effort to their ordinary duties. Besides, the low Budget available (approximately 10,000 USD per year) represents an additional limitation. Nevertheless, the UNESCO Chair in Gender, Leadership and Equity has become an open window for a plural and inclusive debate, participated by different academic, social and governmental actors; much remains to their inclusion in the decision making at IES; an important step might be that every time their opinions are more listened and their participation to respectful and inclusive dialogues is more appreciated, as the talk about the various challenges in opening spaces for democracy and equality at the Mexican universities.

Final Remarks

The social and political picture in the country is far from being positive in public safety, especially for women. In accordance with the 2020 National Public Security System, each day in Mexico, more than 10 women are killed (10.2 in average). From it, 2.57 of the murder cases are classified as feminicides. Each day, 45.2 rape cases are alleged and 601 cases of family violence. Each day, 157 women are filing claims of malicious injury and 4 girls are victims of minor corruption.

An aggravating circumstance might be that, since 2018, the current administration has cancelled important supporting female programs, thereby, the gender policies have been blurred. As an example, the cancellation of the Child Day Centers Programs which affected working mothers and principally, to learner single mothers who not only were left helpless but were forced to interrupt their learning. It is of concern that the federal government stigmatized the feminist movement as a violent and manipulated expression encouraged by the opponent political groups. As an evidence, the protective paraphernalia at the National Palace, the feminist protests of March 8th, 2021. The metal wall then lifted up, was described as the "misogyny wall" by different political analysts; an act expressing the President´s disdain towards the feminist movements and the Mexican women demands. Imperative is that the academy and the society stop misogyny, exclusion and authoritarianism today expressed from all scopes, either from the government or the society itself.

Higher Education Institutions are affected by the budgetary austerity current policies which budget has been waned significantly and thereby, their institutional development programs, consequently affecting the development research and projects in gender perspective.

The effects of the sanitary crisis caused by COVID 19 have limited the academic community activeness and the development of spaces, as well as the exchange among the community life; therefore, the knowledge and experience exchange; the sanitary contingency has delivered learning and innovation of the educational practice that must be seized in order to the renew of traditional education concepts and to the innovation in all the fields of academic endeavor, through the promotion of new university models to include the substantive equality and the respect of the human rights to a full civil and democratic practice.

The UNESCO Chair in Gender, Leadership and Equity, is an open window to enhance a gender agenda inside the IES, in a plural and inclusive pattern; beyond the specific

interests and internal differences of each of the IES actors enables us to promote the dialogue and search for closed solutions; therefore, the consolidation of alliances, the promotion of agreements, the involvement of the academic, government and social actors, the creation of investigation and interinstitutional collaboration networks towards the building of a gender agenda to include in the Mexican IES, and a solidarity-scheme in gender of all the Mexican women.

The Chair must be intensively dedicated to work for its own purposes, to promote the guidelines in the incorporation of gender in higher education plans, as proposed herein, in firm belief that we are not pursuing impossible missions but a democratic society based on substantive equality and to build education institutions where principles of equality and zero tolerance in gender violence are a reality. We are not working for the impossible but we are basically calling for equality.

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Reproduction of Gender Inequality in Higher Education through Gender-Blind Policies

Mary Koutselini[20]

Introduction

The under-representation of women in academia is well-documented in many countries. In their attempts to enter and succeed in the academy they face a lot of hidden and overt barriers, which are not seen by men and women and also, importantly, remain non-visible to policy makers. Women are under-represented in both public and private universities, especially when it comes to higher academic ranks, decision making and research posts, all of which are hogged and dominated by men.

Although over the last two decades a considerable number of policies aimed at gender equality have been announced by local, European, and international organizations and associations, the situation has not substantially changed. Research (EIGE, 2020) has indicated very slow progress in a few sectors (i.e., work), and at this pace it is estimated that at least fifty years are needed for equality to be realized. Even in countries where power is almost equally shared according to statistics, the value of women's equal contributions when it comes to making political decisions in the work place and in highly esteemed positions is disputed because of the obligatory measures taken in these countries.

Decisions for equality and also policies that are voluntarily implemented remain as unfulfilled desires because they cannot change the situation and alter the patriarchal mindset. The main reason for this is because the decisions are taken by persons who do not really see the inequality when they argue that measures in favor of women constitute discrimination between men and women.

It is amazing that the supporters of the above argument cannot see the existing inequality and the necessity for non-permanent measures for supporting equity in order to reach equality.

Equity means taking into account the real needs of the recipients and deciding accordingly what resources need to be allocated or what measures need to be

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[20] Coordinator of UNESCO Chair on Gender Equality and Women's Empowerment, University of Cyprus.

implemented in order to achieve greater equity. Firstly, one needs to admit that inequality exists, and then develop a strategic plan including short-, medium- and long-term measures that lead to equality. Gender-blind policies cannot eliminate discrimination and systemic deficiencies.

The international and European organizations' reports (UNESCO; ILO; The World BANK; EU) have shown that the Covid-19 pandemic is exacerbating pre-existing educational inequalities by reducing the opportunities vulnerable persons have to continue in higher education, a situation that affects men and women unequally.

Inequalities in Higher Education

The literature provides evidence of the degree to which such barriers have an impact on women's career progression and professional development in different countries (i.e., Coleman, 2007). Stereotypes promote and perpetuate the successful male bosses and managers without adequate evidence to support such successes.

The gender-blind policies attribute the under-representation of women in the academy to gender personal characteristics that lead to reduced participation of women in externally funded research programs and their abstention from elections for university governing bodies. These personal characteristics refer to a lack of commitment towards academic tasks and their professional career, difficulties in effective decision making and research skills, and a lack of ability to work under pressure and strict deadlines. The falsity of this line of argument is obvious for two reasons: firstly, the above characteristics (commitment, skills, ability) are not sexed or biological characteristics, so that they cannot be permanent features or attributes of either males or females, and secondly, they are *ex facto* interpretations, meaning that the argument retroactively presents the result as the cause.

The same gender-blind argument dominated in the results of a research project entitled 'Mapping Higher Education in Cyprus' (Koutselini, 2011). Quantitative data on the representation of women (the number of women academics, the number of women academics in different ranks, the number of women academics coordinating research in higher education, the number of women academics in leadership positions) were collected, as well as qualitative data on the views of both men and women academics regarding the presence of women in the academy, the role of gender barriers, and measures that could be used to improve the position of women in higher education. The results pointed out differences in the ways male and female academics approach gender issues in their institutions (Menon et al., 2014), but also brought up the common

argument of gender obstacles and stereotypes such as difficulties in reconciling work and family and the time- consuming demands of successful research. The attributes of a female academic and a 'good mother' seem to be incompatible with each other or mutually exclusive.

The lamentable aspect of the aforementioned research is that even though the number of female students was much higher than that of their male counterparts, women did not claim their right to be elected in the highest positions of students' representatives. Their explanation for this during their interviews revealed stereotypes which attributed leadership skills to male students rather than to female ones. The conclusion is that the 'masculine' culture prevailed at the expense of the female students, a fact which makes equality in the academy even more difficult. In order to explain the gender inequalities in the academy, it is important to ask to what extent women are free to choose their higher education studies and their career paths and under what conditions their choices could be facilitated.

A number of explanations deriving from different philosophical and sociological principles and taking economic, cultural, institutional, societal/structural factors into account have been provided concerning gender inequality in the academy. According to the economic approach, the profit from working in the academy cannot reimburse study costs and the loss from alternatives that aim at the reconciliation of family and work. The second explanation focuses on the male-centered environment of the academy which endorses and preserves male privileges and alienates women through gender-biased and male-centric performance evaluations and leadership characteristics. The third perspective emphasizes the different structural features of the society and its institutions of higher education, which determine the differentiated role of men and women and their different value. This approach explains to some degree the diverse understandings of gender equality among continents and institutions.

Despite efforts to analyse the roots of inequality, the glass ceiling continues to exist and continues to prevent women from reaching top positions in the academy. No single theory in isolation can explain this phenomenon, since economic, cultural and institutional causes all contribute to it to a varying degree. The problem is that women have to work harder and have to excel in order to gain recognition in male-dominated societies, even when men's performance is substandard.

Root causes of inequality

Research-based data point out a number of barriers for gender equality in the academy: the increased domestic and family responsibilities of women, workplace characteristics, stereotyping and selection/promotion practices, and internal barriers linked to women's internalization of their deficiencies, as well as parents' vision for less intensive working careers for their daughters due to marriage and maternity obstacles.

In order for us to have a deeper understanding of gender inequalities, we should analyze them in light of an interpretative perspective that allows understanding of the historical and cultural input in the systems of knowledge that produce the contemporary gender profile.

One can reveal and study the historical source of gender inequality by tracing the inception of patriarchy in the law of the jungle that originated many centuries ago. Jungle law, or 'the survival of the fittest,' signified the domination of men as leaders of families and villages and their triumph over their enemies through the use of brute force and physical power in the struggle for survival. Later on, when cities and states were established, men participated in the wars, creating kingdoms and states which taught the world the power of male leadership skills. The picture of men as leaders was passed on from generation to generation, and thus the concept of leadership has often been associated with masculinity, aggressiveness, physical power and the coercive willingness of the leader. Images of femininity have often been painted in the soft and muted colours of sufferance, tolerance, perseverance, obedience and submission. Their main task and responsibility was to prepare food and take care of the children as they waited with tolerance for the male heroes to return home. The male children's position in the household and society was constructed by following the father's example.

In the early-modern age this pattern has become the norm: women remain at home or in the domestic sphere, while men work in the public sphere and hold political leadership and social and educational privileges. Gradually men have come to predominate in the public sphere, in education and the sciences, and in the academy, where men hold the power and define the process of staff recruitment, qualifications for teaching and research, the rules of promotion, and the abilities leaders should have. A male profile for professors has been constructed to fit male norms, and it simultaneously defines the structure of the academy.

A second source of inequality in the academy, which also derives from the patriarchal society, refers to the family's rules of socialization, where distinct and different roles,

education, and orientation are attributed to sons and daughters. The systems of knowledge that produce unequal gender profiles begin in the family and have their origin in the historical identity of the society and the constructed norms as a result of the dynamic interaction of educational, social and political circumstances and situations. Deconstruction of the local patriarchal gender representations presupposes the consciousness of the role of history as a mechanism of construction and reproduction of segregated gender features in all the socialization institutions, and especially in the family. The usual and historically deriving pattern has established gendered power relations and control.

Mass media support the differentiated socialization of children by promoting the distinct spheres where men and women are active. The results of research studies on the profile of genders as it has been broadcast all over the world glaringly points to the stereotyped profile of women. In a similar vein, a study conducted in Cyprus (Koutselini & Agathangelou, 2013) which aimed to show the relationship between gendered representations on television, cultural pattern construction and students' gendered perceptions revealed that the stereotyped women and men profiles represented on TV were also internalised by primary and secondary school students.

From thousands of hours of watching television, children receive messages about gender roles (i.e., Witt, 1997) and therefore gender representations on television impact children's attitudes and perceptions of gender-appropriate behaviour in society. From another point of view, mass media representations transfer and reshape the existing in the society gender roles, allowing to the family and society' s system of knowledge to recycle each other in a way that safeguards their unchanged delivery in the next generation.

In *Discipline and Punish* (1979), Foucault analyses the ways in which societies and cultures punish individuals who reject their norms, values and imposed roles. Culture is the arena in which subjects construct their subjectivity by learning what to do, how to behave and what to believe. "Learning" is a mechanism of subordination, control, and power, and "disobedience" is a form of resistance to those exerting power over others. Language is the vehicle which is used to communicate meaning and it is the main instrument of cultural transmissions. Families, the mass media, schools and the academy use language and other signifying practices to represent the world and gender roles in a way that make them seem inherent and inescapable. The norms and values of society at large and of smaller social and educational units are taken for granted, and

as a result the binary opposition of men and women is presented as being a natural phenomenon.

In the final analysis, the continuation of inequality is due to the fact that the different roles of men and women are perceived as natural by the power holders in different institutions and the society. Additionally, the decision-making bodies are dominated by men who enjoy both the male culture and their own ascendancy. Therefore, there exists a matter of conflict of power and control: more power to women means less power to men and different distributions of decision-making roles and positions.

Deconstruction of ideological and cultural values, norms and hierarchical discourse presupposes the consciousness of the role of history as a mechanism of construction and reproduction of power relations and control. As Kristeva (1984) points out, the subject will always be a subject in process, fixed, defined and redefined in terms of what is rejected and whose interests are supported. An understanding of the impossibility of fixing meaning demonstrates where the stereotypes and values come from, and allows for change and the deconstruction of given relations. According to the above discourse, intersectionality (Phoenix & Pattynama, 2006), which examines, for example, gender together with nationality, ethnic and personal characteristics, an illiterate family environment and poverty, should be seriously taken into account as a factor which exacerbates gender inequalities even more, making the progress towards access to higher education much slower.

If indeed, as Derrida has argued, no one habits culture by nature, then the investigation of the causes of inequality reveals the reproductive role of historical patriarchy, family and mass media micro-culture concerning polarized gender norms. Therefore, one can support the view that cultural stereotypes and norms consist of the discursive meanings its subjects produce, reproduce, and perpetuate regarding segregated gender roles in the society.

Supporting a non-blind policy

A non-blind policy is grounded on understanding historical patriarchy and the causes of inequality that have been internalized as the deficiencies of women, hence leading to the promotion of inequality as a natural phenomenon. As Davis et al. (2006, 2) argue, "Gender is a system of power in that it privileges some men and disadvantages most women." Cultural norms are part of the system of power and they need at least one generation to slightly change. Therefore, each generation is constructing its existence by learning how society behaves and internalizing stereotyped, segregated gender

roles, which become forms of social mechanisms through which one understands himself/herself and becomes a new agent of perpetuation.

Resistance to these social mechanisms needs drastic non-permanent measures that will succeed in balancing gender representation in decision-making posts and thus altering power relationships. Concerning the academy, these measures include the equal number of men and women in policy making boards, evaluation and promotion committees, councils, management and administrative positions, as well as in students' boards. It is self-evident that numbers cannot make the difference, unless the participating women in the boards and committees are very well- informed about how gender biases and stereotyped norms subordinate women in the academy and how different but equally valuable work and qualifications are underestimated.

The policy of establishing non-permanent measures for changing power relations promotes equity by providing space and opportunities for females in the academy to participate in the formation of decisions, rules, and procedures that lead to gender equality in higher education.

Conclusions

This paper has sought to address the question to what extent women are free to choose their higher education studies and their career paths and under what conditions their choices could be facilitated.

The presentation of inequality in the European and international reports has little impact on real changes in society and makes even less contribution towards understanding the roots of inequality. One of the reasons for this is the fact that the descriptive presentation of the existing situation cannot reveal the contexts in which inequality becomes visible. Moreover, in order to contextualize gender, one needs to investigate the specific historical context of each society, both EU member states and non-EU countries, a process that will allow us to trace the political, social, and economic circumstances which are dynamically intertwined for the cultivation of ideologies, values and perceptions of a gendered culture, which is also evident in the academy.

Women and men, girls and boys, do not have equal access to higher education, since major segregation exists in the roles attributed to them in the family, society, and in the academy. Family obligations still remain a female responsibility and long-lasting studies and a hard-working programme are not considered appropriate for women, an ingrained perception that prevents women from studying 'hard' sciences/ STEM subjects more generally and choosing their career paths. Research indicates (i.e., Basow, 2018) that

their experiences in the academy are different from those of their male colleagues. The binary divide between men and women is based on a concrete set of signifying practices that represent and concretize gender power and segregated relations. The gendering of tasks and skills maintains gendered hierarchies dominated by men who define the male profile of professorship and the female skills of non-permanent teaching staff (Koutselini, 2011).

Given that the relations of power and control are historical and institutional, that is, rooted in the establishment and function of the institutions in the society, the emphasis for change must be placed on a discovery of their patriarchal identity and their contribution to pre-given gendered meaning. The pedagogy of anti-essentialism advocates both deconstruction-comprehension of representational systems and reconstruction-composition of constructive depictions, as these empower individuals to struggle for change in a stereotypically gendered society. The main principle underlying gender equality is the right to be different, and all efforts must be undertaken to change the structures that preserve the segregation between men and women.

Despite the progress that has been made, it is evident that more needs to be done to change the culture of male domination. Non-permanent measures, *inter alia*, aiming at balancing gender representation in decision-making posts support a non-gender-blind policy that is grounded on the premise that gender inequality is not a natural phenomenon.

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Girls underrepresentation in math

Thomas Breda[21]
Elyès Jouini[22]

In France, girls do better academically than boys, to such an extent that in recent years there has been concern about a boy crisis, fueled by the growth of school failure among boys. The figures attest to this: in nationwide scores at CE2 (US 3rd grade), sixième (US 6th grade), brevet (UK GCSE equivalent) and baccalaureate levels, girls do better than boys. They are more likely to obtain high or top grades in the baccalaureate. They also have an easier and smoother school path than boys: they have fewer repeat years, have less difficulty in reading, are less likely to drop out of the school system, are more likely to go on to higher education, continue their studies longer are awarded more general diplomas, and so on.

However, these results hide their under-representation in scientific fields that are also the fields that lead to the highest paid professions and top jobs.

This underrepresentation is a source of concern for two main reasons: it contributes substantially to gender inequality in the labor market, and it represents a loss of potential talent that could in particular help meeting the growing demand of skills related to the development of information technology and artificial intelligence.

This gender bias is not limited to France. Girls are under-represented in science subjects in most OECD countries, for example in the Netherlands and Denmark, where they are significantly less involved in science (Joensen and Nielsen, 2016), as also in Switzerland and Germany (Roeder and Gruehn, 1997). And while girls in the United States choose mathematics and science classes as much as boys, they make up only 25% of those employed in science, engineering and mathematics professions (National Science Foundation, 2006). Similarly, according to the PISA 2015 survey, although 25% of boys and 24% of girls in the OECD said that they intended to pursue a scientific profession, the areas mentioned varied from one gender to the other, with girls opting for health care and boys choosing computer science or engineering.

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[21] CNRS and Paris School of Economics

[22] Paris School of Economics and Université Paris Dauphine-PSL. Coordinator of UNESCO Chair on Women and Science.

Admittedly, girls have the edge in literary subjects. But is this the consequence of "natural" specialization or the counterpart of unjustifiable inequalities? In addition, the differences in mathematical performance and orientation attract more attention because there is a strong correlation between doing well in mathematics and people's chances of success in life (OECD), not to mention future earnings (Niederle and Vesterlund, 2010). For example, for the sociologist Christian Baudelot (1991), "mathematics represents a major educational and professional challenge for boys, since today it opens access to the Promethean professions associated with wealth, knowledge and power."

More importantly, deciphering these issues makes it possible to better understand the gender pay gap that persists today – and which, according to the World Economic Forum, is likely to remain in men's favor until 2086 – as well as the small proportion of women in management positions. This contribution therefore aims to analyze female under-representation in sectors where mathematics plays a major role, so as to understand how to reduce the resulting inequalities both at school and in the labor market.

1.   Are girls less mathematically gifted than boys?

There is abundant evidence that girls tend to perform on average equally or slightly worse than boys in mathematics. For example, the gap in average math performance is around 10% of a standard deviation in the Programme for International Student Assessment (PISA) in the 2000s, which can be considered as close to zero, and it is not statistically significant in most countries. However, if we focus on high levels of performance, a large gap remains: in the top decile of the math performance distribution among countries belonging to the Organisation for Economic Co-operation and Development (OECD), there are on average only seven girls for ten boys. This underrepresentation of girls at high levels of performance is a common feature of all 35 OECD countries, and it has remained remarkably stable since 2000.

Hence, it seems that the gap in mathematical performance widens when the focus is on top performing groups of students. The presence or absence of girls in the highest rankings in science subjects is undoubtedly a more important factor with regard to our questions around girls' orientation in scientific fields. A lower proportion of girls among the top scorers in mathematics could explain their under-representation in the most elitist sectors.

The 2012 and 2015 PISA surveys reveal that the difference between boys and girls

increases for the highest levels of performance. In both mathematics and science, girls are underrepresented among the leading groups in the large majority of countries. Thus, on average, in OECD countries, there are more boys than girls at levels 5 and 6 in mathematics: 12.6% of boys are above level 5 as against 9% of girls. In France, 13.3% of boys are above level 5 against 9.6% of girls. The same holds for science. However, the opposite is observed in reading: girls perform better on average and are overrepresented among top performers, to the same extent as boys in math or science.

It is also the case that boys are more represented in the extremes of the ranking. Thus, for PISA 2003, the variance in their mathematical performance (greater male variability hypothesis) was higher than that of girls (Machin and Pekkarinen, 2008). Consequently, there are fewer girls than boys among both the worst and best performers in mathematics in the PISA survey.

Similar results have been found by US studies for other assessments. In American Mathematics Competitions (AMC), the ratio is four boys performing very well to one girl; on the SAT test, there is a ratio of two boys at high levels in mathematics to one girl (Ellison and Swanson, 2010). There has, however, been a major shift: 25 years ago the ratio for SAT was 13 to 1.

In France, there are still far fewer women in engineering schools (26%) – and this percentage drops to 15% for the top schools: Ecole Polytechnique, Ecole Centrale and Ecole des Mines. Ferrand, Imbert and Marry (1999) show that fewer girls than boys attend the most prestigious high schools, that they enter "star" classes to a lesser extent, that they do not often register for Ecole normale supérieure competitions, and that their average rank of entry to Ecole Polytechnique is lower.

The substantial gender gaps among high performers at 15 years old are a source of concern because they affect educational choices and contribute to the underrepresentation of women in math and science, especially in higher education, and to their subsequent worse position on the labor market.

The reasons behind the gender performance gaps, especially in math, have been debated for more than a century, centered on the roles of nature and nurture, with recent research highlighting the interplay between the two.

Breda et al. (2018) elaborate on the so-called gender stratification hypothesis (according to which gender differences in opportunities and status shape numerous socialization processes that in turn may affect performance), by assuming that the processes that transform differences in status into differences in performance depend

on the degree of countries' inclusiveness; indeed, inclusive countries are likely to mitigate the impact of status differences in general. They hypothesize that women have a lower status than men in virtually all countries, but that this lower status is more likely to be detrimental to girls' performance in countries that are in general less fair and inclusive: the more unequal a country, the more the status difference between boys and girls should translate into actual differences in school performance. As a result, all the measures of inequalities they have considered appear as associated with a significantly lower girls-to-boys ratio among high performers in math.

The more unequal a country, the more the difference in status between boys and girls translates into real differences in educational outcomes, in the same way that the more unequal a country, the lower the proportion of people from economically disadvantaged backgrounds among the best performing students.

It is striking that a large variety of general indicators of inequalities can explain so well the general patterns of gender differences in math, science and reading performance across countries (while other indicators directly related to gender stratification have limited explanatory power). Countries that are generally speaking more egalitarian tend to reduce altogether several forms of inequality, as well as the gender gap in math at 15 years old. In more egalitarian countries, differences in initial status seem less likely to translate into differences in performance (in math, reading or science) and girls are more represented among high performers as are, for example, students from a low socio-economic and cultural background. This suggests that the gender gap in math is a form of social inequality like many others.

This interpretation is consistent with the fact that gender performance gaps at school are linked to countries' institutions that more generally reduce social and economic inequalities. Those institutions may also enhance girls' performance at school. As a consequence, gender equality may not only be a matter of gender norms and stereotypes.

2. Do girls like mathematics less than boys

Ceci and Williams (2010) show that the under-representation of women in math-intensive fields can be explained much more by preferences and differentiated choices than by specific mental capacities or possible discrimination against women.

But then is it simply a matter of taste? Or might girls be reluctant to embark on reputedly more demanding career paths? Thus, are there other factors that need to be explored? The literature in social psychology and sociology helps us better understand what

guides female choices. Issues of self-confidence, risk aversion and a taste for competitiveness have a significant role to play in this differential orientation, since scientific fields are considered to be more elitist, riskier and more competitive.

Throughout their schooling, girls and boys face choices, ranging from simple teaching options to the specific path that determines their specialization. In theory, these choices reflect the students' preferences, at least when their grade level does not close off certain routes.

However, in France, practically at every important orientation level (10th grade, baccalaureate), differences emerge in girls' and boys' choices, particularly as regards mathematics and sciences. Girls choose more balanced exploration courses than boys – 42% of them take courses with a literary and artistic profile – while the great majority of boys opt for courses with a strong scientific component (engineering sciences, scientific methods and practices, science and laboratory, etc.).

The dichotomy does not stop there. After the baccalaureate, female and male choices still diverge. After a scientific baccalaureate, men are more likely to embark on the prestigious CPGE track (preparatory classes for grandes écoles), while women opt far more often for medical studies. Even within the scientific track at university, there is a gender difference: female students move more towards biology, male students towards IT (PISA 2015).

In sum, it is clear that significant differences in orientation choices exist between girls and boys throughout their school career in France. At equal academic levels, it seems that boys have a much stronger appetite for the scientific track than girls, who are more versatile. So is it simply a matter of taste?

The simplest explanation for girls' different orientation choices is that they do not choose science because they do not like the subjects taught. Differentiated orientation according to gender would then simply be a matter of preferences, in the primary sense of the word, that is to say of tastes. How plausible is this suggestion?

"65% [girls] say they have fun when they learn science, compared to 72% of boys," says Eric Charbonnier, an education expert at the OECD (PISA 2015). It is also the case only 38.6% of girls say they read scientific books, compared with 51.3% of boys.

In the case of France, the PISA 2015 report notes that the discrepancy between 15-year-old girls and boys in terms of enjoyment in learning science is one of the greatest in all the OECD countries.

However, taking a broader view with regard to time and space, it is clear that the argument is difficult to maintain. One simply has to recall that it was only after the 1970s that boys began moving away from literary disciplines.

Furthermore, and the presence of women among scientists initially varies greatly from country to country. For example, there are 25% of women in Korea in higher studies in science, technology, engineering and mathematics, 32% in France and 55% in Tunisia. So is there an innate scientific taste and aptitude in girls in some countries and not in others?

Even more curious: the under-representation of women in scientific fields appears to be significantly higher, not in poor countries, but on the contrary in the most developed and egalitarian countries. The countries in which women are numerous in the political sphere and in positions of responsibility are those in which the educational choices of girls and boys are, in fact, the most gendered!

Some researchers have concluded from this paradoxical situation that girls shy away from science when they have the "economic freedom" to do so. An explanation that questions.

In a work carried out within the framework of the Women and Science Chair, Breda et al. (2020b), highlight a completely different logic at work: they show that what really varies between the countries where young girls study science and those in which they turn away from it, is the strength of stereotypes that associate, in some places more than in others, excellence in mathematics only to men.

There are societies where there is an ideology of "male primacy" according to which men are superior to women in general and are led to monopolize power. Their research highlights the fact that societies, without an apparent hierarchy between the genders, would replace this male primacy by a belief in fundamental, innate differences between men and women.

In the former, it is mostly considered that higher education and professional careers are more for men. Women who transgress these traditions are in this case willing to study science. The more "advanced" societies, for their part, seem to accept the idea that women have their place at all levels of society, but they consider that there are jobs and disciplines that suit them more.

In fact, social norms do not disappear with the development of society but adapt and reconfigure themselves to maintain the de facto preeminence of the holders of wealth, knowledge and power.

The emergence of these stereotypes in "advanced" countries has important consequences. In very individualistic universes, young people rely heavily on group identities and in particular gender identities to make their decisions. These stereotypes therefore greatly influence career choices.

Research has also shown that the presence of these stereotypes goes so far as to affect the level of academic performance upstream. When their environment tells girls that they are less good at math than boys, their grades in these subjects are worse! The gap in performance between girls and boys, that is very different from one country to another, is precisely linked to the strength of stereotypes in the different countries.

3. Have girls already acquired a comparative advantage for humanities at time of making crucial educational choices?

A study conducted by Thomas Breda and Clotilde Napp (2019) on mathematics and literary disciplines performance on PISA 2012 data (300,000 15-year-old students in 64 countries, 35 OECD countries and 29 partner countries) confirms that boys are slightly better than girls in math, as discussed in section 1, but it also highlights that girls are much better in literary disciplines.

At 15 y-o, the gap in literary disciplines in favor of girls is three times the gap in mathematics in favor of boys. These differences give girls over boys a real comparative advantage in literary disciplines: two-thirds of them are better in literary disciplines than in mathematics, while this is the case for only a third of boys.

The PISA 2012 survey also includes questions to measure intentions to pursue studies and careers related to mathematics. It is found that boys have more intention than girls to study mathematics, with the observed differences very variable from one country to another. But it is also found that small differences in performance in mathematics can only explain about 10% of these differences in intention.

In contrast, the results are radically different when attempting to explain career and career intentions by comparative advantage in math rather than by level of math alone. Taking comparative advantage into account makes it possible to account for 75% of the differences between the sexes in terms of intentions to study mathematics in all 64 countries studied.

This means that if we focus on students with the same difference between scores in mathematics and scores in literary disciplines at 15 y-o, the difference between girls and boys in terms of intention to study mathematics decreases by 75%. Girls are mostly better at literary disciplines than at mathematics and when it comes to making choices, they would identify as more literary than scientific and their comparative advantage in letters would lead them to abandon more mathematical fields.

The PISA 2012 survey also measures declared interest in mathematics or their self-confidence in this subject. These variables are much less able to explain the differences in orientation between girls and boys than the comparative advantage.

In addition, they observe the same phenomenon as with the choices of orientation: the differences in level in mathematics explain very little of the differences in declared interest or in self-confidence in mathematics between girls and boys, while differences in comparative advantage can explain almost entirely gender differences in declared interest or in self-confidence in mathematics. This shows that self-confidence or interest in a field is established by comparing its performance in different fields: at the same level in mathematics, the best level of girls in letters affects the way they perceive themselves in mathematics, and in particular to their self-confidence in this discipline.

The importance of gender gaps in academic performance in literacy and numeracy observed at 15 y-o and their role to explain the gender gap in math-related education reveals that a lot of the action has already been played by that age. Math and reading abilities at 15 y old are indeed likely to be determined by earlier socialization processes that shape preferences and investment in the different fields. As discussed in section 1, these processes are themselves likely to be influenced by countries' socioeconomic environment and culture or institutions such as parents and schools, which jointly determine from the earliest age abilities, interests, and self-concepts at 15 y-o. For example, the gender gap in comparative advantage at 15 y old is larger in countries where the stereotype associating math with men is stronger. This highlights the importance of early interventions to limit the influence of social norms on educational specialization, which, by the age of 15, has already produced differences that are hard to reverse.

4. Are girls less self-confident and why do stereotypes persist?

One of the main explanations provided in the literature for this gender gap in choices is a gender gap in self-confidence: with equivalent results, girls are less optimistic about their abilities in mathematics [Correll, 2001]. This first raises the question about the

origin of this underconfidence. Second, because girls need to be more able to reach the same level of confidence as boys, if underconfidence were the only reason for lower self-selection, only the most able would self-select. As a consequence, the gender gap in choices would be lower for high ability levels, and self-selected girls would perform better than self-selected boys, which is not observed in the data. If this were the case, this would lead to a progressive reinforcement of girl's self-confidence and then to a reduction of the gender gaps in choices.

Jouini et al. (2018), building on status characteristics theory and expectation states theory (Berger et al., 1972, Foschi, 2000, Ridgeway, 2001), propose a model of belief formation mechanism with a stereotype component where the presence of a stereotype, in the form of a biased/stereotyped attribution of success and failure in terms of ability, exposes boys and girls to different psychological risk. These differences in psychological risk can be interpreted as differences in self-esteem risk and generate different protection strategies in terms of self-confidence and choices. The underconfidence of girls as well as their less ambitious/challenging, less risk tolerant or competitive choices appear as their best response to their higher psychological risk. By adopting modest confidence levels and by choosing less ambitious options, girls reduce their future psychological risk of disappointment if reality does not keep up with expectations. Besides, they show that differences in psychological risk combined with their self-confidence formation mechanism generate differences in the nature of the relation between ability and self-selection in mathematics. The relationship is more increasing for boys than for girls, in the sense that more able boys self-select more in mathematics whereas highly able girls might self-select less than less able girls.

This gender selection effect in choosing math options leads to higher ability conditional on participation, i.e., better performance of boys, especially for high ability levels. This self-selection bias is an important feature of their approach; even if the same (ex-ante) ability is assumed, the mere presence of the stereotype leads to girls underperformance. This feature permits the survival of the stereotype and provides a possible channel through which status hierarchies can survive and even get reinforced.

5. Public policy options

The under-representation of women in scientific fields, which are the most demanding and most prestigious, cannot be explained by an innate gap in performance and skills. True, there is a gender gap in terms of orientation, risk aversion, liking for competition and self-confidence. But the mechanisms underlying these gender differences are above all socio-cultural. They are therefore levers on which the public authorities can

and must act. Not only is it a question of combatting a form of social injustice, but it is also an opportunity to put an end to a situation where women's talents in mathematics and science are not available to fields where they are needed.

If there are countries like Finland, where girls are more likely to do as well or even better in math than boys, it is because there are ways of fostering an environment favorable to gender equality. The theoretical and empirical results that we have presented in this synthesis provide food for thought. These findings should be drawn on for shaping relevant and effective public policies aimed not only at reducing the gender gap in mathematics, but above all at encouraging a higher proportion of talented and gifted girls to go into scientific fields by reducing the phenomenon of over-selection at school.

There follow a number of possible courses of action.

Fighting against gender stereotypes

As we have explained at length, the under-representation of women in scientific fields and their lesser orientation towards subjects that involve learning mathematics is explained above all by social constructs characterized by stereotypes that are hard to eradicate. Yet the socio-cultural environment that hinders the advancement of women in science and limits their freedom is not unalterable: public policy initiatives may be able to change it. Moreover, it is the role of society, in the name of equality of treatment, to fight against gender stereotypes that exclude women from the highest paid and most highly esteemed professions.

From an early age, what boys and girls like to do and believe themselves to be capable of doing is very much determined by stereotypes that are propagated in their immediate environment. The social system in which children grow up is but one system among many, and they can be shown that this is the case through teaching.

For Vouillot et al. (2014), change can only come about upstream, by destroying stereotypical representations. Gender differences – preferences, tastes, risk aversion, self-confidence – are not laws of nature and need to be seen as inequalities, thus justifying public intervention, through awareness raising, the training of adults who are in contact with students, and the proliferation of programmes involving female role models.

For example, how do we end up with the idea that certain professions are exclusively for men or exclusively for women? How do we set about giving to women what is automatically given to men, namely the benefit of the doubt?

Clearly this calls for awareness-raising programs both in schools and in families from an early age. Preconceptions such as "girls do not like mathematics" or "girls are not good at math" are not confirmed by any scientific study, and it is the duty of the public authorities to make this fact known.

Many mistakes are regularly made, many of them in good faith. For example, there was the French Ministry of National Education's communication campaign for recruiting teachers, using two posters. One showed a man seated in front of a laptop in a technological environment, saying he has found a job to match his ambitions, the other a woman reading a book saying she has found the job of her dreams. The first step in the fight against the under-representation of women in the most prestigious sectors is to put an end to these representations blighted by gender stereotypes, which should no longer be used in government communication campaigns or indeed in school textbooks.

Public awareness-raising programs could, for example, challenge scientifically unfounded beliefs that men's cognitive abilities in mathematics are superior to those of women.

The training of adults who are in contact with children is essential. Parents, but also teachers, school heads, and guidance counsellors, all need to be made aware of the importance of gender equality. The information given to schoolchildren and parents, the support provided, and teacher training must take into account this dimension: if adults transmit the same information to girls as to boys, they could help to reduce the existing gender gaps.

Affirmative action

Affirmative action initiatives are effective in breaking down stereotypes, since they help to show that the abilities of girls and boys are similar.

In this regard, the literature on boys' and girls' interest for competition is a good starting point for studying the problem. A number of experimental studies in economics that have analyzed the impact of certain measures on the gender gap in relation to the competitiveness of girls and boys provide us with information on public policy measures that could be effective in counteracting differentiated orientation choices. Niederle (2014) shows that the introduction of competitive exams based on affirmative action, where women are compared to people of their own gender and not to men, improves their self-confidence and makes them more competitive. In addition, the more high-achieving women receive advice from people who are more knowledgeable than themselves, the more likely they are to compete (Brandts et al., 2015), a finding that,

by extension, shows that having mentors and receiving advice reduces uncertainty about whether or not to pursue competitive career tracks. Balafoutas et al. (2010) show that quotas and preferential treatment of women favor their entry into competitive exams, and, quite counter-intuitively, reveal that these affirmative action initiatives do not affect the effectiveness of such competitive exams in selecting the best candidates.

Positive discrimination has, however, been widely criticized. Some studies point the fact that too explicit affirmative action initiatives tend to increase differences in self-confidence because they support the commonly held belief that women need more help than men if they are to succeed.

Affirmative action initiatives are thus able to create first generations of role models, but they can also lead to the intensification of stereotypes, that is even greater in the context of gender issues where the stereotyping may be based on physiological pseudo-differences than in the context of social inequality issues. Positive discrimination can further reinforce the "poor selection" effect highlighted above, since girls benefitting from this discrimination are not necessarily the best. In particular, Niederle et al. (2013) find that positive discrimination actions increase the proportion of girls participating in competitive exams, but girls with the lowest objective abilities are still over-represented and those with the highest objective abilities are under-represented (compared to the proportion of girls with high abilities in the overall population), reinforcing the mechanism described above and possibly reinforcing the stereotypes.

<u>Role models and mentoring programs</u>

Several studies in behavioral economics have advocated the effectiveness of the role model method (Filippin and Paccagnella, 2012). Involving women scientists who have succeeded in fields with male connotations is a good way to combat stereotypes and convey information to children with regard to their own abilities, about which they may not have been confident hitherto. As we have seen, scientist mothers and female teachers increase girls' chances of success in scientific fields.

The advantage of role model programs is that they are extremely simple to organize and can be presented in the form of testimonials in middle school or, even earlier, in primary school.

Gervai et al. (1995) stress the need to attribute the success of mathematically gifted girls to their skills rather than simply to hard work, so as to boost their self-confidence. As Schulz (PISA 2003 report) shows, boys and girls who are supported by their peers, parents and teachers are more confident and perform better. Having mentors, that is,

people who encourage girls to excel, helps reduce the gender gap in self- confidence. Mentoring also has an impact on professional life: men and women who are supported by others are more inclined to ask for salary increases or assignments that force them to excel, unlike their counterparts of the same gender who do not benefit from such support.

In fact, one of the largest gender gaps we have identified concerns self-confidence: girls' belief in their skills in mathematics is lower than that of boys. Overmarking of girls and differentiated modes of communication do not help. It is therefore essential to treat girls and boys in the same way and not to apply a double standard. Greater self-esteem and more ambitious choices could help combat stereotypes that disadvantage girls. We need therefore to put an end to the differentiated social treatment of the two genders. More egalitarian beliefs about girls' and boys' abilities would lead to more balanced stereotype threats, more equal levels of self-esteem, and less pronounced over-selection, as this too becomes more egalitarian.

While role models are seen as one of the most promising ways to combat gender stereotypes associated to STEM and increase girls aspiration for science careers, their effectiveness in a real-world setting has only been assed recently. Since 2014, the For Girls in Science awareness programme run by Fondation L'Oréal has offered one-hour classroom talks by young women with a science background (women working for the L'Oréal group and young researchers). These talks aim to combat the stereotypes associated with science-related careers and with women's role in the sciences, in order to make science more attractive to young women.

Using a random assignment evaluation protocol on nearly 20,000 pupils in Grade 10 (Seconde) and scientific Grade 12 (Terminale scientifique) at French high schools of the Paris region in 2015-2016, Breda et al. (2020a) show that these one-off talks lead to a significant reduction in pupils' stereotypical representations of science-related careers and gender differences in scientific ability, among both girls and boys. Although the talks have no discernible impact on choice of educational track for all pupils in Grade 10 and for boys in Grade 12, they have significant effects on the higer education track choices of girls in Grade 12, for whom the proportion choosing a preparatory class for the most prestigious universities (CPGE) in a STEM subject rose from 11 to 14.5% (a 30% increase).

One of the lessons learned from the study is that the ability to influence young girls' career choices depends not only on how effectively the female role models bust the stereotypes associated with science-related careers and gender roles in science, but also on the type of identification engendered by exposure to the role model. Other recent studies focusing on female role models being economists (Porter and Serra, 2020), computer programmers (Del Carpio and Guadalupe, 2018), or doctors (Riise et al, 2020) also confirm that a brief exposure to a role model can have large effects on female students' educational choices. <u>Working on the organization of the education system</u>

As we have seen, the institutional system plays an important role in the development of gender gaps, in particular course specialization, which favor differentiated orientations.

To promote a more equal representation of girls and boys in mathematics studies, limiting differences in comparative advantage, for example by trying to improve boys' level in literary disciplines, should be effective. Another option would be to improve information for students when making choices, to encourage them to rely less on comparative advantage and more on career prospects. These interventions would of course be carried out in addition to those intended to limit gender stereotypes and their impact, from an early age, on the academic paths of girls and boys.

It would also be interesting to consider a less specialized education system, which would discourage girls from giving up math too early. For example, the program set up in 1988 in the UK is a good example of the reorganization of the education system: the study of modern literature became compulsory for boys, and the study of mathematics, science and technology for girls.

The importance of equal pay

It has been shown that the more egalitarian the job market and the less gender segregation in job opportunities, the lower the gender gap in mathematics. Kane and Mertz (2012) emphasize the importance of eliminating wage inequality and gaps in professional opportunities between men and women, for encouraging talented girls to study mathematics.

The challenge involves more than simply reducing inequalities: it is also about providing the wherewithal to effectively train all those able to contribute to the success of the knowledge economy, in which the future of our society lies.

The literature on the gender gap is extensive. It has, however, been considerably blighted by vague discussion that does not pay sufficient attention to factual information. In order to determine the public policies most likely to improve the situation, we need clear results and facts.

Much remains to be done in terms of statistical analysis of the data, particularly with regard to longitudinal studies, for analyzing over time how performance and choices are linked. These links between choice and performance are complex and have been poorly analyzed. As has been pointed out by Marie Duru-Bellat, a number of decisions punctuate students' school trajectories: orientation choices and decisions, allocation on the basis of the places available, reactions and reorientations in the event of setbacks, choice of options, etc. – and the gender variable can exert a significant influence at each of these stages.

If work remains to be done in terms of empirical analysis, there is also a need for more theoretical work and better models of gendered choices.

It is also interesting to note the disquieting analogy between gender inequalities and social inequalities. Differences in performance, self-confidence, and orientation between girls and boys also exist between the most favored and the least favored socio-professional classes. For example, according to the 2012 Pisa Report, an increase of one unit in the PISA index of economic, social and cultural status leads to an average 39-point increase in mathematics score in OECD countries – and 57 points in France, one of the most pronounced cases in this respect.

This finding gives us the following insight: what has worked for reducing social inequality can also work for reducing gender inequalities. It should therefore be examined in detail. We know that systems in which segregation and differentiation are lowest are conducive to reducing the impact of social inequalities on inequalities in performance. The greater the horizontal or vertical segregation, the less egalitarian the education system; and the more standardized the system, the more egalitarian it is. One avenue for future research would then be to analyze whether systems that have reduced inequalities have also reduced the gender gap in performance and choice of orientation. PISA could be a good database for starting this work.

We conclude this investigation with an invitation to caution: when it comes to gender issues, it is necessary to look as much as possible at the most objective facts, so as not to slip into unsound arguments that undermine clear thinking.

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The 2030 Agenda For Sustainable Development And Gender Equality: Transformative Tensions

Virginia Maquieira D'Angelo[23]

Introduction

The term 'tension' is generally associated in everyday discourse and in the media with the conflicts and antagonism present in the world today that generate violence, destruction and military confrontation. However, the wide-ranging and comparative perspective of social anthropology allows us to view new analytical meanings of the term 'tension'. From this viewpoint, the creative flow in this discipline has been documented as a consequence of the apparently counterposed forces between the unity of the species and the diversity of its sociocultural endeavours. The depth of its methodological capacity is likewise highlighted, produced by the tension held between the comparative task and the texture of the ethnographic analysis. The anthropologist Marc Augé has stressed the importance of studying this tension, as, in his view, the aim of anthropology is to examine the tension between sense and freedom: *sense* being understood as a set of structured social relationships and *freedom* defined as the space allowed for individual initiative. In his opinion, all societies are threatened by the shutdown of sense and the reification of culture, although alienation in a social sense can never be so restrictive as to smother individuality (2007). Similarly, we may highlight the proposal by anthropologist Teresa del Valle, who has studied the potential of tension as an analytical category and its contribution to anthropology from the angle of feminist critique, overcoming the negative view associated with the concept, to discover dynamic and opposing characteristics in specific contexts likely to give rise to processes of positive change (2005).

The purpose of this paper is to reflect, from the category of tension, on the advances and possibilities of the 2030 Agenda and the challenge posed by the inclusion of sustainable development goal no. 5: 'To achieve gender equality and empower all women and girls' across the entire Agenda, and at times such this in order to set about recovering from

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[23] UNESCO Chair UNITWIN Network in Policies on Gender and Equal Rights between Women and Men

the post-COVID 19 crisis.

1. The 2030 Agenda From The Category Of Tension

For the purposes of this analysis, I make a distinction between several types of tension: *negative tension*; *critical tension; conceptual tension; creative tension; and transformative tension*. Typologies are merely heuristic instruments that sometimes artificially establish the range of social processes. Therefore, setting up a typology of this nature does not rule out some degree of overlap because, as in the case in hand, this may give rise to critical and conceptual tensions, which in turn may entail creative processes, i.e. innovative and alternative processes for social dynamics, whether in forms of thought or forms of individual or collective action; all of these may constitute *transformative tensions* as long as said processes are geared toward the eradication of a non-egalitarian order.

According to Teresa del Valle we can define *negative tension* as the tension outlining problems that are viewed as irredeemable no-win conflicts. *Critical tension* facilitates the delivery of appraisals and judgements on problems and spheres of action. *Creative tension* is that which, in analysing counterposed forces, promotes solutions that take into account the social forces generated by diverse groups and movements. For all the above, the author believes that to conduct a study on tension it is necessary in many cases to listen to groups engaging in projects that are marginal (2005: 229).

In my view, conceptual tensions are a key aspect of critical and creative tensions (Maquieira, 2012) as these are how we name, disclose or conceal the world. In this sense, they are produced by opposing forces, may result from social events, and impinge on subjects' self-perception and, therefore, significantly influence opportunities for changing or reproducing the existing order. One of the foremost aspects in this proposal, and in the theoretical and ethnographic analyses by Teresa del Valle on this question, is that it presents the potential for this tension to become an analytical category and, on associating it with *creativity,* to re-define the negative image that usually accompanies the concept of tension. From this perspective, it constitutes a powerful initiative for reflection and for implementing creative processes within social, political, personal and intellectual dynamics. It is likewise an opportunity for observing social players' actions and listening to their proposals, thus further contributing to our knowledge of their initiatives and the chances for change despite structural constraints.

An essential aspect drawn from the study of tensions is that social processes are rife with paradox, contradiction and ambivalence. This cannot be overlooked given that we

operate in counterposed contexts on the ideological, political, economic and social plane, in which changing trends are not easily identified in the world we live in owing to the multiplex social players involved, globally and locally. Taking up a position, methodologically speaking, in the framework of cultural ambivalences, far from considering these as dead ends may give rise to new solutions for building a future embracing elements that are apparently mutually exclusive, both in theory and from the sphere of social action.

However, many believe that the 2030 Agenda and its 17 Goals, 169 targets and 232 indicators are nothing but rhetoric in a world criss-crossed by growing inequalities in a destructive globalisation scenario that generates environmental deterioration, rising inequalities, economic crises, armed violence and societies wracked by risk and uncertainty. Viewed in this light, we are experiencing an intractable negative tension from which there is no way out. But we can also view the 2030 Agenda as a global phenomenon, in a broad and multidimensional sense, that has triggered the establishment of worldwide, regional and local institutions. It can also be regarded as a growing global conscience facing the unsustainability of social, economic and environmental models, and the actions taken by social movements across the planet with the capacity to effectively design creative and innovative alternatives within the sphere of International bodies and in every local, regional and national context.

These concerted actions have enabled the drafting of the 2030 Agenda, the dissemination of the sustainable development objectives, and many other coordinated efforts for its implementation through public policies in each of the various contexts. This, in turn, has called for the creation of new constitutional practices for its follow-up and evaluation, generating means of communication, collaborative working schemes, channels for consultation and debating proposals, striving for justice on a planetary scale. All the more so in the time of this pandemic that has evidenced societies' fragility and inequalities. For this reason, the Sustainable Development Goals should also be regarded as an essential tool for the recovery of the post-COVID 19 crisis.

It is thus possible to regard the knowledge and reality of contexts of inequality, violence and exclusion as the critical situations from which proposals arise and the commitments made by governments and International bodies are strengthened with the aim of 'Transforming our World', the title given to the document adopted by the United Nations General Assembly for the presentation and substantiation of the 2030 Agenda, approved in 2015. Therefore, paradoxically, the 2030 Agenda is a global and multilateral commitment. This is a consequence of globalisation, as it is currently defined, and at the

same time a reaction, bringing alternatives to the degrading phenomena that the globalisation of crises and inequality systems provoke. Similarly, as pointed out by the anthropologist García Canclini, 'to acknowledge human support' of the processes of globalisation averts the reductionism of regarding globalisation as anonymous economic flows, thus preserving the analysis free from a fruitful dialogue among economics, sociology, anthropology and the political and social dynamics recounting 'the drama, the responsibility and chance to re-orient the itinerary' (García Canclini, 2008: 63). Understanding and confronting the drama, establishing and assuming responsibilities and redirecting the itinerary seem unavoidable challenges in our highly paradoxical times, and require abandoning a view of the world that denies longstanding human existence and agency as if this perspective were foreign to the world, an anonymous play of market forces based on the neoliberal doctrine that simultaneously defends freedom and the inexorable designs of the market.

The specialised literature shows that the adoption of the Sustainable Development Goals (SDG) resulted from a lengthy process of intergovernmental deliberations based largely on the achievements and failures of the Millennium Development Goals (MDG). Government and non-governmental players took part, through formal and informal channels, in the design of diagnostics, new goals, strategies for change and to draft the final document. The Preamble to said document states the following:

We are resolved to free humanity from the tyranny of poverty and deprivation, and to heal and protect our planet. We are committed to taking the bold and transformative steps that are urgently needed to reconduct the world onto a path of sustainability. Setting out together on this journey, we promise not to leave anyone behind.

The 17 Sustainable Development Goals and the 169 Targets announced today demonstrate the magnitude of this new and ambitious Universal Agenda. It is envisaged that these will follow on from the Millennium Development Goals and succeed where they failed. It is likewise envisaged that human rights will become a reality for all persons, and gender equality and empowerment will be achieved for all women and girls. The goals and targets are integrated and inseparable, and conform the three dimensions of sustainable development: economic, social and environmental. (UN, 2015: Preamble).

It has been stated that these goals and targets reflect substantial changes in how development is conceived, leaving behind the traditional north-south focus and adopting instead the notion of a global pact for development in which the SDG, as multilateral rules, are constitutional elements of global governance. The Member States resolved

that the UN should become the scenario for this pact and global conversation given that, by mandate and universal membership, it was deemed the ideal forum for the purpose in hand. Nevertheless, certain weaknesses and risks condition its success as a transformative agenda and, in this sense, the SDG should be regarded rather as a point of departure (Sanahuja, 2016: 207).

Therefore, it is advisable to view the 2030 Agenda as a historical product, a changing system and an unfinished process. And also as a space for debate, for negotiations and alliances that fall within the framework of power relations and inequality that plot the future of countries and regions and of the macroeconomic geostrategic processes that constrain them. Normative frameworks, concepts, targets and practices stemming from the 2030 Agenda, therefore, should be viewed both from the angle of their benefits and that of their shortcomings. There are countless reasons for fearing that 'we may lose our way', as pointed out by the expert in development Carmen de la Cruz (2015), but it is equally important not to overlook the commitments made, the advent of a language, interpretative frameworks, a naming of the world that aspires to universal justice and equality, in defiance of meeting the dire problems we are up against with a passive attitude of resignation.

From our perspective, we find that the theory and implementation of the 2030 Agenda is in *critical tension* with the realities of the world we live in and, at the same time, establishes *creative and innovative tensions* produced by the proposals of social players whose anticipatory consciousness is the vanguard of *transformative social actions.* In this sense, the tensions added by feminist critique are key aspects of these processes.

2. Gender Equality As A Tension In The 2030 Agenda

One of the lessons learned, with an effect on the drafting of the 2030 Agenda, was the criticism of the Millennium Goals due in 2015. The new millennium was marked by the significant upsurge in civil society rallying for world-scale solutions to social, economic and gender injustice. The Millennium Summit was held in 2000, and the UN General Assembly approved the Millennium Declaration which recognised the need to promote policies allowing developing countries to benefit from globalisation, whose advantages are unequally distributed. One year on, the 8 Millennium Goals, 18 Targets and 40 Indicators were announced, although these targets and indicators subsequently increased.

Generally speaking, and from the perspective of a feminist agenda for development, the Millennium Goals represented a step backward in the achievements reached in previous

decades, and even with respect to the Millennium Declaration itself. The Millennium Goals are also criticised for lacking participatory procedures in their development and formulation, for selecting objectives that are not inter-related, for lacking a human rights approach and for the absence of the struggle against gender violence (Zabala & Martínez, 2017). In an influential paper (Sen & Mukherjee, 2014) written for the evaluation of the Millennium Development Goals (MDG), its authors pointed out that 'the advances made toward gender equality and the empowerment of women in the agenda for development require an approach grounded on human rights, and need to be supported if women's movements are to activate and drive the agenda. Millennium Development Goal no. 3, dedicated to promoting sexual equality and women's autonomy, fails to mention either of these things. Empowerment relies on the capacity to act in several dimensions: sexual, reproductive, economic, legal and political. However, in MDG no. 3, the empowerment of women is mentioned in the framework of reducing inequalities in education. By omitting other rights and not fully recognising women's interdependent and indivisible human rights, this Goal is flawed and development is compartmented' (op. cit.: 188).

In the light of critical evaluations such as this, for three years the United Nations engaged in deliberations among numerous participants, including governments, non-governmental organisations, associations for development, women's rights associations and teams of experts, setting tasks and specialised panels to establish a global development framework in which to work as of 2015. The result was the adoption by the General Assembly on 25 September 2015, of Resolution 70/1, *Transforming our World: the 2030 Agenda for Sustainable Development* approved by 196 countries, including Spain. From said negative critical tension emerged a global dynamic bringing an innovative new agenda featuring Goal no. 5 dedicated to attaining gender equality and the empowerment of all women and girls, with the following nine targets:

1. End all forms of discrimination against all women and girls everywhere

2. Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation

3. Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation

4. Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate

5. Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life

6. Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences

7. Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws

8. Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women

9. Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels

The agenda holds sustainability at the centre of its many dimensions, and is committed 'not to leave anyone behind' in response to the assessment and mixed results of the MDG. The United Nations Member States not only pledged their commitment to making sustainability, equality, peace and human progress a reality for all nations and persons; they also recognised that *gender equality* is key to this transformative view as an objective in itself and as catalyst for making advances throughout the 2030 Agenda. In this case, too, feminist academic experts, consultants and members of women's organisations fought hard not only for the inclusion of this specific goal, but also for incorporating gender equality to other goals and targets, drawing attention to the gender dimensions of poverty, hunger, health, employment, climate change, degradation of the environment, urbanisation, military conflicts and peace, in addition to funding for development. They efficiently overcame irreconcilable tensions and generated creative dynamics establishing alliances and coalitions among different stakeholders to place gender equality at the centre of the Agenda.

Thus, the rigorous UN Report on Women (2018), a follow-up to the Agenda, entitled 'Keeping Promises: Gender Equality on the 2030 Agenda'*,* provides world data on the situation of women for each of the goals, targets and indicators. A summary is given below of these data that clearly illustrate the actual status of women and girls in the world, which presents challenges with regard to advancing toward compliance with the SDG and the 2030 Agenda.

In Goal 1, No Poverty, the data show that worldwide there are 122 women 25-34 years of age living in extreme poverty conditions for every 100 men in the same age bracket. With regard to Goal 2, Zero Hunger, the report states that women are up to 11 percentage points more likely than men to suffer food insecurity. As for Goal 3, Good Health and Wellbeing, the data reveal that in the world, 303,000 women died in 2015 of causes related to childbearing. The mortality rate is decreasing too slowly to reach target 3.1. In reference to Goal 4, on Quality Education, they relate that fifteen million girls of school age will never have the opportunity to learn to read and write in primary education, as compared to ten million boys. The data relevant to Goal 6, Clean Water and Sanitation, the report data show that women and girls are responsible for fetching water in 80% of homes without access to running water. On Goal 7, Affordable and Clean Energy, the report shows that air pollution within the home owing to the use of combustible materials as domestic fuel caused 4.3 million deaths in 2012. Six out of every ten people affected were women and girls.

Goal 8, Decent Work and Economic Growth, confronts us with the fact that the worldwide gender pay gap is 23% and the female activity rate is 63% while men's activity rate is 94%. Regarding Goal 9, Industry, Innovation and Infrastructure, women worldwide represent 28.8% of researchers. Only one country in five has reached gender parity in this sphere. With respect to Goal 10, Reduced Inequalities, the data show that up to 30% of income inequality is due to the unequal roles in the home, and there is a greater likelihood for women to live below 50% of the average income. Regarding Goal 11, Sustainable Cities and Communities, the report shows that women who live in underprivileged quarters face numerous difficulties, one of which is lacking basic necessities such as access to clean water or sanitation services. Regarding Goal 12, Responsible Consumption and Production, the data in the report show that investment in public transport greatly benefits women, who are its principal users, as well as yielding environmental benefits. In Goal 13, Climate Action, it is noteworthy that climate change strongly affects women and children, as they are 14 times more likely to lose their lives during a natural disaster.

For Goal 14, Life Below Water, we should address the negative consequences of the pollution of sweet water and marine ecosystems on the livelihoods of women and of men, on their health and on that of girls and boys. Goal 15, Life on Land, draws our attention to significant data such as that, between 2010 and 2015, the world lost 3.3 million hectares of forests. This implies bearing in mind the gender perspective, as poor women in rural areas who are dependent on shared resources suffer especially when these

resources dwindle. Goal 16, Peace, Justice and Strong Institutions, cannot avert the question of violence against women, especially during military conflicts, as the data reveal that the rate of homicide and violent crimes against women are increasing significantly. Although men are more likely to die on the battlefield, women are subject to sexual violence, kidnapping, torture and the need to abandon their homes. Finally, relevant to Goal 17, Partnerships for the Goals, is the fact that in 2012 the funding provided by developing countries was 2.5 times greater than the amounts of aid they received, and the assignments for gender equality were comparatively insignificant (UN, Women, 2018: 19-21).

As pointed out, the 2030 Agenda aims to remove the obstacles that prevent women and girls from developing their full potential as specified in Goal 5 and its targets. Nevertheless, there are still major challenges to be met. To mention just a few, I would like to highlight that in 18 countries, husbands can legally prevent their wives from taking a job; in 39 countries, daughters and sons do not have the same inheritance rights; and 49 countries have no laws protecting women from violence in the home. Similarly, 19% of women and girls from 16 to 49 years of age have experienced physical or sexual violence from their partner in the last 12 months. Just 52% of married women and women in other types of partnership are free to take their own decisions regarding sexual relations, the use of contraceptives and health care. Worldwide, women represent a mere 13% of agricultural landowners and the time they dedicate to domestic tasks and unpaid care work 2.6 times longer hours than men. Lastly, we may highlight that women occupy 23.7% of seats in parliament, an increase of 10 percentage points with respect to the year 2000, but still well below parity (Ibid).

The data provided in the report show that gender discrimination, deeply rooted and present in all countries, threatens to undermine the transformative potential of the 2030 Agenda. A detailed examination of each one of the goals, targets and indicators reveals gender inequalities that still permeate every dimension of sustainable development. It is also a concern that 6 of the 17 SDG are altogether lacking in specific gender indicators. This poses a major difficulty because wherever these indicators are not taken into account there is a risk that the gender perspective will be ignored. Such asymmetry in the world framework of indicators can be traced to at least two causes: firstly, the absence of data focused on the living conditions of women and girls and forms of inequality, and secondly, on the continuing incapacity to bring the gender question to the fore in fundamental processes such as strategies for growth, employment policies, environmental issues and sustainability (UN Women, 2018: 68).

It is undeniable that these data call for renewed collective efforts and to step up the commitments pledged to the Agenda in general and, in particular, to gender equality. In this new process geared toward follow-up, evaluation and contributions for 2020, it is also necessary to heed expert voices alerting us of the risks we currently face. It has been mentioned that the SDG and targets are designed to address a far more complex array of structural problems, as is evident in the broad scope of the targets in the goal dedicated to gender equality. However, it is believed that unless the underlying economic model is changed and effective accountability mechanisms are implemented, there is a risk that the objectives and targets will be attenuated, especially Goal 5, and that the implementation process will be selective rather than comprehensive (Razavi, 2016).

It has also been suggested that women and girls' human rights were the cause of much debate and rejection of the MDG, and led to regression in the global agreements of the 1990s. This rejection was led chiefly by countries with negative practices and traditions in relation to discrimination against women. By and large, there is considerable resistance on behalf of Member States to recognise that economic, social and cultural rights are interrelated and inseparable from civil and political rights, and this poses a further challenge on the path to compliance with SDG no. 5. The reason why women's human rights are disputed is believed to be that these rights, unlike policies and programmes, are more justiciable within the framework of the human rights system, and may be enforced depending on States' acts and omissions (San Miguel, 2018).

Consequently, emphasis is given to the need to approach SDG with a focus on indivisible rights, and to attach greater importance to financial sources, especially for the goal dedicated to attaining gender equality (Sen 2015). Another expert points out that the Agenda implementation process must be a deeply political rather than technocratical process, and more highly complex and articulate than the negotiation sessions prior to its approval. This should be a common arena for discussion and negotiations on the concepts, objectives, responsibilities and policies, where bridges must be built to overcome rifts among the various players generating alliances and common agendas in defence of Goal no. 5, most especially on national levels (Esquivel, 2016).

The 2030 Agenda has also been analysed in relation to the Regional Gender Agenda in Latin America and the Caribbean (Bidegain Ponte, 2017) that opens up interesting lines of research by proposing an analysis of the tensions among objectives and targets preventing progress in some SDG to be made through means liable to hinder the achievement of others, especially with respect to gender equality and the rights of women and girls. It is also pertinent to examine the tensions between an approach

focused on the rights of women and girls and an approach focused on vulnerable groups, as gathered from the commitment to leave nobody behind. To mention one last thought-provoking line of research in the analysis of tensions, I would highlight those deriving from sovereignty clauses mentioned in Goal no. 5 that in some cases expressly state 'in accordance with national laws' of 'as appropriate in each country' and, at the same time, the commitments on a global agenda that holds all countries responsible and not only aims to consider the impact of policies at national levels here and now but also among countries and into the future.

In like manner, a much needed line of research and analysis is opened with regard to world contexts and how these specifically affect the lives of women. It is beyond doubt that climate change and environmental degradation are undermining the livelihoods of millions of men, women and children. Recession and economic slowdown, in addition to the austerity measures adopted in the last decade and the consequences of the world health crisis brought on by the pandemic, have aggravated inequalities affecting especially women, as reported by several International bodies. In these contexts, millions of persons have been and still are forced to migrate, owing to economic and ecological circumstances but also to humanitarian catastrophes and never-ending military conflicts. We may affirm that there has also been a trend toward exclusionary policies based on fear. In the framework of global governance, fear has been used as a discourse, as a sentiment with political ends, guiding practices of exclusion and legitimisation of inequality (Boucheron & Robin, 2015). These circumstances are deepening social rifts, breeding conflicts and rekindling forms of religious, political and economic fundamentalisms. Fear is used for generating ideas and languages that exacerbate hate, thus activating atrocious forms of violence. Contexts such as these are local and national, but also global. They are changeable and diverse, but are also linked by common denominators of renewed resistance to women's rights and rising violence against women in local, communal, institutional and family contexts, as well as in their movement across different territories during migratory processes (Maquieira, 2018).

At present this dramatic situation must be told, and responsibilities assumed, renewed and demanded, while re-orienting the trend. This in turn means activating the rate of social movements and promoting active citizenship worldwide willing to rally in favour of the goals set out in the 2030 Agenda. It is likewise indispensable to develop our knowledge committed to gender equality, in order to undertake the study of all the many forms of inequality and deprivation as per the Agenda's mandate. All the while, it is essential to generate new data, refine the methodologies applied to studies and

indicators and to promote interdisciplinary gender analyses that will enable us to remedy the deficiencies and challenges described above. In this sense, the implication of universities and research centres will greatly enhance the implementation and evaluation process to turn the transformative promise of the SDG into real breakthroughs for women and girls in every sphere.

3. Conclusions. Commitment By Higher Education And Gender Studies

The formulation of the 2030 Agenda and its 17 Goals maintains a critical tension with the realities of the world we live in and establishes creative and innovative tensions that arise from experiences, proposals and demands by organisations and social movements that convey the needs and aspirations of underprivileged collectives. From this perspective, one of the key aspects of the transformative vision posed by the 2030 Agenda is the conviction that violence against women is a violation of human rights, as established in international agreements, and, therefore, its eradication is not only a specific goal but also guarantees the fulfilment of the Agenda owing to its cross-sectional nature.

The United Nations Member States pledged their commitment to sustainability, peace, equality and human progress, for all persons and countries, and recognised that *gender equality* is crucial to this global transformation. Likewise, feminist academics, consultants and leaders of women's organisations all over the world worked not only to ensure that gender equality is included as a specific goal but also to make sure it is included in other objectives, highlighting the gender dimension in poverty, hunger, health, employment, climate change, environmental degradation, urbanisation, military conflicts and peace, as well as financial support to development. To a large extent this was possible thanks to the quality and quantity of knowledge accumulated in Gender Studies over the last four decades, showing how and why gender inequality hinders progress, collective wellbeing and the consolidation of effective democratic and institutional processes.

Feminist and Gender Studies and their conceptual and empiric development have demonstrated which processes build forms of discrimination against women and inequalities in different contexts and have designed, through critical analysis, alternative public policies and social models. In sum, these are an efficient resource for generating new sustainable development models. A key example of the process made by feminist research and its materialisation in the diagnoses and formulations of the 2030 Agenda is the abundant bibliography on care as an analytical category and as the core of social organisation. Where SDG target 5.4 states that it is necessary 'to recognise and value the care and unpaid work carried out by women...' it is referring to the need to visibilise

this unavoidable workload. This means abandoning the viewpoint that these tasks are of a private nature and making them public as something that concerns everyone because these tasks are necessary for the reproduction and welfare of all society, but nevertheless affect women's life cycle and their unfavourable living conditions when this responsibility is burdened exclusively on their shoulders. Thus, SDG no. 5 offers a new outlook that strengthens the public and politic dimension of care work and proposes a transformation of the collective thinking that assigns to women the obligation of caring (Durán, 2018; García Sainz, 2019:68).

Today, the Sustainable Development Goals offer a new opportunity to renew the commitment of Higher Education to transforming the world we live in. The challenges posed by the SDG will only be met with the contributions of research, education and the transfer of knowledge generated at universities. The 2030 Agenda is also an excellent opportunity for promoting processes of change at universities, for their enhancement and the transformation of knowledge, in their academic organisation, teaching and collaboration with public and private organisations and civil society.

Gender Studies must necessarily be a part of this process, through Research Feminist Institutes, Women´s and Gender Studies Departments and the UNITWIN Network of UNESCO Chairs relating to Gender, enlarging interdisciplinary spaces for research, teaching and collaboration with other areas of study whose central aims comprise the SDG challenges, and thus broadening the commitment to the transformative agenda for sustainable development. To this end, higher education institutions should include the knowledge of SDG in their study plans, and to generate new study plans in which social reality and its challenges are addressed from an interdisciplinary perspective within the framework of the SDG. Nonetheless, undergraduate studies do not exhaust the educational possibilities in relation to the SDG at universities. At the more specialised level of Master's Degree studies, multiple possibilities are available for generating inter-university and International programmes as per current regulations governing transnational teaching and research.

It should also be mentioned that, as educational institutions, universities also carry considerable responsibility for improving the quality of education, as established in Sustainable Development Goal 4. From this perspective, innovation in new teaching methods, technologies applied to teaching or the advent of Massive Open Online Courses (MOOC), especially those relating to the SDG, that enable higher education to reach anywhere in the world, should form part of universities' commitment (Carrascosa, 2019:162). This is no small contribution to boosting the 2030 Agenda, and, with the year

2050 and beyond in mind, joining the UNESCO world initiative: *Futures of Education*, whose aim is to re-think knowledge and learning to shape the future of humankind and of the planet. The project was launched in 2019 to mobilize collective intelligence, generate debates and reimagine how education can contribute to the common good of humanity in light of tremendous challenges and opportunities of possible and preferred futures.

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Contributions From Higher Education To A Safer World: Leveraging A Gender Sensitive Approach To Inclusive Disaster Risk Reduction

Ronni Alexander[24]

At 05:46 on the morning of 17 January 1995, a huge earthquake struck Japan, wreaking havoc in the city of Kobe and the surrounding area. The M7.3 quake devastated the city's infrastructure and destroyed more than 240,000 houses, killing more than 6,430 people and injuring more than 40,000.[25] Thirty-nine Kobe University students, including five international students, were killed, and while most buildings remained intact, the earthquake resulted in costly and serious damage to facilities on all of the campuses and at the university hospital.[26]

The experience of the Great Hanshin-Awaji Earthquake, known in Kobe as the 'Kobe Earthquake', was life changing for many people, this author included. For years, it had been said that major earthquakes did not occur in the Kansai region and as a result, earthquake safety awareness and practice were not well developed. People had a false sense of security, and the reality of such a major earthquake was a very rude awakening. But that was not all. The Kobe earthquake made visible many aspects of life in Japan that until that time had remained hidden, at least to those who were not directly involved. On the one hand, the earthquake revealed the existence of many (collapsed) buildings that had not been in accordance with, or were built at the lowest ranks of, earthquake building code standards. On the other hand, it made visible many social issues such as gender inequality, isolation and racism.[27]

With regard to gender, while the earthquake affected people of all genders, the implications for women were particularly severe. For example, in evacuation centers gendered expectations meant that women were expected to take on caring responsibilities such as cooking, distribution of food, etc. in addition to their other

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[24] Coordinator of UNESCO Chair on Gender and Vulnerability in Disaster Risk Reduction Support, Kobe University

[25] The Japan Times Editorial Board, "Have we learned enough from the 1995 Kobe quake?" Kobe marks quarter century since Great Hanshin Earthquake," *The Japan Times.* 2020/01/17

[26] See for example, *Comprehensive Strategy for Recovery from the Great Hanshin-Awaji Earthquake,* City of Kobe, March, 2010.

[27] See for example Alexander, Ronni (1996). "Security in the Context of our Everyday Lives: Lessons from the Great Hanshin-Awaji Earthquake," *Kobe University Law Review* 30: 1-28.

responsibilities. Emergency supply kits often failed to include sanitary goods, and there was little or no privacy available for changing clothes or other activities. With the power cut off, street lights destroyed, and people living in crowded spaces, instances of violence against women increased. For the first day or two after the quake, men and women worked together to try to restore their lives, but soon the men returned to work, leaving the women to deal with everything else. If both partners were employed, but someone had to stop working in order to care for relatives or other issues, it was usually the woman who was forced to leave her paying job, and also to take on many new caring responsibilities.[28]

Of course, men were adversely affected too. Many jobs were lost, and at least at first, it was difficult or impossible for people to get to their places of employment. The additional financial and social burdens resulting from the earthquake brought mental and physical burn-out. Perhaps one of the most important aspects of gender brought to light by the earthquake was ways in which understandings of masculinities served to limit men's flexibility, making it difficult for them to adapt to their changed circumstances after the disaster. After losing family and/or jobs, many men found themselves having to be responsible for their own food and everyday living. Many started drinking heavily. As a result, a disproportionate number of men died in temporary housing of *kodokushi* – a combination of loneliness and unhealthy lifestyle choices. Many of them were alone when they died and some were not found until many days later, or longer. This phenomenon, repeated after every major disaster in Japan, continues to make visible the underside of an economy and gendered values that put work before anything/everything else.[29]

The earthquake also underscored issues of social isolation, a phenomenon made worse by urbanization and Japan's rapidly aging society. Many instances were reported of seniors who were unable to access supplies because they did not, or would not, or could not go to evacuation centers. Information was hard to get, especially without phone service. People who had been isolated before the disaster became even more so afterward. As emergency goods and services were focused on evacuation centers and temporary housing, people who were not in those places were at a

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[28] Takeuchi, Yukiko & Rajib Shaw (2008). "Gender and Disaster Risk Reduction: Perspective from Japan," Graduate School of Global Environmental Studies, Kyoto University, November, 2008.

[29] See for example, Bremner, Matthew (2015). "The Lonely End," *The Japan Times*. 2015.6.26.

disadvantage. This applies not only to older people, but also to those with disabilities, mental and/or physical illnesses, LGBTQI+ and others who might fear stigmatization, exclusion and/or discrimination. People who did not have a permanent address before the earthquake were not able to stay at evacuation centers and so were forced to stay on the street.

Among those who were afraid of how they would be treated at evacuation centers were foreign residents. At that time, a refugee training center was located in the nearby city of Himeji, and many people came to live in Kobe after finishing their training. At the time of the earthquake, there were about 750 Vietnamese, many of whom had come originally as refugees, living in Kobe. They lived in the western part of the city, many working in low-paying jobs in the plastic shoe industry. At the time of the quake, gas mains broke and electric appliances sparked. When the power was put back on, sparks fell on the petrochemicals and many of the small factories burst into flames. The resulting infernos were very difficult to control, and large sections of the Nagata section of Kobe were destroyed. With no place to go, members of the Vietnamese community gathered at a Catholic church, sleeping outside on the surrounding grounds. Media reports of their plight made the Vietnamese communities in Kobe and elsewhere visible for perhaps the first time. This led to interest and assistance for foreign communities, but also underscored the multiple problems with which they had been faced, even before the disaster occurred. The issue of foreign communities and language minorities remains one of great importance and concern in disaster risk reduction in Japan.

Soon after the earthquake, in spite of having suffered serious damage, Kobe University began to play an important role in the recovery and re-building of the city. Many faculty members offered their services to the city, prefecture and other organizations in accordance with their area of expertise. Students, staff and faculty also worked as volunteers, or helped to host volunteers who had come from other parts of Japan or other countries to give assistance. Gradually, the university recognized the importance not only of its role in rebuilding the city, but also in promoting disaster research and awareness in order to prepare for future emergencies. Disaster became an important part of the university research agenda. However, it was almost entirely confined to research in engineering, architecture, natural sciences and medicine. Disaster was not included in teaching and/or research in the social sciences or humanities. Kobe University became known in Japan for its work in disaster studies, but the focus remained on technological solutions.

Since the 1995 earthquake, disaster risk reduction (DRR) technology has improved and public awareness has grown. International documents such as the *Sendai Framework for Disaster Risk Reduction 2015-2030* call for improving resilience and implementation of DRR measures in all fields. At international conferences and in international documents, the importance of paying attention to gender in DRR is acknowledged and often stressed. But in reality, the situation on the ground during and after disasters in Japan has not changed very much. In many ways, Japan has definitely become safer in the face of disaster, but the harsh reality remains that in spite of international recognition and increased rhetoric, improvements in measures for protecting women and socially vulnerable groups lag far behind the technological achievements.

Until 2018, disaster research and education at Kobe University was no exception. Important work was being done, but the focus was on technological and logistical aspects of disaster, particularly earthquakes. It was against this background that the Kobe University Gender Equality Office took the initiative to begin looking at the question of disaster from the perspective of gender and social vulnerability. In 2018, this work came to fruition when Kobe University was awarded a UNESCO Chair in "Gender and Vulnerability in Disaster Risk Reduction Support."

The Kobe University UNESCO Chair network includes partner institutions located in Indonesia, Malaysia, Thailand and Taiwan and Japan.[30] In addition to the formation of a network for the exchange of knowledge and practice related to gender and vulnerability in DRR, the Chair aims to produce policy recommendations and guidelines and to engage in research. It also provides opportunities for education and training for undergraduates, graduate students and young professionals. One of the highlights of the program is a two-week summer course for students from all of the partner institutions. The Course is held at Gadjah Mada University in Jogjakarta, Indonesia and instruction is provided by experts from the partner institutions and local professionals. Students attend classroom sessions, but also engage in observation and field work focusing on disaster preparedness and the experience of the eruption of Mt. Merapi. They are expected to complete a group project and present their findings at the end of the Course.

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[30] Gadjah Mada University (Indonesia), Universiti Tunku Abdul Rahman and Mercy Malaysia (Malaysia), Thammasat and Mae Fah Luong Universities (Thailand), National Kaohsiung University of Science and Technology (Taiwan), and National Women's Education Center and Kobe University (Japan).

The UNESCO Chair Summer Course has received very high praise and produced some visible results. Many of the participants begin with little or no knowledge of gender, vulnerability and/or disaster. The students come from different countries and academic disciplines, and the knowledge that they do have is generally limited in scope to their own country and field. Gender, vulnerability, and to a great extent disaster are all socially constructed concepts. Thinking about these concepts and working on a group project in extremely diverse groups gives students a hands-on opportunity to explore diversity and practice inclusion in both their daily program activities and in their research. Some of the former participants have gone on to study gender and disaster in graduate school, or to seek jobs as professionals in related fields. This is extremely important, as we hope to increase awareness of the importance of a gender perspective in disaster work from the bottom up, and therefore want more and more students to be involved.

The work of the Kobe University UNESCO Chair has emphasized one of the most important lessons from the Kobe earthquake: the necessity of creating inclusive strategies for disaster risk reduction (DRR) and promoting disaster awareness with a gender perspective. This task is one that can be well addressed in higher education. By making living environments safer, DRR can help people to remain in place after a disaster. At the same time, a focus on gender and vulnerability can help to enhance the safety of those who have been displaced. But in reality, the safety of everyone, particularly the most vulnerable in our societies, depends not only on the implementation of sustainable everyday practices and our ability to prepare for emergencies, but also on inclusive understandings of citizenship, democracy and social cohesion.

Developing understanding of, and the ability to develop and implement gender sensitive approaches to vulnerability is one of the primary goals of the Kobe University UNESCO Chair. By placing special emphasis on the need for developing this kind of expertise, universities can participate in the creation of more inclusive and peaceful networks that will help to save lives, support recovery, reduce displacement and make safer communities.

The remainder of this essay will therefore consider the role of higher education in the context of the need to be better prepared to cope with human and natural disasters, including those involving climate change and health emergencies. Disaster threatens lives and livelihoods, our own and those of our loved ones. This obvious truth means that learning about disaster awareness and DRR can be relevant for students at all

levels and in all fields of study, but especially in higher education. In Japan, and likely elsewhere, there is resistance to learning about gender, but like disaster, gender is both highly personal (everyone has a gender) as well as being an approach that can be used in and has relevance to all disciplines.

Gender, Disaster and Higher Education

Even before the COVID-19 pandemic, it was clear that disasters, human and natural, were growing in frequency and intensity and the need to deal with health issues along with disasters has made the situation even more complex. In light of this, a deep and active understanding of gender and vulnerability in DRR and disaster awareness is more important now than ever before, and universities can play a crucial role in making that happen. The combined effects of climate change, increased seismic activity, unsustainable lifestyles, environmental destruction and armed conflict mean that the actual disaster is only the beginning; the issue support for those displaced by disasters and crises has become one of the most pressing issues of our day. According to the Internal Displacement Monitoring Centre, a total of 33.4 million people across 145 countries and territories were newly displaced in 2019 due to disaster and conflict, joining the large number of people who had been displaced previously and are still unable to return. Of these, the cause of displacement for 24.9 million people in 140 countries was disaster, but many environmentally vulnerable places are also experiencing high levels of violence.[31] In June of 2020, UNHCR reported that 79.5 million people had been forcibly displaced worldwide by the end of 2019, an unprecedented figure representing one percent of humanity. Most of those people are unable to return home.[32]

The idea of including women at all levels of decision making and being aware of vulnerable populations is not new. While some of the logistics involved might be unique to disaster studies, it is believed that what is more important in this context is to think about the broader implications of a focus on gender and vulnerability in higher education, and how that can serve to enhance resilience, disaster risk reduction and disaster support. This essay will focus on the following three aspects: (1) achieving

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[31] Internal Displacement Monitoring Center (2020). "Global Report on Internal Displacement 2020." IDMC and Norwegian Refugee Council.

[32] United Nations High Commissioner for Refugees (UNHCR) (2020). "Global Trends: Forced displacement in 2019." UNHCR.

gender equality at all levels of education for all genders; (2) educating men and transforming violent masculinities and (3) education for inclusion; inclusive education.

(1) Achieving Gender Equality in Education

The COVID-19 pandemic has highlighted the ways in which women, in their social roles as caregivers in all areas from the personal to the healthcare industry at large, are immensely important for maintaining the health and well-being of their families and societies. Whether dealing with health emergencies, displacement or other aspects of disaster and conflict, coping effectively depends on recognizing the most vulnerable in our societies and giving them the necessary tools to protect themselves in times of emergency. This requires providing everyone with education, access to accurate and timely information, and IT literacy, including the skills necessary to make good decisions, often very quickly and based on limited information. Educated women are more likely to be able to access information and, importantly, to have better skills for resisting disinformation. Educated women are better able to make good decisions about the health and protection of themselves and their families, and more likely to be able to find ways to move toward recovery and beyond. For these reasons and more, educating women is tremendously important.

If, by 2030, the Sustainable Development Goals were all met, gender equality, as least as it relates to the education of women and men, might no longer be a problem.[33] The reality, however, is grim. While considerable progress has been made, particularly in early education, there are still large gaps, with more girls than boys remaining out of school. According to UNESCO, "16 million girls will never set foot in a classroom (UNESCO Institute for Statistics) - and women account for two thirds of the 750 million adults without basic literacy skills" (UNESCO). What is more, the COVID-19 pandemic has meant that an unprecedented number of girls are now out of school.[34] Women with access to higher education, particularly education that includes a gender perspective, can serve as role models and help to encourage the promotion of education for women and girls at all levels.

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[33] The goals specifically dealing with gender are SDG 4: 'Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all' and SDG 5: 'Achieve gender equality and empower all women and girls' (SDG 5). UNDP, 2015.

[34] See for example, UNICEF (2020). "COVID-19 and Girls' Education in East Asia and Pacific," UNICEF Education COVID-19 Response Issue Brief, October 2020.

Tertiary education is important for the lives and livelihoods of all women and girls, but higher education can also play an important role in changing social understandings of the gender binary, and changing understanding of the meaning equal opportunities for all genders. Among those who have difficulty accessing and/or continuing education are children who are themselves, or whose parents are, perceived to have different sexualities or gender identities.[35] Strategies for gender equality that do not acknowledge gender diversity risk reproducing the very gender binaries and social hierarchies that currently marginalize women. Equal participation of women is tremendously important, but equality for women and men that comes at the expense of marginalized gender identities and sexualities will not lead to gender equality for all. Higher education must therefore practice, and teach, gender inclusion. It must be inclusive, accessible and relevant for all genders and sexualities, not just for women and men, girls and boys.

Changing understandings of gender equality can impact disaster risk reduction and support in positive ways, but it can of course be highly controversial and in some countries might require both decriminalization and de-stigmatization of sexual/gender minorities. For gender minorities, openly expressing their sexual orientation and/or gender identity (SOGIE), e.g., coming out, usually entails a certain amount of risk, but for some people, particularly those in countries where it is a crime punishable by death to engage in homosexual practices, it can be extremely dangerous. At times of emergency or during displacement, many people with marginalized sexualities and/or gender identities disguise their SOGIE, so that even if support is available, it is difficult or impossible for them to access it. Similarly, when sexual/gender minorities remain invisible, it can hard for support workers to locate them to deliver services during and after emergencies. By providing gender education that includes sexual and gender minorities, higher education can help to lessen discrimination and stigmatization.

Displacement by disaster can happen anywhere to anyone and it is important that people are aware of risks and prepared to respond in ways that might enhance their own safety and that of others. Providing education to all would help to ensure that people of all genders/sexualities have access to measures for disaster awareness, risk

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[35] UNICEF (2014) reports that worldwide, children who identify as lesbian, gay, bisexual, transgender (LGBT) or are perceived seen as having different sexualities or gender identities than the norm "often suffer discrimination, intimidation, harassment and violence. Similar patterns of human rights abuses can be found against children whose parents are perceived to be LGBT."

reduction and preparedness, thereby enabling them to better protect themselves, their loved ones and their communities.

(2) Educating men and transforming violent masculinities

The COVID-19 pandemic has produced a massive increase in intimate partner violence worldwide, as people are forced to stay at home, often in the same physical space as their abusers.[36] After disasters, too, people are crowded into evacuation centers or other shelters, often leading to an increase in gender-based-violence. Escaping such violence is not always possible, and when it is, it does not necessarily mean those running will be any safer.

Gender plays an important role in the construction and use of violence; in most societies, masculinity is associated with risky behaviors, toughness and often violence. For this reason, the transcendence of violence requires thinking about gender. Being a woman might make someone a target for violence, but it can be dangerous to be a man, too. Men comprise the majority of armed combatants, are more likely than women to suffer violent deaths during conflict and are far more likely than women to be convicted of violent crimes and to be victims of homicide.[37] At times of emergency such as earthquakes or storms, men often put themselves at unnecessary risk by acting 'manly' and appearing to deny or underestimate the danger involved.[38]

As indicated above, research has shown that during conflict, disaster, and/or displacement, there is an increase of gender-based violence (GBV), generally directed at women by men. Violence tends to be associated with men, but while women may be victims, they are also complicit in creating and maintaining violent masculinities. At the same time, while "… most of the people enacting violence are men, most men are not violent, in the sense that they do not rape, kill, or beat people up."[39] Masculinities that

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[36] See for example, UN Women (2020). "The Shadow Pandemic: Violence against Women during COVID-19," https://www.unwomen.org/en/news/in-focus/in-focus-gender-equality-in-covid-19-response/violence-against-women-during-covid-19

[37] United Nations Office on Drugs and Crime (UNODC), 2019. "Global study on homicide," Vienna. See also Peace Research Institute Oslo (PRIO), 2009. "Armed conflict deaths disaggregated by gender."

[38] See for example, Enarson, Elaine and Bob Pease, eds. (2016). *Men, Masculinities and Disaster.* Routledge.

[39] Connell, R. (2011). "Organized powers: Masculinities, managers and violence" in Cornwall A, Edstrom J and Greig A (eds), *Men and development: Politicising masculinities*, London: Zed Books. Also see, Saferworld, 2014. "Masculinities, Conflict and Peacebuilding."

associate men with violence lie at the root of male violence. Because displacement is often caused by conflict, and because militaries are used in disaster relief, of particular significance are the ways militarism and militarization create and re-create masculinities that normalize violence and are understood by both women and men to be a basic component of male behavior.

Safety during and after disasters and other emergencies is contingent on the level of safety before those crises occurred. In this context, higher education can play a crucial role in creating safer societies through the design and implementation of strategies for transforming violent masculinities and creating hegemonic masculinities that prioritize inclusion, peaceful lifestyles and ways to resolve conflict without violence. Such strategies for the reduction of violence in everyday life can be especially important during emergencies when tensions rise and people feel vulnerable. Such education would serve not only to reduce everyday violence, but also help to prevent the increases in violence, particularly gender-based violence, that occur during emergencies.

Promoting gender equality for all genders and sexualities plays an important role in the transforming of violent masculinities because these masculinities depend on binary understandings of, for example, men and women or friends and foes. For some men, showing understanding for marginalized masculinities and gender diversity is threatening because they think it reflects on their own status as men. If there were acceptance for gender diversity, there would be no need for such fears and the violence it often brings. The promotion of inclusive understandings of gender would therefore not only help to achieve gender equality for all, but would also help to create safer, more inclusive and cooperative communities through the transformation of violent masculinities.

(3) Education for inclusion; inclusive education

While inclusive gender equality is among the most important factors in reducing disaster risk, there are many other factors that influence social vulnerability. According to the National Center for Disaster Preparedness at Colombia University, "One measure of the strength of a community's response and recovery system is its attentiveness to its most vulnerable citizens–children, the frail elderly, the disabled, and

the impoverished and disenfranchised."[40] A task for higher education is therefore to teach not only the theory of inclusion but put it into practice on a daily basis.

Universities are important centers of knowledge production and dissemination, but they are not necessarily inclusive institutions and often they are often not fully integrated into their own communities. Globalization and increased movement of peoples, voluntary and involuntary, is changing the composition of communities worldwide. In order to keep our communities safe at times of emergency, it is important to be able to incorporate new members and at the same time help those residents, new and old, who might be most at risk at any given time. This requires good communication and interaction on an everyday basis. One important role for higher education is to enhance the range of student's communication skills. This should not be limited to language/foreign language skills, but also include non-verbal communication skills as well as high levels of flexibility and creativity in using communication technology. Competency is a concept that is stressed in discussions of higher education. One way to enhance competency is to put these skills into practice by including voluntary service to different parts of the community as an integral part of the curriculum, linking students at all levels with their communities.

At the same time, educational institutions should aim to make social inclusion and versatile modes of communication the norm within their own institutions as well as in their communities. If this were achieved, internal and external networks for disseminating disaster risk reduction could be strengthened and put into use on an everyday basis. In the event of disaster, these networks would help to make sure that from the outset, the needs of the most vulnerable people in the community are recognized, provide multiple routes for support and enhance the delivery of necessary and appropriate assistance.

Conclusion

Since the 1995 Great Hanshin-Awaji Earthquake, Kobe University has been engaged in disaster research and support, but little has included a gender perspective. In 2018, the Kobe University UNESCO Chair on Gender and Vulnerability in Disaster Risk Reduction Support was established with the goals of providing education, training, research, and policy advice for gender-sensitive disaster support focusing on vulnerability. From that perspective, this essay has outlined cross-cutting goals for

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[40] National Center for Disaster Preparedness (NCDP), (2019), "Vulnerable Populations." Earth Institute, Colombia University. https://ncdp.columbia.edu/research/vulnerable-populations/.

higher education that, through inclusive disaster preparedness, would help to save lives and reduce displacement. It has focused on three aspects: achievement of gender equality for all genders, educating men and transformation of violent masculinities and creation of inclusive community networks involving diverse modes of communication. Disaster preparedness and risk reduction require interaction on an everyday basis so that at times of emergency, everyone can access necessary information and services. To be successful, strategies for risk reduction must be flexible in the face of changing threats and changing communities. Rather than suggesting specific disaster risk reduction schemes, this essay has focused on goals for social inclusion considered to be essential for reducing risk and creating safer societies.

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Synergizing Higher Education and Community Engagement Towards the 2030 Agenda for Sustainable Development

Araceli Alonso

Teresa Langle de Paz[41]

Given the primary role of universities as knowledge producers and transmitters, and as the world continues to be increasingly globalized and interdependent, higher education courses on Gender and Women's Studies can serve as powerful means to help address the challenges associated with human security, peace, and sustainable development. According to UNESCO, **education for sustainable development empowers people to question the way they think about things they have never questioned before and work towards a sustainable future.** Following this premise, and through a case study and a service-learning initiative in rural Kenya from a course at the University of Wisconsin-Madison, this paper addresses the relevant role that higher education institutions and UNESCO Chairs on gender can have towards the fulfillment of the 2030 Agenda for Sustainable Development. Our aim is to emphasize the significance of linking real life grass-roots work with Academia and vice-versa; specifically, educating students in gender mainstreaming by integrating a deeply transformative feminist approach towards sustainable development through holistic public health agendas.

I.   At the University: Transformative Feminism in Public Health

A course at the University of Wisconsin-Madison (UW) designed by Prof. Araceli Alonso lead to the creation of a non-profit organization: Health by Motorbike (HbM). Both the course and the organization entailed grass-roots work in Southeast rural Kenya, which gave way to a renowned initiative and NGO: Nikumbuke-HbM (N-HbM) and a replicable model of sustainable development that, after 2014, became known as Health by All Means (HbAM) functioning today under the auspices of the 4W Initiative (Women, Wellbeing in Wisconsin and the World) and the UNESCO Chair on Gender, Wellbeing and Culture of Peace, both at the University of Wisconsin-Madison (UW-Madison) in the United States.

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[41] Coordinators of UNESCO Chair on Gender, Wellbeing and Culture of Peace, University of WIsconsin-Madison

In 2009, the desire to apply the knowledge of a UW-Madison Gender and Women's Studies course and the pursue of the MDGs, starting with #3 Gender Equality and the Empowerment of Women, was the inspiration to create the United Nations Award Winning initiative that provided a cultural and geographical sensitive model of integral health promotion and disease prevention for women and girls living in remote and isolated communities of Southeast Kenya. This model allowed tangible and incredible progress towards the SDGs under the direction of Prof. Alonso.

At the structural-institutional level, the HbAM model has several components: a university course, a student community-engagement program, an NGO, an interdisciplinary network, and an international UNESCO Chair. At the grass-roots level, it operates through several programs—some of which are described in this article: health camps, a theater company, health posts, train-the-trainers, a mobile clinic, cooperatives entirely run by women, among others. In addition, its strategic feminist approach is marked by what Dr. Teresa Langle de Paz calls *feminist emotion*, a type of emotional force originated on women's experiences of gender. Within the HbAM programs in Southeast Kenya *feminist emotion* has been skillfully channeled to build on the solidarity that has sprouted everywhere among the different villages because positive affect was set in motion and fed through comprehensive health work and the promotion of wellbeing in general.

The legendary UW-Madison course from the Department of Gender and Women's Studies, GWS103 "Women and Their Bodies in Health and Disease" became pivotal for the creation and development of the first health projects of HbAM.[42] From its foundation, this course has covered basic facts about the structure and functioning of bodies that have been assigned female at birth, as well as the social influences on those bodies. The course takes particular attention to adjustments the body makes during normal physiological events—menstruation, sexuality, reproduction, and menopause—and during disease processes. The course also considers all mental and physical health issues in relation to social and cultural roles marked by gender prescriptions. Throughout the entire course, students discuss anti-oppression, intersectionalities, and cross-cultural perspectives for all topics covered. Students in this course often express their pressing desire to apply the knowledge they learn in class and multiply the ripple effects of the lessons learned; thus, first mission accomplished.

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[42] The current name of this course, as per June 2021, is "Gender, Women, Bodies, and Health.

Although a course on Gender and Women's Studies became the main inspiration of the HbAM program, it also drew on the assets of many disciplines, taking advantage of what Alonso refers as "the interpellations and contestations of multiple disciplines—public health, gender studies and feminisms, medical anthropology, history, philosophy, and peace studies among others; because no one single discipline, or even the combination of them, can tell the whole story" (Alonso, and Langle de Paz, 2019: 96) This interdisciplinary approach allowed the HbAM program to challenge assumptions from different disciplines, and center on the lives of women, in their work towards gender equality, sustainable health and women's wellbeing. Students were trained to address grass-roots work with such approach.

Umoja

The term *Umoja, w*hich means "unity" in Kiswahili captures the basic characteristics of unity and solidarity needed to successfully achieve any kind of human relationships. But unity and solidarity, not because women are good, have good feelings and sentiments, or because they are all very religious or very humanitarian. Unity and solidarity are intrinsic to human relations and communication to promote responsibility about what we say and do to ourselves, to others, and to the environment. *Umoja* is thus the concept that gives meaning to the HbAM approach: transversal leadership, influencing and motivating without a hierarchy or a formal authority. This approach recognizes women as valid interlocutors in a community, recovering the 19th century Latin etymological meaning of *persons,* women as *persons,* "*per*" as a prefix of intensification plus the verb "*sonare*" to make a sound, to sound through[43]. Such notion validates each woman as a person: "I am a person and I am here!" "I can hear but I can also be heard!" "I speak and also amplify my voice!" It is a positioning that leads to self-analysis and self-reflection of all the participants involved—those who prepare the programs and those who receive them, with unity, solidarity and empathy.

Although the women from the seven villages have carried out and owned the HbAM projects, the *Umoja* approach tried to avoid the use of "they" [the women] since it distanced and detached them from the UW participants at the grass-roots level, a false and impossible sense of separation. This approach, however, does not imply that women, the "we", are a homogenous collective unit and therefore have the same needs. Women are a heterogeneous group; their lives and needs vary depending on socio-

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[43] The etymological meaning of *person* has been long debated. This narrative uses the meaning of the Oxford Etymology Dictionary https://www.etymonline.com/word/person, also used by Spanish peace philosopher Vicent Martínez Guzmán (2005).

economic status, racial/ethnic background, sexual orientation, region and sub-region, national origin, religion, citizenship, health, and disability, among other variables. But *Umoja* is above all the materialized alternative to the immense powerful global forces that are beyond anybody's reach and cause impotence when seeing injustice trying to implement a SDGs agenda in real life. *Umoja* feeds up or produces what Richard J. Berstein (2019: 331-332) calls "sparks of solidarity" which ease the way to the promise of dialogical communities that emerge to the surface; a counterpower to power when the damaging effects of power seem impossible to overcome.

II.   At the Grass-Roots Level: Pursuing the MDGs and the SDGs

The Context in Southeast Kenya

Lunga Lunga is a border town, located within walking distance of the Horohoro border crossing into Tanzania (Figure 1). In 2009 Lunga Lunga had a population of 15,276 of which 10,015 were estimated to be living in poverty, defined as a monthly adult income of Ksh 2,913 or less (approximately $30 USD) (MLDPP 2011, 47; KNBS 2010; KNBS 2013, 6). Lunga Lunga is a small, two-road town yet it is the only of the seven locations that can be located on a map; the other villages are simply too small and remote. Lunga Lunga is similar to many other border towns: it hosts a small but bustling market, a transit hotel, and its single paved road sees a near constant stream of trucks coming to and from Tanzania. With Ukunda and Mombasa within a few hours' drive, the crossing is strategically important for both the Kenyan and Tanzanian governments.

The Kenyan Coast Province in general has struggled with poverty-related health concerns and higher-than-average rates of child mortality when compared to the national average (MLDPP. 2011: 49). Malaria in particular has been ranked the number one cause of death and morbidity in Kwale County, followed by respiratory diseases, skin diseases, and diarrhea (MLDPP, 2011: 41). There is a single county hospital that is inaccessible to many residents who cannot afford transportation costs. This hospital, located 75 kilometers from Lunga Lunga, lacks a theater and x-ray department and is surrounded by poor road networks (MLDPP, 2011: 128). Thirty nine percent of the county residents (and 45% of the Lunga Lunga population) have no formal education and only 10% of the county population has a secondary education level or above (KNBS, 2013: 12).

In terms of environmental quality, the Kwale County's ecosystem has been quickly declining. Kwale County's land is semi-arid, receiving between 500 and 1,200mm of rainfall per year and facing challenges associated with semi-desert areas—reduced access to safe drinking water and decreased crop production due to poor soil quality

(MLDPP, 2011: 20; UNDP, 2013: 8-9). Average rainfall decreases with distance inland, putting Lunga Lunga at a geographical disadvantage. The current forest cover is a mere 7%, and with a 0.25% per annum deforestation rate—a loss of 19,580 hectares every 10 years, Kwale County's forest cover is expected to be almost non-existent by 2034 (MLDPP. 2011: 30-31). As a result, food is likely to become scarcer, as already infertile soil becomes even less able to produce crops (MLDPP, 2011: 24).

The social composition in Kwale County reflects the diversity of the country in which it is located. Kwale County is populated by two main ethnic groups: the Digo (60%) and the Duruma (25%) (MLDPP. 2011: 53). Other ethnic groups include Kamba, Luo, Taita, Luhya, Giriama, Kisee, Makondo, Shirazi, and Maasai. Each tribe has its own unique customs, traditions, and history, as well as history of relations and interactions with other tribes in the area. Survey data also demonstrates the role of religion in this area, with 43.9 per cent of the population identifying as Christian, 50.6 per cent identifying as Muslim, and 0.1 per cent identifying as "other" (MLDPP, 2011: 59). Family organization centers on male clan leaders and respected village male elders who are tasked with making important community decisions (MLDPP, 2011: 59).

The Situation upon Arrival

In the early stages of HbAM, a health base assessment was carried out as per request of the local women. A number of directly and indirectly health related issues were detected: 1) Low life expectancy by Western standards—many people did not live longer than forty years—, quite shocking at first sight. 2) Child marriage of girls and adolescents was common, a fact that implied a number of health-related matters, such as early pregnancy, high maternal and infant mortality rates, vesico-vaginal fistula, severe anemia, miscarriage, stillborn babies, premature and low weight babies; higher exposure to diseases (malaria and HIV). 3) Female Genital *Circumcision*[44] was very extended among some ethnic groups, with severe risk of hemorrhage, sepsis, tetanus, trauma of adjacent structures, urinary tract infection, HIV. 4) Myths, legends and culturally-based beliefs may have had dangerous consequences for health; for instance, the belief on a disease caused by bad spirits or *degedege*, which could only be treated by a traditional

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[44] We have written the term as the women in the villages refer to it "circumcision." The World Health Organization, however, refers to the practice as "mutilation" (FGM) and defines it as all procedures that involve partial or total removal of the external female genitalia, or other injury to the female genital organs for non-medical reasons http://www.who.int/mediacentre/factsheets/fs241/en/. Some of the tribes in Kwale county have abandoned the practice, others perform Type 1 Clitoridectomy—partial or total removal of the clitoris, and Type 2 Excision—partial or total removal of the clitoris and the labia minora with or without excision of the labia majora.

healer, and stopped people from receiving medical treatment for other illnesses on time. 5) The lack of basic resources like medicines, drinking water and latrines, clearly had a negative impact on people's health. 6) Lack of public services, or services that were out of reach for the majority of the population, especially the rural population, made access to health services and hospitals very difficult for patients or for health professionals; sometimes there was no means of transportation at all and the roads were very difficult to transit.

From a Global Health point of view, it was clear that two major problems had to be addressed: on the one hand, infectious diseases that spread rapidly in the community and on the other hand, common illnesses that could be easily prevented became endemic. The question was: How to address these problems so that positive change would last and be sustainable?

To many, gender equality and the empowerment of women might seem too massive to even start thinking towards the achievement of a minimum goal. Challenges are too vast and our fears too many, so there is a tendency to predict that our work towards the achievement of goals would bring nothing positive at all. As a result, our apprehension and fearfulness put the mechanism of the Prophecy of Nothing in action: if "nothing" is the ineludible outcome of our work towards a better and fairer world, we will do nothing to remediate the establishment and change the *status quo*, therefore there will be no change, nothing will happen and consequently the predicted Prophecy of Nothing will, once again, be indisputably fulfilled. It is from within these fears and impotence that the model HbAM was born and that a highly operative and sustainable alliance between Academia and grass-roots work to pursue SDGs flourished.

The Health Camps

The fact that during the first arrival in Lunga Lunga the UW team was perceived to represent "authoritative" knowledge was countered with students training on the importance of humility and generosity about their knowledge and on the importance of perceiving themselves as mediators of resources and learning facilitators. Knowledge exchange was a beautiful symphony of diverse voices conceived by the local women and harmoniously performed also by them; the members of the UW team were the conductors so that women could acquire what they wanted to acquire so desperately— a knowledge they were deprived from and that could give them the opportunity to develop more confidence in themselves and exert self-reliance and independence.

Health education can have either beneficial or harmful effects on people's lives and wellbeing. In Lunga Lunga, the women requested a basic health education program, not

because they thought they needed it but because they knew they wanted it. In 2010, three undergraduate students from UW-Madison, Alonso's 16-year old daughter and herself decided to deliver what the women wanted. From March to June, they prepared a curriculum according to the wishes of the women: maternal health, infectious diseases, sexual transmitted infections, malaria prevention, basic nutrition and hygiene. The grass-roots work began, thanks to a grant from the Davis Foundation for Projects for Peace, with a series of summer health camps for approximately 300 women—around 100 women from each of the three villages of Lunga Lunga, Godo and Perani.

The structure of the health camps was informal and decentralized, leaving the organization, planning and decision making into the hands of the community leaders who in turn were informed by the wishes of the women. The health camp in each village lasted one week from 8:00 am to 4:30 pm with two short breaks to stretch and a longer lunch break to interact, chat, dance, sing and share laughter. Meals and beverages for all were provided by the grant, and at the end of the health camp the women received an in-kind compensation for their attendance to the training. The first intention of the UW-Madison teaching team was to incentivize the women with a small amount of money to compensate the time they were not working in their *chambas*[45]. The women, however, requested no money and instead suggested beans, rice and sugar because, as they said: "Our husbands can take that money if they wish but with the food the whole family eats."

A pivotal moment that considerably determined the forthcoming relationship between the HbAM team and the women came at lunch in each of the three villages where the camps were held. When the camps started, the people from the UW team was perceived as visitors and guests, a perception that manifested in various ways, for instance, the women served them first a substantially different meal, more nutritious. The UW team requested to change this pattern and they and the women began eating the same type of meals in subsequent occasions. Soon it seemed that a simple act like intentionally eating together the same meal had shuttered barriers and transformed that lunch moment into something unique and meaningful for all: the moment was riddled with a sense of togetherness and celebration.

During the health camps, women voiced their own ideas, suggestions, questions, and figured out solutions by themselves and for themselves assisted by the UW-Madison team that facilitated and moderated the discussion. A decisive moment in Godo was

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[45] Plot of land for harvesting.

when Mama Veronica asked out loud: "When should we cut the umbilical cord of a baby?" Then a discussion began about giving birth at home or in the clinic: "I assisted the birth of my own twins, but one of them died days later, his neck stiff and his body bended like this [showing backwards]," Mama Veronica intervened again. Some women knew right away, "Tetanus!" shouted two of them. Mama Esther added that the traditional way to cut the umbilical cord with the thumbnail could sometimes be a contributor of disease if the hands were not cleaned enough. Another Mama commented that not only the umbilical cord was cut with the thumbnail but also sometimes the perineum, "that's why some women around here keep their fingernail long and strong like a knife." Nonetheless, the women were not blaming anybody for bad habits or behavior; through their discussion they realized that the lack of tools and the lack of water were two of the main causes of using fingernails to cut the umbilical cord.

The main goal of these health summer camps was not to change women's "bad" habits or behaviors but rather to facilitate their own learning process by which they could understand by themselves the many variables and circumstances that could cause poor health and how to tackle those variables in order to promote wellbeing. Nobody questioned women's values, believes or habits since that would have meant to put into question women's own identities and to challenge the way they define themselves within their groups. However, the women themselves brought up traditions, values and beliefs that they wanted to discuss in an open and welcoming environment. It was often the women the ones who challenged traditions and listened to the points of view of women from other ethnic groups; they were just seeking a valid interlocutor that would listen without judging.

The circumstances of Mama Veronica's baby gave way to a discussion that went beyond life and death, beyond health and disease. Women discovered by themselves what was needed, at individual and structural levels, in case another Mama had to go through the same situation. It seemed that the women were able to link health with other aspects of social development in their minds: the causes of poverty and poor health. Mama Bendettah[46] orchestrated the effort: each household with women in reproductive years would be required to have a *kiberiti kit* containing the most basic utensils to cut the umbilical cord—a tiny container of the size of a matchbox with a pair of gloves, a new razor blade, and a thread to tie the cord; "And a clean kanga[47] to wrap the baby!" another

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[46] Leader of the women in the market who became the Director of the Kenyan-based NGO *Nikumbuke* ("Remember Me" in Kiswahili) associated to HbAM.

[47] Traditional piece of fabric used as a skirt, shawl, or even towel or blanket.

Mama added. However, the women went further realizing that cutting the cord was not the only lethal decision they had encountered, "My neighbor died bleeding after she delivered her baby; no one could save her" one Mama said. "That happened to my neighbor too!" added one, "Mine too!" added another one, and the voices of other women resonated like an endless echo in the room "Mine too, mine too, too, too…!" The women talked about bleeding, about the placenta not coming out entirely, about fever and convulsions, about spirits that come from the water and make women sick, about the snake that often comes to kill the mother and steal the baby.

The women one by one and all together deciphered the "Three Delay Model" that is often used in UW-Madison's courses to explain maternal mortality around the world: "My mother-in-law said that women are cowards if they go to the clinic to have babies," said one of the young Mamas. The other women giggled looking at each other, recognizing themselves in the comment, some as mothers-in-law and some as daughters-in-law. The debate began. Some mentioned that husbands were mostly absent when babies were born and that their mothers-in-law were very insensitive to their pains of labor and that some lives could have been saved if the mothers-in-law would have helped in the first place. For the first time women in the villages were talking together about issues that had never been discussed before. Although at first mothers-in-law protested, they soon realized that they were also daughters-in-law themselves and that the claim sounded way too familiar for them too. The women, young and old, made a pledge to overcome some of the difficulties that pregnant women confronted in their communities, starting at home.

The women discussed the Three Delays, acknowledging that the forms of the delays may vary according to different circumstances. Some of the women were able to look far beyond the immediate causes of maternal complications and showed very critical attitudes towards the third delay, saying that sometimes the hospital is closed for admissions when the Mama arrives, or that the doctors are not available, or that women are often mistreated or treated like children to be scolded. Without knowing it, the women were talking about obstetric violence.[48] The women were clear, the fear of mistreatment in hospitals keeps women preferring to deliver at home assisted by a neighbor or by themselves.

There they were, women from at least nine different ethnic groups and three different religions discussing issues that cut across ethnicity and religion in a country divided and

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[48] Term coined in the United States to refer to the inhumane treatment of women in labor and delivery wards during childbirth.

brutally confronted along tribal animosities.[49] Maternal health was a common thread that interweaved the lives of the women in all the villages; soon, the women would discover many other common threads that would drive them to work together in their desire to overcome structural neglect and violence. Health started to be seen among the women as a state of wholeness and wellbeing; achieving that state of wellbeing would require to work together to meet women's needs in a self-reliant and responsible way.

Because maternal health, as well as the other topics, were requested by the women in a safe and free-expression environment, sharing information helped increase their ability and confidence to solve their own problems, owning the knowledge that was given to them, and utilizing the information in a way they found it reasonable and useful according to their circumstances and specific needs. For example, the idea of obtaining the *kiberiti kit* was adopted as a way to prevent another case as Mama Veronica's, but the women also decided to create a Mary-Go-Round that would help women in need of some extra money for emergency situations such as the transportation of a pregnant woman to the nearby clinic or hospital. The women also talked about saving for hospital bills. Some of the women decided they would buy a cow as an investment, like a savings account, to sell it later in case of need to pay a medical bill.

Although maternal health had provided important breaking point discussions on women's health during the first summer health camps, it was clear that women regarded health as something more complex than just reproductive health, and that wellbeing went somehow beyond their role as mothers. The women wanted to understand their bodies, their risks for disease, "Why are we so tired?" "Why my daughter has a discharge?" "Why we have back pains?" "Why I don't see well"? "Why some women are "carriers[50]"? "Why I'm coughing so much"? "What is cancer of the cervix?" They wanted medical information answers to their questions as the means to find solutions to their problems.

Health Post

To give medical advice, or to play doctors and nurses, had never been the intention of

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[49] The ethnic groups presented during the first health training in the villages were Kamba, Duruma, Digo, Giriama, Luhya, Kisee, Makondo, Luo and Taita. In some of the villages the majority of the population is Christian—Lunga Lunga and Godo. In other villages—Perani and Mpakani, approximately half of the population is Muslim and half Christian. Nevertheless, people still believe in spirit possession and still hold traditional values and customs that permeate many levels of their daily lives.

[50] A local way to refer to a person who is HIV +, is "carrier" meaning carrier of the virus.

the HbAM team, thus, in order to answer those questions and help the women to figure out solutions, local nurses and doctors would have to get involved. Two strategies were set in motion: first, Mama Bendettah would search around the communities for a local Mama who had a nursing training and who could commit to work with HbAM and help the women with their health concerns; second, the government clinic in Lunga Lunga would need to be involved at all levels of the health training, supervising our work, giving us feedback, and helping the women to figure out the best way to meet their needs. The objective was to plan with the women and not for the women.

In May 2010, nurse Matini became the coordinator of the micro women's health facility opened by HbAM in Lunga Lunga, named *Nikumbuke* by the women. While nurse Josephine did not have an official diploma, she had studied two years of nursing in a government facility in Mombasa, and was trusted by the women who sought her services at the local market where Josephine worked as a fruit seller. Dr. Ishmael Mwangi, Head of the Lunga Lunga Health Center, the only government facility in the area, started working with HbAM also in May 2010. Dr. Mwangi was a crucial piece in the success of HbAM's health programs since he had already developed a trusting relationship with people in the villages.

In July 2010, the *Nikumbuke* Health Post opened to the public under the direction of nurse Josephine and supervised by Dr. Mwangi. The women were again the key actors in the creation of the health facility: baptizing it, choosing the color of the walls and ceiling, picking the furniture and the equipment, and launching it with a big celebration that included women from several neighboring villages. The UW team was actively engaged in helping and in preparing the launching of the health post.

The opening of the *Nikumbuke* Health Post had unexpected consequences. The facility provided for the women was a venue to share their worries and articulate their demands in a private, safe, and discrete manner. The eagerness for this women's health post was undeniable: the same day of the launching, even before the celebration ended, the women made a long line waiting to be seen by nurse Josephine. Issues that had not been discussed before, emerged—infertility, untreated STIs, the desire of controlling fertility, HIV, living with AIDS, undernourishment, domestic violence, unsafe abortion, respiratory problems, untreated skin diseases, lack of energy, work hazards, etc.; issues, conditions and diseases, most of them related to poverty and gender inequities, that many women shared but that had not been openly discussed before. Surprisingly, nurse Josephine became the women's confidante more than the women's nurse. It became noticeable that her lack of skills as a highly trained nurse was not an impediment for her

to provide, at very low cost, what the women needed the most: to be listened to, to feel cared for! One year after the opening of the *Nikumbuke* Health Post, nurse Josephine wrote: "I am making good use of the books,[51] I'm very proud of them. I promise this year to change the lives of the women together with their family." Nurse Josephine's health education, a system of referrals with the government health facility, and a door-to-door follow up helped the women to spark a movement that favored health and wellbeing and deliberately avoided illness and disease.

Mama-Toto Mobile Clinic

For every progress and achievement there was a new challenge and a new struggle. "We can't go to Lunga Lunga to see nurse Josephine!" the women from Godo complained. "If we walk three hours to see her, who will fetch water for our homes?" they protested. Indeed, the *Nikumbuke* Health Post was not fairly located to serve women from many communities. The leaders from several villages had spoken, "Lunga Lunga would host the health post." In fact, due to the scattered nature of the settlements in each village, and considering the isolation of many of these communities, the actual location of the health post made sense since Lunga Lunga is closer to a main road and considered a central location in the area. In practical terms, though, the health post would only be viable for women living in Lunga Lunga and from the nearby village of Perani. Women who lived further would need to walk many miles to be seen by nurse Josephine. Decidedly, if the women could not come to the Health Post, the Health Post would have to go to the women; the idea of the *Mama-Toto* Mobile Clinic emerged! And with it the Health by Motorbike movement took off, originally renting a motorcycle, and soon owning the first motorbike converted into a mobile clinic.

The Madison Rotary Club-West provided the first motorbike to carry basic medical equipment—anti-malaria medication, malaria rapid tests, antibiotics, multi-vitamins, anti-parasite tablets, antifungal creams and syrups, first-aid kits, etc. Every Monday afternoon, nurse Josephine would take the *Mama-Toto* to go to Godo, every Tuesday to Jirani, and every Wednesday to Mpakani, Thursday and Friday nurse Josephine would work at the permanent *Nikumbuke* Health Post to serve the women from Perani and Lunga Lunga. Very soon, the *Mama-Toto* would become sustainable: the motorbike was rented out the four days when the mobile clinic did not function; the surplus of Kenyan shillings was good enough to purchase basic medications and save some shillings for

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[51] Referring to a series of books on women's health by the Hesperian Foundation that we brought a few months earlier—Where Women Have No Doctor, the Book of Midwives http://hesperian.org/books-and-resources/

gas, future repairs and incidentals. The supply of medications was very limited, but soon it became apparent to nurse Josephine that even more important than medication for the women was the possibility to connect with her, to address their concerns, to talk through things with her, and to feel a sense of inclusion and attachment. Women sometimes needed medications, but they always wanted information. They craved to understand the causes of bad health, the treatment for common illnesses, and even more important, how to prevent disease.

The conviction that the women were creating community grew rapidly around Kwale County; the "*Nikumbuke* women" as they started being known, were working together, planning and carrying out actions for change together. As the news spread, more women wanted to be part of the movement and become "members" of the *Nikumbuke* women. Before long, women from seven villages were participating in the health programs developed by HbAM, and the *Nikumbuke* Health Post became too small and too crowded to efficiently serve a demanding and deserving population.

In the summer of 2012, when the team of students from UW-Madison was in Lunga Lunga, the decision was made to physically enlarge the health facility. During the year, the UW team lead by professor Alonso conducted a series of fundraising events in Madison: selling T-shirts, baking muffins, making pancakes, engaging local businesses to "invest in health programs," requesting the involvement of other students and faculty, as well as friends and relatives' involvement. In August 2012, with the $7,500 raised and the assistance of FromOne2Another, a newly created not-for-profit organization based in Sweden, the once micro Health Post became the *Nikumbuke* Women's Health Center, with a larger health post, an office for Mama Bendettah to work, a kitchen, a tailoring school, a dentist unit, a library, two latrines, two large outdoor meeting spaces, and three small dwellings for the women to stay as a safe haven and also for future interns to live while staying in Lunga Lunga. Mama Bendettah and the "*Nikumbuke* women" picked white and blue for the new colors, and starting growing plants and vegetation "For the Center to look sweet and smart," as they said. The same year, 2012, Dr. Abdulcadir Sido, a 72-year-old dentist from the Madison area in Wisconsin, recently retired, and originally from Somalia, joined the HbAM team and made it his call "Not only to pull teeth but also to treat and restore, to prevent decay, and to train locals in basic dental care and hygiene."

Train the Trainers

The women from the same villages of Lunga-Lunga, Godo and Perani where the Summer Health Camps were conducted in 2010, insisted in repeating the camps the

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following year. Training 300 women, however, posed some difficulties in terms of resources and sustainability but the wishes of the women was taken very seriously for lasting change had to come from within, from the women themselves as producers and reproducers of knowledge.

The new 2011 health program would be based on the training of a small number of women who after the training would become "health promoters" or community health workers, and who in turn would train other women during the year multiplying the basic health knowledge by hundreds, even by thousands. The newly born health promoters would hold village meetings or "health parties" with other women in their own communities and would discuss health issues and health concerns specific of each group; each pair of promoters committed to hold one health party per month.

The first cohort of women health promoters was selected by the leaders of each community, based on their commitment to help others, desire to learn, and also basic literacy in Kiswahili and English. Three villages participated—Lunga Lunga, Godo, and Perani. The leaders selected four women from each village, and a total of twelve future health promoters attended the training. Planning and control of the health promotion were flexible and responsive to the women's needs and desires since the course content was specifically selected by the community leaders in consultation with the women; as a result, what was taught matched the community's needs and desires. Although the group of health promoters was ethnically very diverse, it was small enough—only twelve—for everyone to know each other.[52] The main responsibility of the women health promoters was three-fold: 1) disseminate the information learned in the training; 2) assess the health needs of women in their communities; 3) inform regularly the staff of HbAM in its headquarters of Lunga Lunga. Those twelve health promoters would have to work together during the year, reporting to the local Director of the projects, and community leader Mama Bendettah who in consultation with nurse Josephine Matini and with the UW-Madison Team, would decide the next steps: whether to develop further programs, create new interventions or revise the existing ones.

During the five years of implementation, the Train the Trainers approach constantly evolved and adapted to meet women's changing wants and needs, helping the women to become more self-confident about their own capacity for effective decision making and action. For example, the first two years the women health promoters preferred to work in other neighboring villages instead of in their own; they claimed that it was difficult

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[52] The first year, the twelve health promoters belonged to the Kamba, Digo, Duruma, Luhya and Giriama ethnic groups, and practiced Christianity and Islam in almost equal numbers.

for them to be seen with authority in their own villages: "I am just a house-wife, a Mama, and everybody knows me as such," "I can't be listened to as a knowledgeable health promoter in my village all of a sudden," "Nobody would want to listen to me!" several Mamas said and the others agreed. Two years after the first training, however, in 2013 the health promoters felt confident enough to advocate in their own villages, a request that was applauded by the UW team because it was clear that by working in their own communities the health promoters were helping break the cycle of dependency from outside.

As the health promoters continued their work through the year, other villages requested to train their leaders. In 2012 five villages participated—Lunga Lunga, Godo, Perani, Mpakani and Jirani. The year of 2013 saw a tremendous advancement in the number of villages participating with the addition of two Maasai communities—Maasailand and Umoja. The number of villages was not the greatest advancement, however; the most unexpected innovation of that year would be the incorporation of a man to the cohort of women health promoters. In the village of Maasailand, Mama Rose in the name of the village leaders requested that her son, Isack Ngunzo, be trained as the first health promoter of the village. Two reasons were given by Mama Rose: 1) Isack was among the very few to speak Kiswahili in addition to the Maa language, and 2) Isack wanted it! Contrary to expectations, stereotypes and assumptions about the patriarchal nature of Maasai men, Isack wanted to be a health promoter and advocate for women's health and for community health.

At the end of the first "train the trainers" program in 2011, the teaching team realized that the women were chattering about *mtihani*, test or testing. The last day of the training the women were given diplomas for their learning without being tested first, assuming that "testing" would be a coercive western imposition. "But how do we know that they have learned?" Mama Bendettah asked us. Interestingly, by trying to avoid an imposition from the West, that would paternalistically assume that the women were incapable to be tested about their newly acquired knowledge. As a matter of fact, testing was not only fair but also desired by the health promoters; the only challenge would be to develop culturally sensitive questions in accordance with the language and the literacy level of each woman.

Because the number of health promoters was small, even smaller than the teaching team, the following year 2012 pre and post-tests tailored were prepared individually for each health promoter in training. For example, one health promoter insisted in taking the test in English since it was important for her to do it that way. Another health promoter,

however, preferred to take the test in Kiswahili, and another one needed a person who could read the questions and record the answers. The pre and post-tests allowed the teaching team to assess, not only women's learning capacity but also the efficacy of teaching styles and materials, and also the UW team's competency to share and translate knowledges and ways of knowing. The health promoters were tested on health issues that they had wanted to learn in the first place: communicable diseases, nutrition, maternal health, sexual transmitted infections and diseases, water-borne illnesses, hygiene, reproductive health, cancer of the reproductive female organs, etc. Through their formal testing, the women chose to prove that they were ready to fulfill their task as the future health trainers of other women from their communities. After that moment, and acknowledging their big responsibility as health promoters, nurse Josephine decided to test the women every six months to make sure their knowledge was still accurate, otherwise they would need to attend instructional workshops to refresh their health information.

The Maasai

Many of the women from non-Maasai villages—Lunga Lunga, Mpakani, Godo, Perani, Jirani—had been hesitant to include Maasai women within the HbAM framework. The Maasai women "dress differently," "eat different food," and celebrate "different" rites of passage. They are "difficult" and "stubborn," far too "set in their ways." The Maasai, too, were hesitant to work with HbAM. While some members of the Maasai communities of Umoja and Maasailand had directly requested to be part of HbAM, others were more cautious. This seemed to be rather common throughout Kenya; in fact, Madam Bendettah mentioned that a government official had asked her why she would even consider working with Maasai tribes, citing their "reluctance to change" as an obstacle that apparently could not be overcome.

In his book, *The Moral Imagination: The Art and Soul of Building Peace*, Paul Lederach (2005) mentions the ability to transcend a narrow "reality" as one of the greatest tools for peace building. This ability is what he calls the "moral imagination" that opens up human potentialities for action beyond what is immediately apparent, opening humans to the possibility of creative acts towards peace building. It seemed as if the women from all these villages had read Lederach's words when he writes:

> Stated simply, the moral imagination requires the capacity to imagine ourselves in a web of relationships that includes our enemies; the ability to sustain a paradoxical curiosity that embraces complexity without reliance on dualistic polarity; the fundamental belief in and pursuit of the creative act; and the acceptance of the

inherent risk of stepping into the mystery of the unknown that lies beyond the far too familiar landscape of violence. (Lederach, 2005: 5)

Indeed, the participation of Maasai women and of Chief Isack Ngunzo in the Train the Trainers was a breakthrough in the program that transcended the narrow reality apparent to the UW team who, nonetheless, were just observers, and opened up potentials for creative acts that went beyond immediate understandings. Furthermore, it meant an "outreach success" since the Maasai communities were located in the most isolated and ostracized of all areas. It also meant a "unity success" in the sense that health was again a concept that united different tribes that had not shared common grounds before. As a result of prejudices and deeply entrenched stereotypes, the Maasai and other tribes had rarely mingled; the Maasai were regarded by other groups as "backwards, dirty, odd" and the Maasai perceived the other communities as their potential adversaries.

Besides, the participation of Isack Ngunzo in the health training program meant a major shift in the favorable evolution of a dialogical context where communities were working together for a common cause and shared interests, as well as a "gender shift" since it was the first time that men were not just hesitant observers of their wives' work but participants in the construction of healthier communities for all. Moreover, allowing one of the young men to join a group of only-women health promoters on women's health issues by another group of only-women trainers, was a revolutionary decision taken by the elder men of Maasailand.

Needless to say, having Isack Ngunzo for the Train the Trainers was taken with caution by the women and with indecision by the teaching team from UW-Madison. On the one hand, the dynamic of the group could be in jeopardy; the women had always felt safe sharing their most intimate health concerns and having a man, regardless of his tribe, could threaten the learning environment for all. On the other hand, the presence of Isack was seen by Mama Joyce, another Maasai woman from Umoja, as "our men wanting to be in control… once again!" as she put it.

The Train the Trainers of 2013 came to an end, and regardless all the challenges, the presence of Maasai women and of Isack among the women were a complete asset and a confirmation that something was happening in the communities, including the Maasai villages. The Maasai women and Isack were excellent team players, listeners, followers, and also leaders when appropriate. The women from other tribes opened up in front of Isack and the Maasai women in ways that no one could have anticipated; they were not only comfortable talking about maternal health, hygiene, nutrition, or infectious diseases but also about taboo topics never discussed before—anal sex, oral sex, FGC, violence

against girls and women, rape. At the end of the training, Isack stood up in front of all, trainers and trainees, thanked all for the learning opportunity and claimed that he was committed to advocate for women's health and to end violence against girls and women in his community, "no more Maasai girls will be raped while I am a community leader," he said. A man from an ostracized community had just become a moral role model for other men in his community and, more important, in other non-ostracized ethnic groups as well.

Throughout the year, Isack became even more pro-active than some of the women health promoters of the same cohort. He created a school for girls and boys in Maasailand and started teaching the children alphabetization but also girls' health, gender equality, and the importance of education. Not satisfied with his work and eager to learn more and recycle his knowledge, the following year 2014, Isack requested to be retrained as a health promoter. His example became a role model for other Maasai men and women. In addition to Isack, in 2014 three more Maasai requested the training: Isack's 14-year-old sister-in-law Maria who was pregnant at the time, Mama Joyce Pius from Umoja who had attended the training in 2013 but requested to retake it, and Isaya Muringa, another young man from Umoja who asked to be a health promoter, probably influenced by a recent event in which Mama Joyce had been involved.

Just a few months before the training, Isaya's second wife gave birth to her first son but after the delivery she did not stop bleeding. Maternal and infant death is something well known among the Maasai. Although the women are very strong and give birth with no fuss, if there is a complication such as placenta previa, obstructive labor or incomplete placental birth, the death of the mother or of the baby, or the death of both, are almost inevitable. The bleeding did not stop for Isaya's wife and trans-porting her to the hospital from Umoja village was unthinkable at such stage. Mama Joyce was called to intervene.

"I didn't know what to do, but I remembered something from the training of the former year that was about rubbing the nipples and pushing out like urinating, and putting the baby in the breast while the other nipple was rubbed. We repeated that. It was frightening, but the insides of her came out and after a while the blood stopped coming." Isaya's baby and wife survived and Isaya decided to become a health promoter.

The process of incorporating Maasai to the train-the-trainers and to all the programs of HbAM was not easy, though, and challenges started surfacing as the Maasai communities began to change. For example, the elder women of Maasailand protested because "Isack is talking to us about things that bring shame to us," such as sexually transmitted infections or cervical cancer. "We can't even listen to him without blushing!"

one of the women objected. Isack's desire, however, has not been informed only by his training in health promotion but by his genuine desire to bring the status of girls and women up, regardless of facing criticism in his community.

Isack went further; he was truly concerned about the dangers of cutting the clitoris to the girls and about the rapid spread of HIV among some Maasai communities. Isack became in charge of a difficult task: making sure that the girls attended school. The Maasai girls of Maasailand and Umoja had never gone to school, their mothers were illiterate and the girls faced the same fate. Isack, however, was committed to changing this and through HbAM's system of scholarships he was able to make his dream come true and have the girls in school. One of Isack's bold actions was to give identity to the girls by officially issuing birth certificates to all who started attending school. Because of the number of girls who needed birth certificates, a government official traveled to Maasailand to issue the certificates instead of asking all the girls to go to the nearest city. Since the Maasai from Maasailand live in isolation and are still semi-nomadic, the birth certificates could have been easily avoided, but Isack's desire was that all the girls in his community have a legal status. Isack proved to think long-term with specific initiatives for his Maasai community.

Tribal differences, however, continued to be somewhat of an obstacle for HbAM's programs, as they were in much of the country. As Charles Hornsby (2001) said, ethnicity in Kenya is "about shared communities… but also about conflict and difference" (2). Hornsby argues that politics and social organizations in Kenya cannot be understood without a strong knowledge of ethnicity. In that way, working with the Maasai has brought about a unique way to recognize social justice and human rights to the HbAM team, acknowledging the claim that the Maasai community has suffered from marginalization and stigmatization since Kenya was a British colony (Ole Simel, 2004). The characterization of minorities through derogatory stereotypes responds to what Arjun Appadurai calls "predatory identities," that is, a way of defining the identity of a group on the elimination or demeaning of minority others who are perceived as a menace to such construction of a group identity (Appadurai, 2007). Thus, the mingling, solidarity and alliance that sprouted through the HbAM programs was highly relevant as the materialization of an inclusive social construction model and the rejection of the "predatory identities" model. Furthermore, the inclusion of Isack as the only man to become a health-promoter and its positive outcome suggested that such inclusive social construction model can only be truly successful if gender hierarchies are flattened or eased out.

"Not only boys will get educated in Maasailand," Isack announced at the end of the train-the-trainers in 2014, and in 2015 his commitment paid off, as a group of 25 Maasai girls of different ages started attending primary school divided into three boarding institutions. Several issues had to be considered, though. First, sending the Maasai girls to school was not going to solve the structural violence and the poverty generated by decades of exploitation in capitalist development. Second, the girls would have to be closely monitored to cover all their needs and not just school fees—school uniforms, books, meals, etc.; recruiting girls and paying their fees to school was not good enough to keep the girls attending school regularly. Third, the girls would need to develop a hard skin to endure the bullying coming from girls from other ethnic groups, which they did! By the end of 2016, all 25 girls could read and write in Kiswahili and they were becoming proficient in English. The birth registration of the Maasai girls together with the literacy instrument are the essential means to combat what German philosopher Carolin Emcke referred to as the "diffuse nature of hatred", in this case, against a prosecuted Maasai minority; hatred eludes concreteness, specificity, because precision would always bring about the differentiation of what makes each person human and unique, and thus, the difficulty of hating it (Emcke, 2016: 6).

Street Health Theater Afya Ukumbi

At the beginning of 2012, almost one year after the first Train the Trainers health promotion program, a group of women from Lunga Lunga took the genuine initiative of performing "dramas," as they call their acting, taking the subversive Harvard's Pre-Texts pedagogy into their own hands[53]. The women used their inner knowing and motivated by the knowledge acquired through the training of the previous summer. Although the UW team had nothing to do with this impulse of the women to perform, the new knowledge might have acted as a catalyst for the women to share the treasured information in a culturally more appropriate way.

The women developed the scripts, collected the garments, rehearsed for several months and in June of 2012 eleven women starred as female actors performing in the streets of Lunga Lunga in front of several hundred people, including our UW-Madison team.

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[53] The Pre-Texts is a pedagogy protocol created by Professor Doris Sommer, Ira and Jewell Williams Professor of Romance Languages and Literatures and of African and African American Studies at Harvard University, and Director of the Cultural Agents Initiative at Harvard University. The Pre-Texts pedagogy uses a combination of creative interpretation and reflection techniques—dancing, body movement, music, theater, written texts, etc. to achieve high levels of cognitive and emotional development and holistic education.

Although only one out of the eleven women actors had basic skills in reading and writing, the lack of literacy was not a constraint to advocate for women's health and to change community's perception of health and disease; acting gave women a platform to discuss how different factors could help or hinder health, and explain specific implications of healthy lifestyles and habits. The genuine desire of women for advancing health in their communities led them to the formation of what Sloman (2012) called Theater for Development. It was as if the women had been mysteriously inspired by the theories of Brazilian educators and activists Paulo Freire (1970) and Augusto Boal (1979, 1995) as they started integrating health education and entertainment to construct not only a healthier society but also community cohesion and peace building platform.

The *Afya Ukumbi*, or Street Health Theater, is a good example of what Doris Sommer (2014) calls the utility of arts and humanities in civil engagement. In her book, *The Work of Art in the World* (2014), Sommer explains how bottom-up artistic expression and creative elements, unconventional activities for some, like the *Afya Ukumbi*, can create powerful dynamics of social change and hence play an essential role in promoting political participation and even in changing the *status quo*. The *Afya Ukumbi* has become a provocative and fun tool for civic education, health promotion and social justice; a subversive means to provoke, confront and interrogate spectators, but also to unify, celebrate and heal audiences and communities.

In 2013, the women made the *Afya Ukumbi* more participatory, asking the audience to collaborate after the play and analyze it all together step by step, giving rise to a form of Forum Theater (Boal, 1979) in which the audience would eventually become "spect-actors", as Boal called it, allowing knowledge and learning to flow reciprocally between actors and spect-actors. This new approach helped initiate reflection and discussion about solutions to past, present, and potential health problems. The ultimate purpose of the new participatory *Afya Ukumbi* was to conceive action through solidarity and community consciousness; that happened already at the end of 2013 when the Lunga Lunga *Afya Ukumbi* performers, after watching and analyzing a four-minute play created by the UW team, decided to perform skits on intimate domestic disputes, a subject that had been completely taboo until then. The four-minute piece that sparked the desire to perform on domestic disputes was a play acted in Kiswahili by one of the UW senior students and the director of the programs, who exposed their vulnerability in front of the women.

Although completely unintentional, such exposure seemed to work, easing up the way for the women to open up. In other words, it gave rise to an "aesthetic space," as Boal

(1995) would name it, a liminal zone where reality and fiction converged in one single universe. Through the physicality of acting out this play in Kiswahili, the women in the audience who in daily life were silent became protagonists on the stage, and their feelings of oppression became as tangible and solid as the bodies. It was within that liminal space where everything became possible, where transformation took place between what "it was" and the "next."

It took four minutes and four questions for the women to feel a tight knot in their guts, a sense a deep inner pain, but also a sudden urgency to speak and act out. The audience became activated spect-actors, and professor Alonso took the role of the "Joker," as Augusto Boal (1995) called the facilitator of the Forum Theater: The female actors took every bit of information given during the health promotion program, every common knowledge, every cultural belief and converted them, translated them into a drama adapting it to the specific circumstances of each community. For example, when the Lunga Lunga actors performed their drama on HIV, the whole audience cracked-up as a Mama tried to convince her husband to use a condom. Condoms were unknown in the villages before 2010 and although they were still seen as something not desirable, thanks to the *Afya Ukumbi* more and more people were demystifying them. In the play, the Mama insists to her uncooperative husband that he put a condom before engaging in intercourse. The husband rejects the condom several times claiming that "This is only for prostitutes! *Mimi ni mwanaume*! I am a man! You don't dare to give me this" "You do what I say!" The Mama, however, does not appear intimidated but neither she pushes her husband to do something he does not like or want. On the contrary, the Mama is using all her skills for him to change his mind, showing him how to put the condom on and even telling him that she could try to do it with her mouth. The spect-actors did not look embarrassed or ashamed, or showed any discontent or disapproval of the women's audacity and insolence. The audience seemed mesmerized and laughed harder and louder as the Mama tried to put the condom on a wooden penis attached to the "husband's" pants. The Mama did not mention HIV to her husband at all, neither she mentioned that she was trying to protect herself from other sexually transmitted infections or from unwanted pregnancies. The Mama was presenting the condom to her husband as something desirable for his own enjoyment. This a clear example of what Teresa Langle de Paz calls "stealthy rebellions" performed by women daily as a way to avoid the obstacles that patriarchy imposes on them, and as the silent means to lead, bit by bit, their own structural transformations (2010).

Through the medium of performance and storytelling, community health promoters turned into actors freely expressing the particular health issues that affected their

communities. Through all of it, the women spoke their truth and such truth became healing for the 'self' and transformative for the community. Speaking the truth is an individual liberatory and healing phenomenon but may also lead to solidarity, to creating community (Butler, 2020). The *Afya Ukumbi* intelligently used laughter as a subversive language to discuss sensitive health topics, contest structural violence, and even reverse gender roles. Besides, laughter brought people together, acting as a great unifier and creating an atmosphere of acceptance among groups of different ethnic backgrounds and religions, thus allowing performers to reach marginalized groups in their communities. Joy and play are essential to wellbeing and spontaneously act as a "glue" to unite people and communities.

III.   The Physicality of Knowing: Towards the Full Circle

The structural model of HbAM for the organization and implementation of its programs is circular in nature at different levels, starting with the synergies that spin from the Academy to the grass-roots level and back. The model entails both the adaptative transformation of academic research and knowledge that when "applied" to the grass-roots projects is subject to constant interrogations, including at the personal level of the UW-Madison teams, and the feminist transformation of the lives of the local women through their exposure to their own knowledge making and the programs built conjunctively by the different ethnic groups and the UW teams. Most important perhaps is the fact that it all starts and finishes with the local women as protagonists and agents. Another level of the circular model involves the approval, permission and support of the local government and the Ministry of Health. The last level to consider consists of the UW team getting the women's feedback on the proposed programs, again according to the women's desires, needs, wants, and concerns; and the cyclic model starts over again.

Very early during the first stage of the circular model, the women showed their strength, their capacity, their abilities, not only to learn but also to act upon what they were learning. In other words, and as Martha C. Nussbaum puts it in her work on women and development (2000), the women found their own capabilities maximizing their competencies and feeling revalued. In this sense, the power—or empowerment—, that women showed was not something given by external agents from UW-Madison; power was something that was recovered, reconstructed from their own possibilities. One could say that the women discovered their own empowerment and regained control of their lives because they encountered the right circumstances and the adequate structures at the right time for them.

During the process of control regaining, some of the women talked about "others controlling their lives," while some others talked about themselves feeling "out of control." In the first group of women, the control came from structures of power that maintained the *status quo* perpetuating structural violence. In the second group, the lack of control seemed to emerge from the "self." Regardless of the source of disempowerment, the women wanted to feel in control of their lives, which is an interpretation of empowerment. But what does it take?

As mediators, the programs of HbAM facilitated the revalorization or empowerment with the following in mind:

1. Clarification of what, HbAM and the women, wanted to achieve.

2. Clarification of the options and possibilities of both HbAM and of the women.

3. Acknowledgment of the different types of knowledge and ways of knowing that all parties could provide, as well as the fact that knowledge circulates freely in non-hierarchical directions.

4. Enhancement of the abilities of all parts involved in order to transform knowledges using the capacities of listening, communicating, organizing, analyzing themes and evaluating alternatives.

5. Recognition and acknowledgment of the diverse resources to achieve what the women wanted and the fulfillment of HbAM objectives.

6. Reinforcement of women's capacity to take action by triggering and nurturing their attunement to "feminist emotion" not only thinking about the end result but also about the paths to follow during the process of knowledge acquisition.

In order to re-encounter women's inner power, or to recover their suppressed empowerment, HbAM took a participatory approach and a conceptual framework based on "performative theory" that acknowledges that humans can form, perform, reform and reshape human relations (with our bodies, with our environment, with each other, with ourselves) in different ways, and of course, using not only knowledge, but also care, tenderness, kindness, compassion, empathy, and love in a way that we can transform the distribution of resources to avoid exclusion and misery, and create new projects and programs that align with gender equality, politics of health, sustainable development, and peace. It takes above all, allowing for the power of affect and emotions to guide knowledge. This applies, at least, throughout the process of the critical self-analysis of the UW Team members, in the way they, as outsiders, perceived of "the other" and their

realities, and the means and content of what they assumed needed to be done, and even known. Situated knowledge guided by the transformative force of affect.

HbAM as depicted in the graphic model below, was implemented in the context of a partnership and supportive network that included universities, NGOs, communities, and government agencies. This model depicts the array of activities, strategies, philosophical principles and partners that came together in the HbAM. At the center and heart of the model is *feminist emotion*, defined as affective and emotional practices related to experiencing gender in patriarchal contexts that give way to (subversive) action (Langle de Paz, 2016; 2018). The erasure of boundaries and hierarchies of knowledge, fueled by the promotion of wellbeing, a sense of community, unity, harmony, and hope originated positive affect and facilitated that *feminist emotion* fueled change, prompting smoothly to the surface, circulating and flourishing into prosperity and peace. Thus, the synergy generated between a Higher Education initiative and the grass-roots programs compiled in what we have called the Health by All Means model; such model set in motion and triggered *feminist emotion* in the women from the Lunga Lunga area in Southeast Kenya, a force that, no question, was and is at the heart of the great advancements towards the 2030 Agenda, and the #5 SDG in particular that are being achieved in this part of the world

Trans-feminist theorists like Susan Stryker make use of the prefix "trans" to place the spotlight onto the passageways of *connection* and *circulation* between the macro- and the micro-political that trouble all identity recognitions including nation and citizenship, and that span beyond identity and structures (Jardine, 2010: 71-72). This definition of "trans" as a crosscutting of categories where ambivalence allows for a particular productive kind of connection and circulation of diverse levels of reality is particularly relevant to the analysis of the HbAM model regarding the following:

1. The effectiveness of its comprehensive transdisciplinarity;

2. The circularity of the activities: Planning and affect circulation;

3. The importance of the micro in prompting macro-changes in the communities;

4. The epistemological relevance of the micro- in the context of a feminist interpretation of the supra-structural subversive meaning that HbAM programs entail as they foster social change.

The unstoppable cascade effect of the process of wellbeing and peace-building that is going on in Lunga Lunga area, as a result of the work briefly described in this essay,

spins beyond the fragility of the social coexistence of the region, where religious fundamentalist groups like Al-Shabab are planting the seeds of hatred. Women are empowered and united; they are threaded by affect and *feminist emotion*, touched by a no-return affective rebellious component inextricable from their lives deeply marked by gender; feminist affect that is being channeled into collective empowerment, fueled by their resilience power as humans. Even if social conflict and violence may not be avoided in the future, the collective transformation that women are leading is, no doubt, deeper and more powerful than any outside disturbing factor. Is there a no-return path to community change? It really seems so, to judge by the effects of the HbAM model.

There is a major final reflection that one can extract from the type of work described in this essay, a work promoted through fruitful mechanisms and dynamics stirred up from a Higher Education setting and implemented by the local women of the Kwale district in Southeast Kenya: as Western academics we are too resistant to accept the power of affect as (physical) knowing and too powerless to instrumentalize it in real life and specific projects. The work that we have described illustrates how affect, specifically the type of affect triggered in women by the struggles imposed by gender, when used as the main vehicle of grass-roots work and a guidance in higher education students training programs on sustainable development can lead to great achievements on the SGDs and, most important, smooth up the way to accomplishments on difficult realities regarding number #5.

It is not easy to put aside referential hierarchies when approaching the unavoidable materiality of experience. The women from Lunga Lunga and surroundings taught us that we, "knowers" are just as just one more shifting element in the processes of living of all other living creatures and material elements that are part of their lives. Dust and heat, water and sun, mosquitos and sweat, scratchy bushes, smell, music, smog of motorbikes, tears and laughter, suspicious or grateful eyes, the warmth of the hands, and so on, all of it, simultaneously, remind us of our overwhelming physical proximity to knowing and the impenetrability of what we want to know. Yes, we all belong to an endless unknown terrain and must not trap ourselves or others in our thoughts. Life will expand the limits of our individuality without despotic mechanisms, only if we remain open to the physicality of meaning and another way of knowing. If we continue to avoid vulnerability and impotence, and stay put to the illusion of knowing—which is nothing other than holding on to difference as privilege—what we want to know or do will escape further and further.

The inner arrogance of the "rational" approach to thinking and of the traditional conception of the self as the center of life is exposed on a fragile mirror always about to be violently broken by the experiential affective knowledge of others, their lives, their suffering and joy, their strategies for living, their daily transformations, their ubiquitous "sparks of community".[54] Thus, a deep realization on the fact that "they" elude our meaning-making, as intensely as they seek health, wellbeing, and peace, and run away from death through love, is the final answer.

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[54] Africanist paradigms posed by critics like Pinkie Mekgwe, D.A. Masolo, Obioma Nnaemeka, Amina Mama, Peggy Gabo Ntseane o Ruvimbo Goredema, outlined that the overvalued of the 'self' over a more communitarian notion is a colonial imposition on the African continent.

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