



Gender Equality Implementation in Research Institutions: A Collaborative Approach

GEIRICA Project Results

Vilnius 2015

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Preface

The project GEIRICA -- Gender Equality Implementation in Research Institutions: a Collaborative Approach -- was implemented with funding from EEA and Norway Funds Bilateral Relations Development programme for 2009 – 2014 and under coordination of Vilnius University (Lithuania). The project was aimed at strengthening cooperation between Lithuania and donor countries in the realm of strengthening gender equality in research institutions. The main objectives of the project encompassed ensuring extension of the cooperation, sharing knowledge and rising mutual understanding, as well as seeking for wider effects on the solutions of problems in the field.

The project GEIRICA was started during Lithuanian presidency to EU Council in 2014. Therefore some objectives of the project were directly linked to FP7 project SAPGERIC, which was aimed at the organization of the Lithuanian presidency conference “Structural change promoting gender equality in research organizations” in Vilnius in 2014. The initiative of GEIRICA project to develop recommendations on gender in science issues for international and regional EU programmes (EAP and EUSBSR) was concerned with LT presidency priorities. This enriched and widened the areas to be involved into the strategy for the implementation of structural change in research organizations.

This book is devoted to present of the project GEIRICA and its results for a wider academic community and general society. The book is structured in two parts. The first part presents the description of the project, including its objectives, main activities and teams of national experts from Lithuania, Norway, Liechtenstein, Iceland, and Belarus. The second part presents the main results of the project, which involve review of gender equality implementation in partnering countries and development of series of recommendations not only for the Lithuanian science institutions, but also for the European level programmes and institutions. Hence, we do believe that united efforts of the project partners resulted not only in added value for national and international beneficiaries, but also significantly contributed to the strengthening of positive effects on gender equality in science and innovations on the European level.

GEIRICA project coordinator

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Contents

I. The GEIRICA project: an overview	7
1. Goals and objectives	7
2. Partners and teams	8
2.1 Vilnius University (the national beneficiary)	8
2.2. BASNET Forumas	10
2.3. Norwegian University of Science and Technology	11
2.4. University of Iceland	12
2.5. University of Liechtenstein	13
3. Activities	14
4. Review of the main results	15
4.1. Data collection and analysis	15
4.2. Lobbying	15
4.3. Organization of events	16
4.4. Dissemination	17
II. The GEIRICA project results	19
II.1. TOWARDS STRUCTURAL CHANGE in RESEARCH AND INNOVATIONS	20
1.1. Introduction	20
1.2. Review of situation	21
1.2.1. Lithuania	21
1.2.2. Norway	22
1.2.3. Iceland	24
1.2.4. Belarus	26
1.3. Conclusions	27
1.4. Recommendations for Lithuanian institutions	27
1.5. Recommendations for the development of the stakeholders' cooperation mechanisms in the partnering countries	28
1.6. Empirical study „Structural changes in the Lithuanian science system: requirements, possibilities and challenges”	29
1.6.1. Introduction	29
1.6.2. Methodological notes	30
1.6.3. Further steps	32

II. 2. Gender equality in research and innovations in EUSBSR and EaP programmes	33
2.1. Introduction: an overview	33
2.2. EU Eastern Partnership policy	37
2.3. EU Baltic Sea region policy	40
2.4. Towards the improvements: Recommendations for fostering gender mainstreaming policy in EU Regional and International Programmes	43
2.4.1. Recommendations to Eastern Partnership Countries	44
2.4.2. The recommendations: Baltic Sea Region Countries	44
2.4.3. VILNIUS RECOMMENDATIONS 2013 submitted to EU COUNCIL	45
2.4.4. GEIRICA proposal for updating the EUSBSR action plan	47
II. 3. Striving for resolving gender inequalities in research institutions-movie on hidden discrimination”	50
3.1. Introduction	50
3.2. The context: Gender discrimination in science	51
3.2.1. The conceptual definition	51
3.2.2. The political framework	55
3.2.3. The empirical findings	58
3.3. Experiences of gender discrimination in science in everyday practices	61
3.3.1. The procedure: collection of the materials	61
3.3.2. The results: episodes for the film	62
3.3.3. The scenario	63
3.4. Concluding remarks	64
APPENDIXES	65
1.1. Country report: Lithuania	66
1.2. Country report: Norway	81
1.3. Country report: Iceland	101
1.4. Country report: Belarus	118

I. THE GEIRICA PROJECT: AN OVERVIEW

1. Goals and objectives

The main aim of the project “Gender Equality Implementation in Research Institutions: Collaborative Approach” (GEIRICA) was *strengthening the cooperation between Lithuania and donor countries for to ensure gender equality in research institutions.*

Project objectives:

- *To develop the mechanisms of collaboration supporting structural change in research organizations.*

Achievement of the objective was based on the analysis of both political measures and good practices directed towards the implementation of structural changes strengthening gender equality in research institutions in the partner countries (Norway, Iceland and Lichtenstein). In this realm, the project activities were directed towards working out mechanisms of efficient cooperation among researchers, high level executives of research institutions and science policy makers and focused on the analysis of possibilities to forward good practices to the Eastern Partnership countries (with the input from project partners in Belarus) and prepare recommendations for adopting these mechanisms in Lithuania.

- *To develop recommendations on gender issues in science for the running EU programmes.*

Achievement of the objective was targeted at the development of the recommendations for the running EU international and regional programmes (Eastern Partnership (EP) and EU Strategy for the Baltic Sea Region (EUSBSR)) and lobbying for the inclusion of these recommendations into the action plans of the above mentioned initiatives.

- *To disseminate project results and increase the knowledge of gender issues in science.*

Achievement of the objective was based on several activities: taking active part in the organization of high level LT Presidency conference “Structural Change Promoting gender Equality in Research Organizations”; creating a film aimed at reducing resistance to the structural changes in the scientific community; organizing meetings in partner countries; organizing the project GEIRICA conference in Lithuania; organizing information dissemination campaign on the topic.

2. Partners and teams

2.1 Vilnius University (the national beneficiary)



Vilnius University (Vilniaus Universitetas) is the most renowned and prestigious university in Lithuania. Founded in 1579 it is the oldest university in the Eastern part of Europe. The University of Vilnius has 12 faculties, 7 research institutes, and 7 study and research centres including "Gender Studies Centre". These include specialists with vast and varied experience in many fields of science, economic and technology development at the international, national and regional levels. Researchers at Vilnius University are increasingly engaged in Lithuanian, EU, NATO and other international scientific programmes, such as the EU 7th Framework Programme, COST, EUREKA, etc. VU coordinated some European projects devoted to gender equality in science issues: regional Baltic States EC FP6 project "Baltic States Network: Women in sciences and HT" (BASNET, <http://www.basnet-fp6.eu/>) and FP7 SAPGERIC project (<http://www.sapgeric.eu2013.vu.lt/>) aimed at organizing high level LT presidency Conference "Structural change promoting gender equality in research organizations".

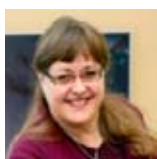
Vilnius University Institute of Theoretical Physics and Astronomy



(VU ITPA) is the VU unit in charge for GEIRICA project implementation. VU ITPA originated from the Institute of Physics and Mathematics of the Academy of Sciences. In 1977 it was divided into the Institute of Physics and the Institute of Mathematics and Informatics. Later in 1990 the ITPA was established on the basis of several departments of the Institute of Physics. In 2002 it got the status of a University institute and was named Vilnius University Institute of Theoretical Physics and Astronomy. There are specialists working in the fields of astrophysics, atomic and molecular spectroscopy, theoretical and plasma physics. The percentage of women working in this institute is the largest in comparison with that of women working in similar institutions dealing with "hard" sciences in Lithuania. The problems of women scientists are solved in VU ITPA better than in other Lithuanian institutes and universities. VU ITPA actively participated in BASNET project, was one of the co-organizers of international conference "Science, Innovation and Gender" held in 2011 in the premises of Lithuanian Seimas and devoted to the 100 anniversary of the second M. Curie Nobel Prize.



Assoc. Prof. Dr. Dalia Šatkovskienė, coordinator of GEIRICA project, is an internationally known physicist. She graduated from the department of elementary particles of the Moscow State University. Prof. D. Šatkovskienė has more than 130 scientific publications and is the author of 4 textbooks in physics. Since 2004, she has evaluated EC FP6 programmes in physics and worked as an Independent Observer for the EC FP7 programme. She initiated and coordinated the FP6 project “Baltic States Network: Women in sciences in and HT” and FP7 project “Structural change promoting gender equality in research organizations” (SAPGERIC). Since 2008 she is the President of the BASNET Forums and member of the Administrative Board of European Platform for Women Scientists (EPWS). She participates in the COST project “genderSTE” and is MC member. Prof. Šatkovskienė strongly contributed to implementing gender mainstreaming policy in sciences the Baltic States region and beyond. In 2013 by the Lithuanian President’s decree she was awarded with commemorative badge as acknowledgement of personal input during the Lithuanian Presidency, in 2014 she was awarded with the Baltic Assembly Medal for the promotion of the unity and cooperation among the three Baltic nations and in 2008 she was awarded with the American Physical Society’s Marshak award by APS.



Dr. Habil. Gražina Tautvaišienė is the vice director of Vilnius University Institute of Theoretical Physics and Astronomy (VU ITPA) since 2002. She is an internationally known physicist. The scientific achievements of G. Tautvaišienė have been assessed by a number of prestigious national and international awards. In 2014 during the General Assembly she was elected vice president of IUPAP. G. Tautvaišienė is taking an active part in gender related issues. G. Tautvaišienė has been taking an active part in gender related issues: in 2011 she was an active co-organizer of the international conference “Science, Innovation and Gender” devoted to the 100 anniversary of the second M. Curie Nobel Prize. Dr. Habil. Gražina Tautvaišienė was leading dissemination campaign, aligning the conference agenda issues with LPC and was responsible for internal communication within VU.



Dovilė Griedraitė graduated from Vilnius University with a Master’s degree in sociology in 2013. She has been exploring gender issues in science in her diploma work and remains active in the thematic field by joining FP7 projects SAPGERIC and GEIRICA teams as a junior researcher and activist.

2.2. BASNET Forumas



BASNET Forumas is an international association based on the member institutions of the unique network linking women scientists working in the sciences and high technology and science policy makers in order to assure equal gender opportunities in sciences in the Baltic States region. BASNET Forumas was established in 2009 on the basis of institutions former partners of FP6 project “Baltic States Network: women in sciences and High Technology” (BASNET). BASNET Forumas mission is to mobilize the efforts of members to support the implementation of gender equality in science in the Baltic States region. BASNET Forumas is working for the achievement of its goals by: participation in international women scientists networks; strengthening national and regional women scientists networks; initiation and participation in the projects targeted to change science policy in the Baltic States making it more favourable for women doing their research in sciences.

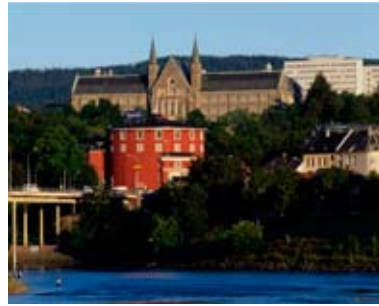


Dr. A. Kupliauskienė is a physicist, head of the Department of The Theory of Atoms at Vilnius University Institute of Theoretical Physics and Astronomy. In 2013 A. Kupliauskienė with other colleagues was awarded the Lithuanian National Science Prize in sciences for work “The Atomic Theory methods and applications development (1998-2012)”. A. Kupliauskienė has evaluated FP6 and FP7 M. Curie programmes and took part in a number of EC and Lithuanian national projects. She worked as a member of local organizing committee of a number of international scientific conferences: “European Group on Atomic Systems” GAS32 (2000), 12th International Conference on Highly Charged Ions (HCI’12, 2004) and International Conference on Atomic and Molecular Data and Their Applications (ICAMDATA, 2010) held in Vilnius. Since 2000 she has joined women in science activity and as a Lithuanian team leader participated in the first “International Conference on Women in Physics” conference organized by IUPAP in Paris. She was the Lithuanian cluster leader in FP6 “Baltic States Network: Women in sciences and HT” (BASNET) project, is among the board members of BASNET Forumas association and actively participated in national Lithuanian project “Promotion of Gender in Science” (LYMOS) as well as took part in FP7 project SAPGERIC.



Dr. Aurelija Novelskaitė is an associate professor of Kaunas Faculty of Humanities at Vilnius University and a senior researcher of the Institute of Sociology at Lithuanian Social Research Centre. Gender in science topic has been one of the main ones in A. Novelskaitė’s research in sociology since early 2000: she participated in development, leaded and worked as a researcher in several empirical research projects with direct focus on gender in science issues (both national and a EU scope such as FP6 BASNET, FP7 SAPGERIC, EURIDICE, LYMOS, etc.); (co-)authored several books and a number of research papers describing peculiarities of gender in science issues; acted as a expert developing BASNET’s Strategy for Women in Sciences and Higher Technologies in the Baltic States and Strategy for Women’s and Men’s Equality in Science in Lithuania.

2.3. Norwegian University of Science and Technology



NTNU is the second largest of the eight universities in Norway. NTNU was formed in 1996 by the merger of the Norwegian Institute of Technology (1910), the College of Arts and Sciences, the Museum of Natural History and Archaeology, the Faculty of Medicine, the Trondheim Academy of Fine Art and the Trondheim Conservatory of Music. The Norwegian University of Science and Technology (NTNU) is Norway's primary institution for educating the nation's future engineers and scientists. The university also has strong programmes in the social sciences, teacher education, the arts and humanities, medicine, architecture and fine art. NTNU's cross-disciplinary research delivers creative innovations that have far-reaching social and economic impact.



Ms. Svandís Benediktsdóttir Vestmann is the Gender Equality Adviser at the Norwegian University of Science and Technology since 2000. Over the last decade Svandís Benediktsdóttir has been a key driver of the Gender Equality debates in Norway and Europe, especially in the area of research and higher education. Academia has long, dyed-in-the-wool traditions and that's why they have made an effort to think new. Benediktsdóttir has hands on approach and her philosophy is to bring equality into the day-to-day routines through specific measures. In 2007 she was awarded for the National Gender Equality Prize. NTNU received the award for goal-orientation, ambition and originality in its endeavours for gender equality. According to the jury, they show measurable results and effective initiatives, and the responsibility for initiating the various stages of the plan is clearly anchored from the top level down to the departments.



Prof. Dr. Merete Lie is a social anthropologist and professor at the Department of Interdisciplinary Studies of Culture at Norwegian University of Science and Technology (NTNU). Her field of research is gender, science and technology; including globalization, ICT, assisted reproductive technology (ART) and bioethics. Her research includes studies in Malaysia, Singapore and China. Merete Lie is the head of the Centre for Gender Research at NTNU and the leader of the National Research School in Gender Studies. She is also co-editor of the journal *Gender, Technology and Development* (Sage), as well as a member of the International Editorial Board of *The European Journal of Women's Studies* and the International Editorial Board of *Nordic Journal of Working Life Studies*.

2.4. University of Iceland



The University of Iceland (UI) is Iceland's largest and oldest university, founded in 1911 and situated in the heart of Reykjavík, the capital of Iceland. UI is a public higher education institution that falls under the auspices of Ministry of Education, Science and Culture. It offers opportunities for study and research in almost 400 programmes spanning most fields of science and scholarship: Social Sciences, Health Sciences, Humanities, Education, Natural Sciences and Engineering. UI is one of the largest employers in the country. In addition to having fourteen thousand students enrolled, the university employs around thirteen hundred permanent staff and around two thousand external lecturers and temporary staff. The University operates an ambitious equality policy and has a strong set-up in terms of implementation.



Dr. Þorgerður Einarsdóttir is professor of Gender Studies at the University of Iceland. She received PhD in Sociology from the University of Goteborg in Sweden. She researches gender and labour market, women in academia, women in politics, gender equality policies and the feminist movement. Her most recent research areas are the gendered dynamics of the financial crises, and transgender issues.



Dr. Gyda Margrét Pétursdóttir is an Assistant Professor of Gender Studies at the University of Iceland. She received PhD in Gender Studies from the University of Iceland. She researches gender, i.e. femininities and masculinities, gender relations and family responsibility, work cultures and gendered organizations. Her most recent research areas are the gendered dynamics of the financial crises in collaboration with Einarsdóttir, and emphasized and pariah femininities.

2.5. University of Liechtenstein



The University of Liechtenstein is one of the four centres for higher education in the Principality of Liechtenstein. The University of Liechtenstein is located in Vaduz, the capital of the principality. The University of Liechtenstein is young, regionally anchored and internationally active. Focusing on the fields of Architecture and Planning, Entrepreneurship, Financial Services and Information Systems, it serves as an innovative hub of ideas at the crossroads where Liechtenstein, Eastern Switzerland, Austria's Vorarlberg and Germany's Lake Constance meet, delivering significant impulses for business, politics and society through a broad range of projects and programmes. For over 50 years, sought-after professionals have been trained and educated here, studying in a very personal environment.



Dr. Christine Vallaster received her post-doctoral lecture qualification (habilitation) in 2009 from the University of Innsbruck, Austria. She currently works at the University of Liechtenstein, Institute of Entrepreneurship. In her research, Christine Vallaster focuses on strategy formation, corporate brand management and corporate social responsibility (CSR). She is the co-author of the book "Connective Branding: Building Brand Equity in a Demanding World" published by John Wiley & Sons (London). Her publications appear in scholarly journals such as California Management Review, Journal of World Business, Industrial Marketing Management, Journal of Marketing Management or European Journal of Marketing. Additionally, she works as a consultant.

3. ACTIVITIES

The project GEIRICA was focused on several types of activities.

1. Data collection and analysis, targeted to:

- explore situation aiming to reveal how different countries (Norway, Iceland and Lithuania) are supporting the structural changes on different levels of legal and institutional frameworks and to develop the mechanisms of stakeholders' collaboration supporting structural change in research organizations;
- develop recommendations on gender issues in science for running EU programmes (Eastern Partnership and EUSBSR).

2. Lobbying, aiming to proclaim the developed recommendations:

- VILNIUS RECOMMENDATIONS 2013, submitted to EU Council 3 of December 2013;
- Action plans of Eastern Partnership and EUSBSR programmes.

3. Organization of events:

- High level LT presidency SAPGERIC Conference;
- International conference "Sustaining Gender Equality in Research and Innovation";
- Discussion based meetings with project partners.

4. Dissemination of project results and rising awareness on gender equality issues in research organizations and structural change as the most important factor for implementation of gender equality in science:

- Establishment of GEIRICA web site in SAPGERIC portal aiming to show the activities;
- Creation of movie "Striving for awareness" on hidden discrimination in research organizations;
- Participation and giving talks in international conferences;
- Publishing articles , giving interviews on project results and activities;
- Publishing GEIRICA book about the project and its results.

4. REVIEW OF THE MAIN RESULTS

The GEIRICA project results are reviewed according to the listed above activities. More detailed information about the results is provided in the following chapters of the book.

4.1. Data collection and analysis

Two types of studies targeted to explore the situation of how different countries (Norway, Iceland and Lithuania) are supporting the structural changes on different levels of legal and institutional frameworks and to develop the mechanisms of stakeholders' collaboration supporting structural change in research organizations were provided. VU team prepared the questionnaire aimed at the collection of comparative information about the measures taken by all stakeholders for implementing structural change promoting gender equality in research in different countries. The questionnaire was disseminated among the project's partners and sent to Belarussian experts (representing Eastern non-EU countries in the GEIRICA project) who worked out the review of gender equality issues and situation in legal and institutional frameworks. On the basis of the received information (see Country Reports in the Appendixes) the mechanisms of efficient cooperation among researchers, high level executives of research institutions and science policy makers (see II.1.5. chapter) were worked out. Additionally, as the project timing was extended by the donors, the survey aimed at exploration of reasons lurking behind the delay of the reforms was organized in Lithuania (see II.4. chapter). With this aim, the questionnaire targeted at different levels of science policy makers and science governing and financing bodies, as well as for different level executives of universities administrative staff was prepared and distributed in Lithuania and will be delivered to partner's team members participating in GEIRICA closing conference. The answers received will be analyzed and compared. On the basis of received results the recommendations for adopting suggested mechanisms to Lithuanian (see II.1.4. chapter) will be updated.

Furthermore, a study aimed at the collection of empirical materials for the creation of movie on hidden discrimination was accomplished (see II.3. chapter).

Analysis of Eastern Partnership and EUSBSR programmes (see II.2.1-3. chapters) led to reporting necessity to include gender in science issues into Action Plans of the mentioned programmes. The recommendation to the Member States concerning the inclusion of gender in science issues into Action Plans of EU international and regional programmes was formulated (see II.2.4. chapter). Also it was included into "Vilnius Recommendations 2013" (<http://www.sapgeric.eu2013.vu.lt/recommendations/>). The latter was submitted to the Competitiveness Council of the EU on the 3rd of December 2013. The proposal for EUSBSR programme updates on gender equality issues in research was submitted to the Lithuanian national representatives of EUSBSR programme (national contact point, Lithuanian Ministry of Foreign Affairs).

4.2. Lobbying

The lobbying was used for the inclusion of developed recommendations into VILNIUS RECOMMENDATIONS 2013, submitted to EU Council on the 3rd of December 2013, and Action plans of Eastern Partnership and EUSBSR programmes. For the latter a number of consultations were provided with execu-

tives of national EUSBSR contact point, high level representatives from Lithuanian Ministries of Foreign Affairs and Education and Science and with EUSBSR coordinator for PA Education Mr. A Bergstrom (by phone and email). The EUSBSR Action Plans will be updated at the beginning of 2015.

4.3. Organization of events

During the project GEIRICA implementation period, the project team organized a number of different level events:

- High level LT presidency SAPGERIC Conference;
- International conference “Sustaining Gender Equality in Research and Innovation”;
- Mutual learning meetings in all partner countries.



**Lithuania's president
H.E. Dalia Grybauskaitė
patronized LT presidency
conference**

In the frame of FP7 SAPGERIC project VU was responsible for organizing the high level LT presidency Conference “Structural Change Promoting Gender Equality in Research Organizations”. GEIRICA Partners from Norway took an active part in the International Programme Committee responsible for adoption of the conference programme. The conference took part in Vilnius on 21-22 of November 2013. The conference was welcomed by Lithuania's president H.E. Dalia Grybauskaitė, Ms. Máire Geoghegan-Quinn (European Commissioner for Research, Innovation and Science), Mr. Bjørn Haugstad (State Secretary, Norwegian Ministry of Education and Research) and others. The welcome of Mme I. Bokova (Director General of UNESCO) was presented by Ms Saniye Gülser Corat (Director of Gender Equality Division, UNESCO). Among speakers there was Mme Nicole Améline (UN CEDAW), Prof Maria Elżbieta Orłowska (Secretary of State, Polish Ministry of Science and Higher Education), Prof Anne Glover (Chief Scientific Adviser to the President of the European Commission), Prof Maria Helena Nazaré (President of European Universities Association) and others. The conference got together stakeholders from all over Europe and beyond. More than 200 people from 34 countries took part in the conference. The conference was highly ranked by the European Commission, Lithuanian officials and participants. For the responsible and professional work during the LT presidency the President of Lithuania H.E. Dalia Grybauskaitė awarded the coordinator Prof Dalia Satkovskiene with a symbolic commemorative LT presidency badge. More about the conference can be found on the SAPGERIC website (<http://www.sapgeric.eu2013.vu.lt/>).

The GEIRICA closing conference entitled „Sustaining Gender Equality in Research and Innovation“ is aimed at discussing and expanding GEIRICA project results as well as strengthening cooperation among different stakeholders related to implementing structural change targeted at promoting gender equality in research organizations. The conception of the conference includes the following points: the necessity of changes in research institutions and universities promoting gender equality as part of mod-

ernization of research organizations; the effectiveness of measures taken for implementing structural change and the methods of collaboration among stakeholders.

The conference got together about 60 high level participants from Lithuania and other European countries. The participants and speakers were national science policy makers from partner countries, high level administrators and executives from institutions, ensuring governing and financing science (Ministries of Education and Science, Science Councils, Funding Agencies etc), different level administrators of universities and research institutions (rectors, vice rectors, members of Senates, directors of research institutes, deans and, heads of departments). Two round tables organized during the conference got the opportunity to discuss in detail the best practices of partner countries ensuring the more effective application of their achievements in Lithuanian Universities and research institutions. More about the conference can be found in GEIRICA website <http://www.sapgeric.eu2013.vu.lt/geirica-closing-conference/>.

During the project mutual learning meetings were held in all partner countries. 27-28 of February 2014 Norwegian partners in Trondheim organized discussions on the measures taken for supporting the structural change on all levels (political, financial and science institutions) in Norway and in Norwegian university of science and technology in particular. On 8-9 of April and 5-6 of May 2014 the similar meetings in Reykjavik and Vaduz were organized by partners from Iceland and Liechtenstein, where different measures supporting structural change both in Lithuania and those in partner countries were discussed. In the picture below the meeting in Vaduz is presented.



Moment of GEIRICA Project meeting in Liechtenstein University, Vaduz

4.4. Dissemination

The GEIRICA project web site for dissemination of project results was established in SAPGERIC portal. It allowed wider presentation of the project results and showed GEIRICA's input into the results of FP7 SAPGERIC project. The LT presidency also raised visibility of GEIRICA project results. The movie "Striving for awareness", created by GEIRICA project on hidden discrimination in research organizations is also available on website <http://www.sapgeric.eu2013.vu.lt/striving-for-awareness-the-movie/>. The results of the project were presented and discussed in international conferences. The mentioned above GEIRICA initiative regarding the inclusion of gender equality in research issues into Action plans of Eastern Partnership and EUSBSR programmes was presented by GEIRICA coordinator Prof. Dalia Satkovskiene

as a plenary talk on the LT presidency SAPGERIC conference (<http://www.sapgeric.eu2013.vu.lt/program/>). The articles about GEIRICA activities concerned with LT presidency conference were included into the article printed in the Parliament Magazine, presented in EPWS newsletters, Norwegian Ministry of Education and Research sites as well as reflected by local Lithuanian and partner countries Mass Media and news Websites. We are sure that GEIRICA book about the project and its results will allow deeper understanding of the job done while implementing GEIRICA project.

II. THE GEIRICA PROJECT RESULTS

II.1. TOWARDS STRUCTURAL CHANGE IN RESEARCH AND INNOVATIONS

Prepared by:

Dr. A. Novelskaitė and D. Giedraitytė

1.1. Introduction

The project GEIRICA aims at sharing the experience gained by such EEA countries as Norway, Iceland and Liechtenstein, and Lithuania in the realm of implementing gender equality in the research organizations. More specifically, *striving to work out the mechanisms of efficient cooperation among scientists, high level executives of research institutions and science policy makers* - as the mechanisms are going to be based on analysis of both political measures and good practices directed towards and/or acquired through processes related to the implementation of structural changes targeted at strengthening gender equality in research institutions in the partner countries - the initial step is to collect comparable information on the phenomenon and related issues in the project member countries. It is expected, that comparison of the collected information will lead to the initiation of discussion on possibilities of introducing the above mentioned mechanisms to other former (post-)Soviet Countries (paying particular attention to Eastern EU neighbouring Countries) as well as contribute to policy-level debates aimed at raising awareness among policy makers about the problems arising when implementing European gender mainstreaming policy in science and necessity to further process in new member states and Eastern Partnership Countries. Also it is expected that this work will lead to the development of recommendations on gender in science issues for running EU non scientific programmes and lobbying (debates with policy makers involved in coming regional EU programs) turning on gender related topics into Action plans.

It should be noted, that some comparative indicators depicting gender in science related issues in Iceland, Lithuania and Norway could be found among reports prepared by European expert groups. For example¹, it could be reported that in terms of women involvement in research, Lithuania is doing best (i.e. proportion of female researchers was 51% in 2009) and is followed by Iceland and Norway (where proportion of female researchers were 41% and 35%, respectively in the same year). However, compound annual growth rate for female researchers in the Higher education sector in 2002-2009 was larger in Norway than in Lithuania and Iceland (to comp.: 7, 5 and 7, 1 and 5, 9 respectively). And when it comes to proportion of women in grade A academic positions (e.g. professors), Lithuania (with indicator of 14, 4% in 2010) appears at the end of the line comparing to Norway (21, 4%) and Iceland (24, 2%). Thus, the fragmental statistical comparisons suggest that there are some similarities as well as obvious differences in women's participation and achievements in research activities (thus, gender issues in science in general) in the countries. However, there are some shortages with such high level data. First, despite the data depict the situation in general and on the macro level, they do not provide explanations. Second, the comparative data are not available for non EU member states (e.g. Liechtenstein). Moreover, despite outstanding achievements in the field of gender equality Norway is widely known, they cannot be found for comparative and explanatory purposes

¹ All presented statistics based examples are taken from *She Figures 2012. Gender in Research and Innovation. Statistics and Indicators*. Luxembourg: Publication Office of the European Union, 2013. p. 26, p. 37, p. 91.

in such compendiums, which summarise and compare achievements of EU member states in field of gender in science issues, as, for example, *Stocktaking 10 years of 'Women in science' policy by the European Commission 1999-2009*².

This report presents general information on vertical and horizontal human resource distribution by gender in different fields of science and on various levels of academic/scientific hierarchies as well as the framing of legal and institutional network in Iceland, Liechtenstein, Lithuania and Norway. Such information is essential for exploring existent structures and framing necessary structural changes aimed at establishing gender equality in research and innovation organizations in participating countries.

All materials for the report were collected in the countries by national experts in the end of 2013 – beginning of 2014.

1.2. Review of situation

1.2.1. Lithuania

Describing gender issues in science in Lithuania in the context of other European countries³, the country has some exclusive features. For example, in terms of general gender distribution in research and experimental development sectors, Lithuania appears above EU average: in 2009 the average proportion of female researchers in the EU (total of 27 countries) was 33 %, meanwhile the indicator for Lithuanian was 51% (only Latvia had a higher proportion of female researchers, i.e. 52%). This top position is further sustained taking into account analysis of the number of researchers in the total labour force by sex, which reveals that Lithuania (with Turkey, Latvia, and Bulgaria), unlike the rest of European countries, has a higher share of female researchers among active women than the share of male researchers among active men (9% of female researchers per thousand labour force and 8% of male researchers; EU indicator is 7% of female and 12% of male researchers). Lithuania, together with several other countries (Latvia, Romania, Portugal, Croatia), also stands out of the other European countries in terms of proportion of women among researchers working in three sectors: Lithuania takes the first place among the group of countries having 53% of female researchers in Higher Education sector (EU average – 40%); it takes the fifth place having 53% of female researchers in the Government sector (EU average – 40%); and takes the sixth place having 31% of female researchers in the Business Enterprise sector (EU average – 19%).

Notwithstanding, on the other hand, Lithuania appears as one of the most hierarchically segregated countries in terms of vertical gender distribution in science. That is, although Lithuania has one of the highest proportion of female PhD graduates (58% in 2010, meanwhile EU average was 46%), at the same time Lithuania appears among those countries which have the smallest proportion of female in grade A academic positions (14% compared with EU average of 20%). Also Lithuania takes the last place among other European countries by indicator of the proportion of women with the highest academic rank among all the rest female academic staff; in 2010 it was only 2% of women in grade A academic

2 Marchetti, Marina and Tiia Raudma, eds. *Stocktaking 10 years of 'Women in science' policy by the European Commission 1999-2009*. Luxembourg: Publication Office of the European Union, 2010.

3 *She Figures 2012. Gender in Research and Innovation. Statistics and Indicators*. Luxembourg: Publication Office of the European Union, 2013. p. 30, 56, 92, 93, 96. [http://ec.europa.eu/research/science-society/document_library/pdf_06/she-figures-2012_en.pdf]

positions among the all female academic staff (EU average – 7%; for men the indicators were 13% in Lithuania and 17% in EU). Moreover, Lithuania is ranked on the second place among EU countries by Glass Ceiling Index (i.e. 2.69 compared to EU average of 1.80). Besides, the vertical segregation differs in the field of science: the highest proportion of female grade A staff in Lithuania (as well as in EU) was in Humanities (respectively, 27% and 28%); the lowest proportion of the female grade A staff in Lithuania (again, similar as in EU on average) was in Engineering and Technology (respectively, 5% and 8%). Lithuania had the lowest proportion of female grade A staff in this field among all the EU countries. Hence, although horizontal segregation by gender and by fields is not clearly expressed on the PhD level (where Lithuania has higher proportion of female than men in almost every field of science, except Engineering), the segregation becomes especially evident on the higher positions.

Summing up, the provided summarized statistical data show that there is still uneven gender distribution in the different fields of science and on the highest levels of scientific hierarchy in Lithuanian science community. Despite the fact that both men and women are represented at funding distributing and evaluating organizations, the vast majority of members at these organizations and organizational structures are men. Moreover, at the national level, gender equality principles are sufficiently defined legally in Lithuania. Also there are organizations, operating at different levels, oriented towards gender equality in Lithuania. However, description of gender equality in legal documents is still insufficient; attention to gender equality in science organizations is almost absent. Ambiguously defined processes and unspecified evaluation indicators create indirect preconditions to sex based discrimination.

In general, the available quantitative and qualitative data, other information allow describing the general characteristics of gender distributions in Lithuanian scientific community. Also it lets to clarify some particular aspects of scientific activity as they are related to gender on national and, sometimes, on EU level. However, the available data and information is still not sufficient for a comprehensive and detailed characterization of gender equality in science achievements and further needed steps in Lithuania, which would allow formulation of fully reliable decisions.

1.2.2. Norway

The situation in Norway is the same as in other parts of Europe. Women do not have the same access as men to the highest positions in the research sector. In other words, talent is at stake, and an active effort is needed to achieve more gender balanced recruitment.

Two aspects of gender equality efforts in academia are unique to the Nordic countries. First, statistics on education and research in the Nordic region have been available by gender since the 1980s, and even earlier in some countries, which has been crucial for developing adequate data on gender equality measures in academia. Secondly, gender equality in academia has developed into a separate policy area, often parallel with the public research funding for women's studies and research. This research has helped to set the agenda for gender equality policy in academia and establish knowledge for the area.

The Nordic countries were among the first to enact legislation and establish government enforcement mechanism in the field of gender equality. The first gender equality laws and national action plans or programmes were introduced in the 1970s and 1980s, and separate administrative mechanisms and

systems to promote gender equality were established in all the Nordic countries. In 2010, a committee consisting of prominent social scientists was asked to study the Norwegian gender equality based on life cycle, ethnicity and class ("Skjeie – 2010"). They concluded that it is primarily education and the labour market that need a boost in gender equality in the years to come, after many years of public efforts to shape gender equality at home and facilitate the combination of family and work life balance. They pointed out that the Norwegian educational and employment system are highly segregated on gender, which has serious negative consequences for the distribution of money and power in the Norwegian society. It can also be a challenge for the equality work in Norway that people might think that we have already achieved gender equality, so there is certainly no point in fighting for it. Another idea that could prevent further work for gender equality is the idea that equality almost happens by itself.

Although Norway still has many challenges before reaching better gender balance in higher positions in Academia, there are some positive measures that might bring the process further the years to come. An interesting thesis by researcher Matthias Wullum Nielsen "Gender Equality in Scandinavian Academia: A comparative Perspective" compares the efforts of six Scandinavian universities to promote gender equality among their research personnel through their own gender equality strategies, action plans and other documents on gender equality.

In addition to studying equality texts, Nelsen compares the various measures implemented at the six universities "It's clear that Norway is the leader in Scandinavia when it comes to using structural, systematic measures to bring about change" says Nielsen. The measures include the recruitment of academic personnel to associate professor and adjunct professor positions, moderate gender quotas and financial incentive schemes. "Structural measures like these plays a crucial role in career opportunities for female researchers in academia" he says.

Gender balance is critical for the quality of research, the relevance of research to society, and the competitiveness for research institutions. Recruitment of both genders to research has been good for many years. Although women currently comprise the majority of students and research fellows and almost half of the permanent academic staff they held only 24 per cent of professorships at Norwegian universities colleges in 2012. These results show that there is still a way to go. Even in areas where women constitute the majority of doctoral students, it is men who comprise the majority of those recruited to research careers at the senior level.

In more details, the number of women in academia in Norway has increased, yet they are still a minority, and the target that women should make up half of all academic personnel in permanent positions has not been achieved. If the current rate of change in the higher education sector continues at the same tempo as it has in the 1990s and the current decade, it will take another 25 to 30 years before half of those in permanent positions are women. These figures emerge from a new report compiled by NIFU STEP.

In the report 'Gender equality scenarios for the higher education sector' researchers from NIFU STEP analyses both the quantitative and qualitative prerequisites for when the goal of gender equality in academia can be achieved. The report concludes that much remains to be done in order to achieve

this goal. The study reveals, moreover, great differences between different academic fields and types of institution.

The overall future demand for qualified personnel in the higher education sector is uncertain, but if the rate of change continues as it has in the 1990s and so far in the new millennium, it will be many years before gender equality in academia is achieved. According to the report it can take as long as 25 to 30 years, and that is if 50 per cent of all appointments in academia each year are women. By 2020 a target of 40 per cent women is possible, but this assumes that many more women are appointed than is the case today.

A prerequisite for achieving the goal of either a 50 or 40 per cent proportion of women in academia is that there exists a recruitment pool of enough women to occupy the positions. According to calculations from NIFU STEP, the supply of qualified female candidates is likely to be sufficient within medicine and health-related subjects, and within humanities and social science. These are academic fields that are approaching gender equality today. In the fields, mathematics, the natural sciences and technology, on the other hand, the supply of applicants will be more sparse. In these fields gender equality is, today, a long way off. The proportion of women is generally so low that a gender equality target of 50 per cent women can scarcely be achieved over the course of 25 years. The same applies to a target of 40 per cent.

There is now a reasonable gender balance at doctorate level in the social sciences, arts subjects, agricultural sciences/veterinary medicine and medicine. There has been a positive trend in mathematics/science and technology, although there is still some ground to cover in technology disciplines. The fact: In 2005, only 17 per cent of all professors in the higher education sector were women, in 2013 the number was 25 % with highest rates from the University of Tromsø – the arctic University of Norway 30,5%.

Several universities and university colleges have emphasized that the coming generation shift in the higher education sector is an opportunity to do something about the one-sided gender balance, especially at the level of professor. It is important to get a demographic projection of the recruitment pool in academia, and so to obtain a realistic picture of how many women actually need to be recruited in the future if the sector is to achieve its target for a balance between the sexes. There are qualified women in the higher education sector, even though they are fewer within mathematics, the natural sciences and technology. The institutions must increase their ambitions in respect to appointing women.

1.2.3. Iceland

The status of gender equality in Iceland is thought to set a precedent. Hence, Iceland has had top ranking in the World Economic Forum's Global Gender Gap Report, along with the other Nordic countries (2013). In the report the gender gap is evaluated in politics, education, employment and health. Despite high ranking the report points out that there is still a way to go for Iceland. While the so called education gap is closed and a high proportion of women are active on the labour market there are gender gaps in employment opportunities and decision making in economic life. Not least, this applies to the academia and field of science which is still a highly gendered area in Iceland.

The *Act on the Equal Status and the Equal Rights of Women and Men* has been a part of the legal environment in Iceland since 1976. Women's participation on the employment market has been among the highest in Western Europe and women outnumber men in postgraduate education. Yet, women's participation in Iceland's society is not reflected by their political and economic power. Women's status within the academia resembles the rest of society; their active participation and scientific qualifications are evident and yet the power-relations within the community of science and research are male biased.

The country report is the contribution of the University of Iceland to the GEIRICA project, aiming to map the status and development of human resources in research and science in Iceland. The overall objective, in collaboration with GEIRICA, is to work on methods towards a gender-equal environment in research and science.

The report offers an overview and statistics concerning the society of research and science in Iceland, especially the University of Iceland, along with gendered numbers on educational/scientific faculties, management and registered students. It furthermore includes information on equality legislation, means of financing studies, research and suggested reformation in the era of gender-equality in the field of science and research. The report builds on the latest information, numbers and figures available in Iceland.⁴

The provided information demonstrates that there is a gender gap in the academia. The increased number of female students and graduates in the academia is a well-known fact within the Icelandic context. The outset of the development is often linked with the emphasis on education within the feminist movement and enhanced rights and opportunities for women. In Iceland the rich participation of women in the labour market, equality struggle and equality legislation lead to increased numbers of women pursuing skills and education. Despite formal gender-equal rights though, the sexes tend to choose gender-traditional study or training and following that, occupation.

In spite of the great number of female students and graduates in Icelandic universities and extensive legislation, the number of professors employed on permanent basis remains male-biased. Available grants also seem directed through and to male-reined studies preserving a system ranked by favour of the male gender.

The gender-difference in choice of education and occupation leading to the overall gender-biased structure of society, has been explained with the social-cultural framework, stimuli and hindrances within the system that favour culturally defined male qualities and dominance. Research has been made and written within the Icelandic context, aiming to identify and rectify structural and cultural hindrances perpetuating the gender-inequality within research and science. The structural hindrances have, among others, been identified as glass ceilings, leaking pipelines and cultural restraints.

The latest research shows that the present legal framework and increased involvement of women within the community of science and research is not enough to balance the gendered power-relations

4 Associations and unions at NGO level in the field of science and research does not exist as such.

within the system. Additionally, thorough and system-changing methods must not only be secured with legislation but be implemented. This report reveals that although Iceland has a high ranking internationally in gender equality there are still highly gendered areas such as the academia in which there is an urgent need for improvement.

1.2.4. Belarus

Belarus is among the 27 countries in the world that have reached the index of women's participation in decision-making process over 30%. A steady and systematic feminization of many sectors of the economy, including science, has taken place in recent years. Belarus has ratified a number of international documents related to gender equality and overcoming gender discrimination, such as UN Convention on the *Elimination of All Forms of Discrimination against Women*, the Declaration and the Platform for Action of the World Conference on Women, the *UN Millennium Declaration*, etc. In 2010 Belarus adopted the *Fourth National Plan on Gender Equality for 2011-2015*. There are more than 30 non-governmental organizations focusing on gender issues in the country.

However, the growing participation of women among scientists is not a result of a policy establishing gender equality in the field. The experts say that the main causes of the feminization of scientific personnel are a sharp decline in the scientists' social status in the society and the reduction of science funding in Belarus. Many women experience greater difficulties in scientific careers than men the same as before. Many gender biases are reinforced by the dominant protective ideology of the Belarusian labour legislation inherited from the Soviet system the paternalistic concept of "ethics of care" towards women.

Aiming to explore conditions for implementation structural of changes promoting gender equality in science in Belarus, the reporting focuses on: (i) investigation on statistics on gender in science according to the national statistical reports and (ii) exploration on legal and institutional framework related to gender issues in science.

Accomplished analysis revealed that, despite the fact that Belarus is among the 27 countries that have reached the index of women's participation in decision-making process over 30%, the facts shown in this report speak about the need to update attitude towards gender in science as social phenomenon in the country. One of the main reasons for the low representation of women in leading positions in science is patriarchal nature of the society, in which power outside the families belongs to men. To ensure that women have got real access to power, including policy making positions, it is necessary that men would agree to "share" power as a social group. It is about the institutionalization of gender equality in the organization of the entire society. Change of situation would be possible only under condition of restructuring the patriarchal society (including its institutional structures) into really democratic one; into the society where all its members have equal opportunities. However, this requires more equal division of labour in society between men and women in all areas: starting with housework and ending with policy making on the highest level. In reality this means the arrival of people of certain gender to those areas of social activity in which the gender is not sufficiently represented.

Consequently, the promotion of gender equality for women means more choices available to them, which necessarily brings additional benefits to children, to men and to entire society. Every person,

every member of society should have equal rights regardless of gender, to do any work and receive remuneration for it, which will depend only on the excellence of work, professionalism and business skills. In the Belarusian society, there are real prerequisites for the development of social relations specific to being a woman and her special status in society. Focusing on the ideals of openness, non-violence and the priority of universal values, the main strategy in the long term should be tackled at insurance of the equality for women and men in the Republic of Belarus: towards strengthening the role of women in political life, science and public administration, the consolidation of women's organizations to protect their rights and interests.

1.3. Conclusions

The provided reports about gender in science situation in Belarus, Iceland, Lithuania and Norway (see appendixes) lead to the unambiguous conclusion: despite the countries are on different levels of economic development and possess specific socio-cultural and political features, the gender distributions in science are rather similar. That is, in all countries women are the majority on the lower levels of academic hierarchies, but men are in majority on the highest levels of the hierarchies. Such situation is acknowledged as problematic even in such countries as Norway, where some structural changes aimed at strengthening gender equality in research and innovation organizations are implemented already.

Hence, the current status of affairs calls for active and strictly targeted invasion – for additional measures and instruments which would ensure and strengthen gender equality in research organizations in the countries – i.e. for planned and controlled structural changes in research and innovation institutions. Indeed, it has to be acknowledged that some of the GEIRICA project participants-countries are more advanced (e.g. Norway) than other (e.g. Belarus). Experiences of the more advanced countries can be transferred for adaptation into other countries only having opportunity of close and direct cooperation.

1.4. Recommendations for Lithuanian institutions

Following results of the review of situation in Lithuania, Iceland, and Norway, and considering the main outcomes of the previous gender in science tackled projects (e.g. LYMOs, BASNET), it may be claimed that in general Lithuania is prepared for implementing structural change in the science system.

Following examples of the countries which participate in the project GEIRICA and considering previous findings coming from other projects, it would be recommended:

1. To integrate gender equality principle into entire science system defining legislation: starting with strategy describing documents, the law on science and education, requirements for academic qualifications, etc. – the legislation should create a legal ground and should frame necessity for the implementation of structural changes in research and innovation institutions.
2. Following legal requirements, research and innovation institutions should be obliged to introduce gender equality targeted structural changes, to develop gender budgets and gender equality plans; the achievements should be rewarded and ignorance/passiveness should be punished by granting/withdrawing additional funding for the institutions.
3. As an outcome of improved legislation and implemented structural change, from-bottom-to-top steaming ascendant various initiatives (e.g. research projects, development of teaching

materials, etc.) should be encouraged and supported.

However, striving for efficient and successful action, several spheres shall be developed:

- Steadier, uncompromising political will on the parliamentary and governmental levels shall be induced;
- Legally entrenched interest for the changes on the level of science and research organizations shall be established;
- Substantial motivation to contribute on the level of NGO and other organizations working on gender (also in science) issues shall be developed;
- Unhesitating support of the scientific community shall be fostered.

1.5. Recommendations for the development of the stakeholders' cooperation mechanisms in the partnering countries

Aiming to establish efficient long-lasting cooperation between the partnering countries in the realm of strengthening gender equality in science, it is recommended to develop the cooperation mechanism which would encompass several national and international constituents.

As it has been reported in several publications of the project partner countries, there is a number of active stakeholders focusing their efforts on achieving true gender equality in various research organizations, fields of science and countries. However, their efforts are fragmental and lack power to make real changes frequently; moreover, this happens only because of lack of coordination and, hence, absence of consolidation of efforts on the national level. Therefore, it would be purposeful to

- **develop a system of coordination of all stakeholders' efforts directed towards gender equality in research and innovation on the national level and, further, to unite their efforts on international level.** For this, it is recommended to *use potential of existing and new established networks for uniting and coordinating the stakeholders' actions in the field.*

Furthermore, resistance to the structural change promoting gender equality had been observed in some research organizations. It is believable that the resistance grows from existing stereotypical attitudes, lack of awareness in gender equality field, lack of information about changes and achievements in other countries. Hence, **development of mechanisms targeted at lowering resistance to the structural change promoting gender equality in research organizations** would be of particular significance. It is recommended to

- ***develop and introduce specific measures targeted at changing gender stereotypes in research and raising awareness about modern gender in science and innovations policies and on gender issues in science among stakeholders.***

In addition to that, it would be recommended to

- *create national systems for monitoring and evaluating the progress made while implementing structural change promoting gender equality in research and to ensure sharing of the expertise and achievements among stakeholders in partnering countries;*
- *develop motivating system forcing different stakeholders to implement structural change (e.g. by using financial mechanisms or/and Open Coordination method).*

1.6. Empirical study „Structural changes in the Lithuanian science system: requirements, possibilities and challenges”

1.6.1. Introduction

Aiming to create an empirical-informative background for the introduction of gender equality focused structural change in Lithuanian science institutions and, correspondingly, contribute to implementation of EU science policy priorities in the country, the empirical study „*Structural changes in Lithuanian science system: requirements, possibilities and challenges*” has been designed under the project GEIRICA framework as an additional activity after period of implementation of the project was extended by donors. The empirical study was designed responding to several EU level political initiatives. To be more exact, first, the EC communication *Incorporating equal opportunities for women and men into all community policies and activities*⁵, which had proclaimed a strategy for integrating gender equality question⁶ into all areas of EU policy – gender mainstreaming – in 1996, and following EC communication *Women and Science. Mobilising women to enrich European research*⁷ in 1999, by which gender mainstreaming was actualized in EU science and research policy proclaiming that efforts to induce women’s participation in European research should come from both European and national levels. Hence, gender equality – as EU science policy aim - has been a significant challenge for transformations of national policies in EU member states for more than 15 years. Second, EC communication *A Reinforced European Research Area Partnership for Excellence and Growth*⁸ of 2012, highlighted gender equality and gender mainstreaming in research under calling “to end the waste of talent which we cannot afford and to diversify views and approaches in research and foster excellence”⁹. Following this document, it is important to notice that¹⁰:

- All EU member states have been invited to „Engage in partnerships with funding agencies, research organisations and universities to foster cultural and institutional change on gender - charters, performance agreements, awards”;
- All research stakeholder organisations have been invited to „Implement institutional change relating to HR management, funding, decision making and research programmes through Gender Equality Plans”;
- EC undertakes responsibility to “Foster gender equality and the integration of a gender dimension in Horizon 2020 programmes and projects from inception, through implementation to evaluation, including through the use of incentives” and “Propose in 2013 a Recommendation to Member States with common guidelines on institutional change to promote gender equality in universities and research institutions”. Also, gender equality and gender dimension in content of research and innovation are to be operationalized in more systematic way at different stages of Horizon 2020 programs¹¹.

5 EC Communication from the commission *Incorporating equal opportunities for women and men into all community policies and activities*, Brussels, 21.02.1996, COM(96) 67 final [<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:51996DC0067&from=EN>].

6 Marchetti, Marina; Raudma, Tiia; eds. 2010. *Stocktaking 10 years of “Women in Science” policy by the European Commission 1999-2009*. Luxembourg: Publications Office of the European Union [http://ec.europa.eu/research/science-society/document_library/pdf_06/stocktaking-10-years-of-women-in-science-book_en.pdf] p. 16.

7 EC Communication from the Commission *Women and Science. Mobilising women to enrich European research*, 17.02.1999. COM (99) 76 final [<http://aei.pitt.edu/13321/1/13321.pdf>]

8 EC Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions *A Reinforced European Research Area Partnership for Excellence and Growth*, Brussels, 17.7.2012, COM(2012) 392 final [http://ec.europa.eu/euraxess/pdf/research_policies/era-communication_en.pdf]

9 EC Communication 2012, p. 3-4.

10 EC Communication 2012, p. 12-13.

11 EC. 2013. *European Research Area Progress Report 2014 accompanied by Facts and Figures*. Luxembourg: Publications Office of the European Union [http://ec.europa.eu/research/era/pdf/era_progress_report2013/era_progress_report2013.pdf] p. 7-8.

Moreover, it is important to notice in this context that EU gender equality policy, which was focused on modelling of exclusively women's situation in science since 1999, did not bring the expected results. However, the initiatives created a background for new trends in EU science policy and brought to the focus research organizations and their created structural barriers for women's careers. This was called *structural change*¹² at universities and research institutes – a systemic, integral long-term approach, which means increasing institutional awareness about gender and, thus, modernization of organizational culture. In general, the structural change brings significant implications for equal opportunities, full realization of talents, attractiveness of scientific careers and total science quality¹³. Hence, in the realm of integration of gender equality and gender aspect into science policy, necessity for stronger united effort and development of systematic strategy, targeted at long-term institutional changes in European science system, remains rather strong¹⁴. Furthermore, results of empirical evaluations of gender equality policies in science and research show that the policies had rather weak effect on institutions and scientific cultures. The measures, which were tackled at improving women's scientific careers, had especially good effect in individual cases; however, institutional obstacles and implicit norms and values usually remain unchanged by such measures. The same could be said about existence of gender bias in research methods, techniques and epistemologies¹⁵. Finally, there is a lack of systematic discussion about interrelation between individual profit and structural change; there is no systematic – neither theoretical nor empirical – approach in this realm. In general, larger scope studies evaluating interrelation between the individual profit and structural change are lacking¹⁶.

Paying particular attention to the Lithuanian context, it should be noted that Lithuanian membership in EU binds the state by political responsibilities to implement gender equality in science ensuring measures, striving to change existent situation, which, in general, is worse than in many other EU member states¹⁷. However, regardless several national scope projects tackled at gender equality in science were implemented in Lithuania recently¹⁸, in general, discussion about and explorations of science policy and gender in science issues are rather fragmental in the country; national research institutions do not have gender equality plans, statistical data is not collected systematically. Hence there is still a lack of information which could be used as factual background for assessment of the situation and its transformation on the national level.

1.6.2. Methodological notes

Defining the main conceptual construct of this study – the *structural change* – it shall be noted that it

12 Sánchez de Madariaga, Inès (Chairperson); Raudma, Tiia (Rapporteur). 2012. Structural change in research institutions: Enhancing excellence, gender equality and efficiency in research and innovation. Report of the Expert Group on Structural Change. Luxembourg: Publications Office of the European Union [http://ec.europa.eu/research/science-society/document_library/pdf_06/structural-changes-final-report_en.pdf] p. 10, p. 15.

13 Marchetti, Raudma, 2010, Ibid. p. 13, p. 23-25.

14 EC. 2014. *European Research Area Progress Report 2014 accompanied by Facts and Figures*. Luxembourg: Publications Office of the European Union [http://ec.europa.eu/research/era/pdf/era_progress_report2014/era_facts&figures_2014.pdf] p. 6.

15 Caprile, Maria (coord.) and Elisabetta Addis, Cecilia Castaño, Ineke Klinge, Marina Larios, Danièle Meulders, Jörg Müller, Síle O'Dorchai, Mária Palasik, Robert Plasman, Seppo Roivas, Felizitas Sagebiel, Londa Schiebinger, Núria Vallès, Susana Vázquez-Cupei, eds. 2012. *Meta-analysis of gender and science research*. Synthesis report. Luxembourg: Publications Office of the European Union. p. 20.

16 Caprile, 2012, Ibid. p. 179, p. 194.

17 EC. 2012. *She Figures 2012. Gender in Research and Innovation. Statistics and indicators*. Luxembourg: Publication Office of the European Union.

18 „Lyčių lygybės moksle skatinimas“ (LYMOS), No. VP1-3.2-ŠMM-02-V (In Lithuanian – “Inducement of gender equality in science”).

is EC¹⁹ initiated and supported long-term wide-ranging change in research organization activities; the change which is aimed at increasing attractiveness of research and creating conditions for sustainable and attractive careers in science. For reaching this aim, it is necessary to develop regulatory frameworks and institutional standards as well as develop guidelines for recruiting and retaining women in research organizations. Realization of the main elements of the *structural change*²⁰ – i.e. knowing the research institution; support from the top level management of the research institution; efficient management practices at the research institution – creates conditions for achieving the essential transformations in the research organizations: ensuring of transparency in decision making; removal of unconscious stereotypical approaches from institutional procedures; sustaining quality of management and research by inducing and supporting diversity of ideas and opinions; improvement of empirical studies by integrating gender aspect; modernization of human resource management and work environment; etc. However, successful implementation of the structural change on the national level is possible only with united efforts of different science system constituting (i.e. science policy making; science quality ensuring; research conducting) institutions.

Questionnaire survey was decided to be the main data collection method in the study in Lithuania. Following principles of targeted expert sampling, 3 groups of respondents were defined: representatives of science policy making institutions (national Parliament, Ministry of Education and science) (n=24); representatives of research quality ensuring (controlling) institutions (Lithuanian Research Council, Agency for Science, Innovation and Technology, etc.) (n=20); representatives of top management at Lithuanian research organizations (including universities) (n=232). The highest level experts, who possess exceptionally deep knowledge and information about Lithuanian science system and have professional background for making its development prognosis, as well as the evaluations of potential risks, were selected. The respondents' contact information was collected from the official websites of Lithuanian science system containing institutions and organizations.

Correspondingly, three questionnaires for separate groups of the respondents were developed. The questionnaires were created using EC *Gender Equality Strategy*²¹ as a background. All questionnaires involve questions targeted at description and explanation of factual situation in Lithuanian legislation, science quality controlling institutions and research institutions (including universities).

Data collection procedure was planned to be accomplished in December 2014 – January 2015 in several stages. First, aiming to collect factual information and explore prevailing approaches to the study, the questionnaires will be sent by official e-mail addresses to the respondents asking them to fill in the questionnaire and return it to the research group. Second, striving to complement and specify the

19 Avramov, Dragana (rapporteur). 2011. *Initiating and sustaining structural change. Reflection on the outcomes of the workshop on Structural Change in order to improve Gender Equality in Research Organizations in Europe*. Towards Recommendation to the Member States 30 June – 1 July 2011. p. 9, p. 11.

20 Sánchez de Madariaga, Inès (Chairperson); Raudma, Tiia (Rapporteur). 2012. *Structural change in research institutions: Enhancing excellence, gender equality and efficiency in research and innovation*. Report of the Expert Group on Structural Change. Luxembourg: Publications Office of the European Union [http://ec.europa.eu/research/science-society/document_library/pdf_06/structural-changes-final-report_en.pdf] p. 26-29, p. 30-40.

21 Sánchez de Madariaga, Inès (Chairperson); Raudma, Tiia (Rapporteur). 2012. *Structural change in research institutions: Enhancing excellence, gender equality and efficiency in research and innovation*. Report of the Expert Group on Structural Change. Luxembourg: Publications Office of the European Union [http://ec.europa.eu/research/science-society/document_library/pdf_06/structural-changes-final-report_en.pdf] p. 42-45.

already collected information, series of interviews will be accomplished. Correspondingly, the collected information will be analysed employing traditional methods and procedures applied in qualitative and quantitative data analysis (i.e. descriptive statistics, content analysis, etc.). As the data collection procedure restricts insurance of the respondents' anonymity, specific procedures of preserving confidentiality of the provided information will be undertaken by the research group.

1.6.3. Further steps

For comparative purposes and aiming to shed a light on Lithuanian results from international perspective, it is planned to collect relative information from the project GEIRICA partners asking them to fill in the questionnaires which were translated in to English. The main results of the study will be published on the website of the project GEIRICA [<http://www.sapgeric.eu2013.vu.lt/geirica/>].

Further, it is expected that the survey results will serve for updating the above presented recommendations (see II.1.4. and II.1.5. chapters) and will be disseminated among national science policy makers and science administrators and in international audience.

II. 2. GENDER EQUALITY IN RESEARCH AND INNOVATIONS IN EUSBSR AND EAP PROGRAMMES

2.1. Introduction: an overview

On the European level, special attention to the gender equality issues in the field of science and technology started as early as beginning of 1990s ²² and since then it has been an important part of the overall gender equality policy clearly expressed on the EU political agenda. As the *European Pact for Gender Equality (2011-2020)* states: “The Council of the European Union acknowledges that equality between women and men is a fundamental value of the European Union and that gender equality policies are vital to economic growth, prosperity and competitiveness” ²³. Aiming to achieve implementation of gender equality into all spheres of socio-economic life the need of sustainable gender mainstreaming policy of implementing gender perspective into all policy areas is highlighted. In the *EU Plan of Action on Gender Equality and Women’s Empowerment in Development 2010-2015* it is recognized that “gender inequalities can only be effectively tackled when policies in all areas (e.g. economy, health, education, environment, infrastructure, trade, science and research, agriculture, peace and security, etc.) are designed in such a way as to address specific concerns, needs and constraints of both women and men while building on their respective capacities and contributions” ²⁴.

Respectively, the gender equality in science issues have recognition in the European science policy: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions *A Reinforced European Research Area Partnership for Excellence and Growth* ²⁵ highlights **Gender equality and gender mainstreaming in research – to end the waste of talent which we cannot afford and to diversify views and approaches in research and foster excellence** among other ERA priorities. Moreover, all other ERA priorities which are enumerated in the document strongly echo issues, which many times have been emphasised in different gender equality in science related contexts. More specifically, these are:

- More effective national research systems – including increased competition within national borders and sustained or greater investment in research;
- Optimal transnational co-operation and competition - defining and implementing common research agendas on grand-challenges, raising quality through Europe-wide open competition, and constructing and running effectively key research infrastructures on a pan-European basis;
- An open labour market for researchers - to ensure the removal of barriers to researcher mobility, training and attractive careers.

Especially in the context of the last mentioned priority - - *An open labour market for researchers* - - it

22 Marchetti, Marina and Tiia Raudma, eds. *Stocktaking 10 years of “Women in Science” policy by the European Commission 1999-2009*. Luxembourg: Publications Office of the European Union, 2010. p. 162.

23 Council conclusions on the European Pact for gender equality for the period 2011 – 2020. 3073th Employment, Social Policy, Health and Consumer Affairs Council meeting, Brussels, 7 March 2011 [http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/lsa/119628.pdf] p. 3.

24 *EU Plan of Action on Gender Equality and Women’s Empowerment in Development 2010-2015*, Commission Staff Working Document, Brussels, 8.3.2010, SEC(2010) 265 final [http://ec.europa.eu/development/icenter/repository/SEC_2010_265_gender_action_plan_EN.pdf] p. 8-9.

25 *A Reinforced European Research Area Partnership for Excellence and Growth*, Brussels, 17.7.2012, COM(2012) 392 final [http://ec.europa.eu/euraxess/pdf/research_policies/era-communication_en.pdf]

is recognized that gender inequality contributes to the reduced attractiveness of scientific careers or hampers researchers' mobility²⁶:

"While researcher mobility contributes to excellence, several obstacles stand in the way of a genuine European research labour market. One of the most important is the lack of transparent, open and merit-based recruitment, which makes research careers less attractive and hampers mobility, gender equality and research performance. ... Other obstacles include human resources policies which result in poor career prospects for young researchers, inadequate gender equality practices, social security obstacles and, insufficient academia-business mobility with only one in six researchers in academia having experience in the private sector."

However, despite the fact that the goal of the overall gender equality and in the sphere of science particularly is clearly stated on the European level, on the other hand, *Strategy for equality between women and men – 2010–2015* highlights the fact that "The prevailing gender imbalance in science and research is still a major obstacle to the European objective of increasing competitiveness and maximising innovation potential"²⁷. Recent *ERA progress report 2013* echoes that stating: "European research still suffers from a substantial loss, and inefficient use, of highly skilled women, and from a lack of gender dimension in research content"²⁸. Also there are report which state that "women are under-represented in the research organizations"²⁹ and which suggest that "one of the main problems encountered [promoting gender equality in science in EU] has been the discontinuity of political support"³⁰. Moreover, analysis of the relevant literature on the gender equality in science directed policy evaluation reveals several topics: i.e. (1) measures towards advancing women's science careers; (2) science management and reform; (3) the gender dimension in research and higher education³¹. Hence, in general, the policy evaluation is "a largely neglected issue according to the expert's reports"³².

This report is tightly related to the Lithuanian Presidency which is grounded on the *Programme of the European Council activities* prepared by the Irish, Lithuanian and Greek Presidencies with the President of the Foreign Affairs Council and in close cooperation with the Commission and the President of the European Council for 18 month period (1 January 2013 - 30 June 2014)³³. The Programme consists of two parts:

26 A Reinforced European Research Area ..., *ibid.*, p. 10.

27 *Strategy for equality between women and men 2010-2015*, Brussels, 21.9.2010, COM(2010) 491 final [<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0491:FIN:EN:PDF>] p. 7.

28 Report from the Commission to the Council and the European Parliament. *European Research Area Progress Report 2013*. Luxembourg: Publications Office of the European Union, 2013 [http://ec.europa.eu/research/era/pdf/era_progress_report2013/era_progress_report2013.pdf] p. 7

29 Avramov, Dragana (rapporteur). Initiating and Sustaining Structural Change. Reflection on the Outcomes of the Workshop on *Structural Change in Order to Improve Gender Equality in Research Organisations in Europe Towards a Recommendation to the Member States*, 30 June – 1 July 2011 . [http://ec.europa.eu/research/science-society/document_library/pdf_06/structural-changes-workshop-report_en.pdf] p. 7.

30 Marchetti, Raudma, 2010, *ibid.*, p. 195.

31 Caprile, Maria (coord.) and Elisabetta Addis, Cecilia Castaño, Ineke Klinge, Marina Larios, Danièle Meulders, Jörg Müller, Síle O'Dorchai, Mária Palasik, Robert Plasman, Seppo Roivas, Felizitas Sagebiel, Londa Schiebinger, Núria Vallès, Susana Vázquez-Cupeiro, eds. *Meta-analysis of gender and science research*. Synthesis report. Luxembourg: Publications Office of the European Union, 2012. p. 166.

32 Caprile et al, 2012, *ibid.*, p. 65.

33 *Programme of Council Activities, prepared by the Irish, Lithuanian and Greek Presidencies with the President of the Foreign Affairs Council and in close cooperation with the Commission and the President of the European Council*. Council of the European Union, Brussels, 7 December 2012, 17426/12, POLGEN 213 [http://static.eu2013.lt/uploads/documents/Trio_Programme.pdf].

- The first part contains the **strategic framework for the programme**, setting it *in a wider context, and specifically within the perspective of more long-term objectives running into the subsequent three Presidencies*. For this reason, in accordance with the Council's rules of procedure, the future Italian, Latvian and Luxembourg Presidencies have been consulted on this section.
- The second part constitutes the **operational programme** setting out *the issues which are expected to be addressed during the 18 month period*. In line with the Council's Rules of Procedure, this part was prepared with the President of the Foreign Affairs Council having regard to the configuration's activities during that period and in close cooperation with the Commission and the President of the European Council.

The Operational programme statement no. 217 tackles gender equality in science topic directly in the section devoted for *Research & Development* field related operations by saying:

The European Council has called for the European Research Area (ERA) to be completed by 2014 to create a genuine single market for knowledge, research and innovation. In particular, efforts should be made to improve the mobility and career prospects of researchers, the mobility of graduate students and the attractiveness of Europe for foreign researchers. The Commission communication "A Reinforced European Research Area Partnership for Excellence and Growth" was adopted in July 2012 with proposed reforms and actions to achieve more effective national research systems, optimal transnational cooperation and competition, an open labour market for researchers, gender equality and gender mainstreaming and optimal transfer of scientific knowledge. The three Presidencies will give constant attention to the follow-up and implementation of this initiative.³⁴

In addition, gender equality in science issues is tackled in several other articles of the Programme, though not directly. To be more exact, defining *Development policy* related operations, the article no 62 states:

During this period, the Council will follow up on the EU support for sustainable change in transition societies, will review progress in the implementation of the EU plan of action on Gender Equality and Women's Empowerment in Development 2010-2015, based on the third implementation report.³⁵

In this context also operations directed towards *Equality between women and men* should be highlighted:

Article no 184: Equality between women and men is a fundamental value of the European Union, but there is also a strong economic case for advancing equality between women and men. The Presidencies will seek to ensure that the Council fulfils its commitments, as set out in the European Pact for Gender Equality (2011-2020), and will take into account the framework of the Commission's Strategy for equality between women and men (2010-2015).

Article no 185: In addition to implementing the gender perspective into all policy areas ("gender mainstreaming"), the Presidencies will focus on the following specific themes: women and the media, the labour market activation of women in keeping with the 75% employment target for women and men that was set in the Europe 2020 Strategy, effectiveness of gender equality institutional mechanisms, women and the economy. Policies to facilitate the reconciliation of work, family and private life will also receive attention, as will the Commission's proposal in relation to gender balance on company boards.

It is interesting to notice that the following section - - *Discrimination* - - does not highlight gender as potential reason for discrimination, but denotes³⁶:

³⁴ *Programme of Council Activities ...*, Ibid., p. 70.

³⁵ *Programme of Council Activities ...*, Ibid., p. 31.

³⁶ *Programme of Council Activities ...*, Ibid., p. 61.

Article no 186: The Presidencies will continue to work on the proposal for a Council Directive on implementing the principle of equal treatment between persons irrespective of religion or belief, disability, age or sexual orientation. The promotion of the social and economic inclusion of persons with disabilities and marginalised groups, including Roma, will continue in accordance with the Council's commitments and competences.

Hence, gender equality issues in general and the issues in science in particular remain on the European Presidency policy agenda.

More specifically, it was foreseen that Lithuania³⁷, assuming the Presidency of the Council of the European Union for the first time and appreciating the opportunity to present the country, strengthen links to Europe, and contribute to the well-being of all European citizens, will focus the efforts on enhancing the EU's abilities to provide adequate response to economic, financial, social and energy challenges. Lithuania dedicates its efforts to the three objectives of the Presidency:

- **Credible Europe** with a stable financial sector and public finance and effective growth oriented EU economic governance and stronger social dimension;
- **Growing Europe** through greater investment into research and technological development, deeper integration of the internal market, as well as better employment opportunities and sustainable social security;
- **Open Europe** able to tackle global challenges effectively, promoting democratic values, contributing to safe neighbourhood, and actively protecting the rights of EU citizens.

Considering expectations from the Lithuanian Presidency, Mr. Raimundas Karoblis, the Permanent Representative of Lithuania to the EU, stated: "We see three main areas where sustained EU efforts are especially needed. The Lithuanian Presidency will focus on ensuring credible fiscal policies, steps that would result in economic growth and measures to ensure that the EU remains open to the world and secure to its citizens."³⁸ Gender equality issues can be seen as lurking behind the enumerated fields as the Section (E) *Employment, Social Policy, Health and Consumer Affairs* of the Agenda of the Lithuanian Presidency across Council configurations, among other issues, highlights (E 5) *Equal Treatment of Men and Women* by stating³⁹:

In the field of equal opportunities for men and women, Lithuania will seek to address the effectiveness of institutional mechanisms, in order to speed up the de facto gender equality. On this issue, Lithuania will host a minister-level conference in Vilnius and expects to adopt Council conclusions. Supporting the objective to improve women's representation in decision making, Lithuania will continue negotiations within the Council started during the Irish Presidency on the Directive on improving the gender balance among non-executive directors of companies listed on stock exchanges.

However, gender equality issues in science are not given attention in the *Programme of the Lithuanian*

37 *Programme of the Lithuanian Presidency of the Council of the European Union. 1 July to 31 December 2013. For a Credible, Growing and Open Europe.* EU2013.LT [http://static.eu2013.lt/uploads/documents/Presidency_programme_EN.pdf]

38 Karoblis, Raimundas. Foreword: What to expect from the Lithuanian Presidency. In *Guide to the Lithuanian Presidency of the EU Council*. Designed & produced by: Hill+Knowlton Strategies Brussels in conjunction with the Permanent Representation of Lithuania to the European Union, 2013. p. 4. [http://static.eu2013.lt/uploads/documents/PDF_dokumentai/Lithuania%20Presidency%20Guide_HR%20red%20small.pdf]

39 *Programme of the Lithuanian Presidency ...*, Ibid., p. 29.

Presidency as Section (F) Competitiveness involves only one article (*F 10) Research* which informs ⁴⁰:

Development of European research and innovation is integral to the objectives of increasing European competitiveness. In the context of the Europe 2020 strategy and model initiative, Innovative Europe, the Presidency will seek to ensure that Horizon 2020, the Common Research and Innovation Programme (including funding activities of the European Institute of Innovation and Technology as well as EURATOM programme) is implemented from early 2014. Lithuania will also organize discussions on initiatives implementing the programme, with proposals by the European Commission to be presented in Q3 2013. With a view to the political guidelines of the European Council, Lithuania will dedicate respective attention to the implementation of European Research Area in order to develop a single market of knowledge, research and innovation by 2014. Once the European Commission has presented a report on progress in the establishment of the European Research Area, Lithuania will arrange political discussions within the Council.

Notwithstanding, it is important to mention that striving for achieving the third of the enumerated objectives - - open Europe - - Lithuania highlights (*C1) Safe European Neighbourhood* as EU security is influenced by the processes taking place in its neighbourhood. The EU supports the political, economic and social reforms taking place in the Eastern and Southern neighbourhood countries, and is strengthening relations with these countries, thereby contributing to the establishment of a safe neighbourhood offering new opportunities ⁴¹. Moreover, Lithuania dedicates to the EU focus on more effective implementation of the European Neighbourhood Policy aiming at promoting democracy and inclusive and sustainable growth, based on promotion of human rights, especially the equal rights and freedoms of women, as well as closer cooperation with civil society ⁴². In this context, several political documents are of particular importance.

Thus, following the project SAPGERIC objectives and striving to contribute to the implementation of European policy of gender equality in science by ensuring succession and consistency of the political initiatives as well as to seize opportunities provided by the Lithuanian presidency of European Council efficiently, this report provides review of EU Eastern partnership and Baltic region related policies and, based on the review, the report presents recommendations for strengthening gender equality in science for a wider discussion.

2.2. EU Eastern Partnership policy

The Eastern Partnership (EaP) was launched in 2009. Today the area represents a significant part of the EU external relations as it is a joint initiative between the EU and the Eastern European partner countries – Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine. This partnership serves as an instrument to promote political and economic reforms which would help the countries of the region move closer to the EU and, therefore, would increase political, economic and cultural links with the Union and among the countries themselves.

The fundamental basis of the EaP policy is “a shared commitment to international law and fundamental values, including democracy, the rule of law and respect for human rights and fundamental freedoms,

40 *Programme of the Lithuanian Presidency ...*, Ibid., p. 34.

41 *Programme of the Lithuanian Presidency ...*, Ibid., p. 9.

42 *Programme of the Lithuanian Presidency ...*, Ibid., p. 10.

as well as to market economy, sustainable development and good governance”⁴³. Grounding on these values, the main goal of the EaP is to “create conditions to accelerate political association and deepen economic integration between the EU and Eastern European partner countries”⁴⁴. The Eastern Partnership also aims to “promote regional co-operation and good neighborly relations, stability, security and prosperity of both the EU and partner countries”⁴⁵.

In order to achieve the above mentioned goals, a comprehensive document – *Eastern Partnership: A Roadmap to the autumn 2013 Summit* ⁴⁶ – was released in 2012. The Roadmap itself sets out the *objectives* jointly agreed by the EU and its Eastern European partners, the *reforms and progress* that partner countries need to make in order to follow agreed steps, the *various instruments and support* that EU will provide in this process, and the *targets, outputs or timelines* to indicate the level of achievements. All these points are detailed in the Joint Staff Working Document⁴⁷, accompanying the Roadmap.

The EaP measures provide the countries with opportunity to develop both bilateral relationships with each other individually as well as facilitate the development of multilateral dimension – involving all EU Member States and partner countries. Each dimension has agreed objectives, which are stated in the Roadmap. The bilateral section of the roadmap focuses on the following objectives⁴⁸:

- Political association and economic integration;
- Enhanced mobility of citizens in a secure and well managed environment;
- Strengthened sector cooperation (participation in EU programs and agencies; energy; transport; freedom, justice and security; regional development, agriculture and rural development; environment and climate change).

The multilateral section of the Roadmap supports and reinforces the bilateral objectives of the Partnership and fosters policy dialogue on the following thematic issues: democracy, good governance and stability; economic integration and convergence with EU policies; energy security; contacts between people.

Gender equality issues in the context of EaP are addressed only in a general manner. First, gender equality, representing common values and principles of liberty embedded in the policy of EU, is set as one of the targets among the EaP policy accompanying measures by the partner countries in the *Joint staff working document* under the first objective – *Political Association and Economic Integration*. This objective is further detailed⁴⁹:

Implementation of common values and principles of liberty, democracy, respect for human rights and fundamental freedoms, and the rule of law by: <...> 7. respect for other human rights (abolition of capital punishment, freedom of religion, nondiscrimination on the basis

43 *Eastern Partnership: A Roadmap to the autumn 2013 Summit*, Brussels, 15.5.2012, JOIN(2012) 13 final [http://ec.europa.eu/world/enp/docs/2012_enp_pack/e_pship_roadmap_en.pdf] p.2.

44 *Eastern Partnership ...*, *ibid.*, p. 3.

45 *Eastern Partnership ...*, *ibid.*

46 *Eastern Partnership: A Roadmap to the autumn 2013 Summit*, Brussels, 15.5.2012, JOIN(2012) 13 final [http://ec.europa.eu/world/enp/docs/2012_enp_pack/e_pship_roadmap_en.pdf].

47 *Eastern Partnership Roadmap 2012-13: the bilateral dimension*, Joint staff working document, Brussels, 15.5.2012, SWD(2012) 109 final [http://ec.europa.eu/world/enp/docs/2012_enp_pack/e_pship_bilateral_en.pdf].

48 *Eastern Partnership: A Roadmap to the autumn 2013 Summit*, Brussels, 15.5.2012, JOIN(2012) 13 final, p. 5.

49 *Eastern Partnership Roadmap 2012-13: the bilateral dimension*, Joint staff working document, Brussels, 15.5.2012, SWD(2012) 109 final [http://ec.europa.eu/world/enp/docs/2012_enp_pack/e_pship_bilateral_en.pdf].

of gender, sexual orientation, nondiscrimination of minorities, rights of the child, abolition of torture and degrading punishment).

Second, gender equality is mentioned in the third bilateral objective – sector cooperation, under the area of *Employment and social Cooperation*, where the partner countries agreed to take policy measures aimed at establishing of gender equality⁵⁰:

Engaging in a dialogue on employment and social policy with a view to develop an analysis of the situation and to identify key challenges and policy responses (employment policy, social protection policy, social inclusion policy, social dialogue, health and safety at work, labour law, gender equality) gradually moving towards EU practices and including implementation of the EU acquits on health and safety at work, labour law and working conditions.

Although gender equality issues are not mentioned in the Roadmap ⁵¹ directly but only in Roadmap accompanying document ⁵² (in quite general manner though), nevertheless, some of the partnership areas outlined in the Roadmap are indirectly related to issues of gender equality and in science particularly and, therefore, are relevant for the implementation of gender mainstreaming policy. One of those areas appears under the objective no 3 “Enhanced sector cooperation” in bilateral section, where the participation of partner countries in EU programs and agencies is marked as one of the EaP goals. The 7th EU Framework Programme for Research and Technological Development, alongside other EU programs, became a part of EaP. More specifically⁵³:

The EU has signed protocols with the Republic of Moldova and Ukraine, which provide the legal basis for their participation in the EU programmes that are open to ENP partners. The Republic of Moldova has been associated to the 7th EU Framework Programme for Research and Technological Development since January 2012. Cooperation or efforts to strengthen cooperation between EU agencies and the Eastern European countries have moved forward, particularly in the area of justice and home affairs and aviation safety.

As is further indicated in expected achievements of the EaP, “The EU will facilitate partner countries’ participation in the work of EU agencies and the EU programmes which are open to them” ⁵⁴, in this case, science related programmes is the realm, where collaboration on gender equality issues should be established.

Moreover, the multilateral section of Roadmap further echoes the need of convergence with EU policies in various areas, as well as in labour market and social policies or statistics – all these areas are crucial for establishing effective measures for gender equality. And yet, gender dimension is absent among latter areas and objectives⁵⁵:

A dialogue on labour market and social policies should be established, with the view to promote exchanges on employment, social protection and social inclusion policies <...> The EU and partner countries should also continue to cooperate on the promotion and dissemination of high quality statistics.

50 *Eastern Partnership ...*, *ibid.*, p.41

51 *Eastern Partnership: A Roadmap to the autumn 2013 Summit*, Brussels, 15.5.2012, JOIN(2012) 13 final [http://ec.europa.eu/world/enp/docs/2012_enp_pack/e_pship_roadmap_en.pdf].

52 *Eastern Partnership Roadmap 2012-13: the bilateral dimension*, Joint staff working document, Brussels, 15.5.2012, SWD(2012) 109 final [http://ec.europa.eu/world/enp/docs/2012_enp_pack/e_pship_bilateral_en.pdf].

53 *Eastern Partnership: A Roadmap to the autumn 2013 Summit*, Brussels, 15.5.2012, JOIN(2012) 13 final [http://ec.europa.eu/world/enp/docs/2012_enp_pack/e_pship_roadmap_en.pdf], p. 7.

54 *Eastern Partnership ...*, *ibid.*, p. 7.

55 *Eastern Partnership ...*, *ibid.*, p. 13.

Some other science related objectives in multilateral dimension of the Roadmap like “Contacts between people”, which seeks to foster mobility of researchers and academic staff, also lacks explicitly addressed gender dimension, although gender inequality is a common barrier hampering researchers’ mobility and effective development of innovations. More specifically⁵⁶:

The Platform on contacts between people supports the interaction between EU and partner countries’ citizens, focusing in particular on students, academic staff, researchers, young people, and cultural actors. EU Member States and partner countries have entered into a dialogue on a number of policies, including youth and culture. Cooperation is organised in and around a number of EU cooperation programmes, new or existing, in the areas of education, higher education, research and innovation, youth and culture. Attention is being paid to modernisation issues, building capacity in research and innovation, and the mobility of students, teachers, researchers and young people. The Platform also promotes building cooperative links with the EU in all areas of research, including research infrastructures.

Therefore, EaP, being a platform of comprehensive cooperation with partner countries in many different areas, gives favourable opportunity to implement EU gender mainstreaming policy. Summing up at this point, it is important to draw the attention to the fact that the current Roadmap for EaP policies and activities lacks sufficiently developed gender dimension as gender equality issues are mentioned only in accompanying document and in a very general manner. Integrating gender dimension in the EaP Roadmap would serve as an effective measure to achieve the main goals of EaP: to spread common values of democracy and human rights as well as to facilitate innovation and science sector cooperation; hence, to reach foreseen result of efficient economic integration of the partnering countries in EU.

2.3. EU Baltic Sea region policy

The *European Strategy for the Baltic Sea Region* (EUSBSR)⁵⁷ alongside a detailed *Action Plan* was endorsed by the European Council in October 2009. It was the first macro-regional strategy of the EU in that time. Later on, after evaluation of experience gained during implementing the Strategy and in order to meet the requirements of developing Baltic Sea region and its changing context, the EUSBSR was updated in March 2012 together with *Action Plan* revised and updated on February 2013.

The EUSBSR is grounded on the three overall objectives: *Save the Sea, Connect the Region, Increase Prosperity*. These objectives, accordingly, are further organized into 17 priority areas and 5 horizontal actions which comprise the latest *Action Plan of the Strategy* and represent the main areas where the Strategy can contribute to improvements while dealing with challenges or opportunities for the region. Each priority area and horizontal action has specific indicators and targets set to facilitate the monitoring, evaluation and results of the Strategy, as well as *actions* and *flagship projects*, aimed at providing the main steps and details how to achieve agreed targets of the particular area.

The topic of gender equality in the context of the EUSBSR is expressed both indirectly and explicitly. As the EUSBSR claims to be consistent with and reinforce all other EU policies, particularly *Europe 2020*

⁵⁶ *Eastern Partnership ...*, *ibid.*, p. 15.

⁵⁷ *European union strategy for the Baltic sea region*, Brussels, SEC(2009) 712/2 [<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0248:FIN:EN:PDF>].

Strategy, it indirectly commits to keeping up with gender equality promotion, clearly expressed in the EU policy agenda. Moreover, explicit concern towards gender equality issues is expressed in the introduction of the EUSBSR Action Plan, reporting that gender perspective must be adopted both in the governance and content of the Action Plan⁵⁸:

Successful implementation of the Strategy requires also the adoption of a gender perspective in the governance system and the Action Plan. Equality between men and women is a core value of the European Union. At the same time, economic and business benefits can be gained from enhancing gender equality. In order to achieve the objectives of the EUSBSR the contribution and talents of both women and men should be fully used.

Also, according to the EUSBSR objective *Increase the prosperity*, the document says that “it is crucial to ensure equal participation of women and men in entrepreneurship, innovation, trade, education and in the workforce in general, in order to make full use of the human resources potential to boost growth and prosperity”⁵⁹. But on the other hand, further analysis of particular parts of the Strategy, connected to such wide but also specific areas as innovation and education reveals that gender dimension is absent there. Therefore, although the EUSBSR documents refer to gender equality in general, those statements appear to be of fragmentary nature, which are not explicitly transferred to actions and flagship projects in particular priority areas.

Furthermore, more specific topic of gender equality in science is presented even more **intangibly**. **There are only few cases in the Action plan, where the issue of gender equality in science could be considered as marked. More specifically**, gender equality issue is tackled in priority area *Education – Developing innovative education and youth* – under the Action “To meet the challenge of demographic changes and to combat youth unemployment”, where the Flagship project **Quick IGA** highlights the importance of gender equality in labour market to strengthen innovation by involving more women in leading positions⁶⁰:

Equal opportunities for women and men in the labour market need to be improved in every respect. This is also in the interest of SMEs, which represent 99% of businesses in the BSR and provide up to 70% of all jobs. Already today, their growth is severely limited by the steadily growing lack of skilled workers. By getting more women into the labour market, particularly in leading positions, innovation will be strengthened. All three goals of this project – strengthening innovation, promotion of SMEs and in particular female entrepreneurship – are explicit objectives of the EUSBSR.

Lead: Hanseatic Parliament, Germany. Deadline for finalisation: February 2014.

Also the issue of gender equality in science is indirectly raised in priority area *Innovation – Exploiting the full potential of the region in research and innovation*, under the Action “Establish a common Baltic Sea region innovation strategy”, which seeks to utilise high-level human capital and promote the mobility of researchers (as gender inequality in science is recognised to be one of the main factors causing the waste of high-level human capital and restricting the mobility)⁶¹:

58 *European union strategy for the Baltic sea region*, Brussels, SEC(2009) 712/2. All related information can be found at <http://www.balticsea-region-strategy.eu/> p. 9.

59 *European union strategy for the Baltic sea region ...*, *ibid.*, p. 37.

60 *European union strategy for the Baltic sea region ...*, *ibid.*, p. 79.

61 *European union strategy for the Baltic sea region ...*, *ibid.*, p. 101.

To be based on the results of all the flagship projects and address the following four challenges: (a) reduce existing innovation barriers, including the harmonisation of different legal and regulatory environments for Foreign Direct Investment (FDI), particularly for further developing the demand-side approaches to innovation; (b) facilitate trans-national cooperation for the development and commercial exploitation of joint research projects; (c) utilise together the high-level human capital in the region and promote the mobility of researchers; and cooperation between students and companies; (d) jointly develop new and better innovation support instruments, including Intellectual Property Rights (IPR) support. This work will build upon similar efforts undertaken under the PRO-INNO Europe initiative.

Hence, gender equality issues in science are foreseen among the strategic activities, but in rather general terms. Potential priority areas of the Strategy, where gender equality issue in science could be tackled most effectively, in this matter remain unexploited.

However, one of the priority areas which is well potentially suited for solving the issues of gender equality in science is *Education – developing innovative education and youth*. Although question of human equality in general is mentioned as one of the strategic objectives under this priority area and the “under-utilization of student and professional exchanges”⁶² is marked as one of the challenges for the Strategy to overcome, the goal of gender equality in this realm is not clearly articulated. Moreover, actions like “Enhance cooperation between regional universities”⁶³, “Closer integration and cooperation of youth policy structures”⁶⁴, “Social inclusion”⁶⁵, “Develop new methods for training entrepreneurship and innovation”⁶⁶ – all are favourable for integrating the gender equality in science dimension, which would further be transferred to flagship projects and so the objective of gender equality, expressed in the general manner, could be effectively integrated into all levels of the Strategy. Furthermore, not only some of the actions are particularly suitable for the issue of gender equality to be integrated, but even successful implementation of action itself is dependent upon the successful integration of gender equality dimension into it. Like action “Making the lifelong learning and mobility a reality within the BSR”⁶⁷, as gender inequality is recognized⁶⁸ to be one of the barriers limiting the mobility of researchers, the objective of this action can only be achieved with the integration of gender dimension into it.

Thus, the integration of gender equality dimension into actions listed under the priority area *Education* would foster the implementation both of the objectives outlined in EUSBSR and the overall EU policy agenda.

Another priority area, directly related to the implementation of gender equality in science is *Innovation – Exploiting the full potential of the region in research and innovation*. The only listed action under this area – “Establish a common Baltic Sea region innovation strategy” – further echoes objectives outlined generally in the Strategy as well as under *Education* priority area. Also it is closely related to the issue of gender equality in science as it seeks to “utilize together the high-level human capital in

62 *European union strategy for the Baltic sea region ...*, *ibid.*, p. 76-77.

63 *European union strategy for the Baltic sea region ...*, *ibid.*, p. 80.

64 *European union strategy for the Baltic sea region ...*, *ibid.*, p. 81.

65 *European union strategy for the Baltic sea region ...*, *ibid.*, p. 82.

66 *European union strategy for the Baltic sea region ...*, *ibid.*, p. 78.

67 *European union strategy for the Baltic sea region ...*, *ibid.*, p. 79.

68 *A Reinforced European Research Area Partnership for Excellence and Growth*, Brussels, 17.7.2012, COM(2012) 392 final, p.10 [http://ec.europa.eu/euraxess/pdf/research_policies/era-communication_en.pdf].

the region and promote the mobility of researchers”⁶⁹. Flagship project **ScanBalt Health Region** under the *Innovation* priority area also highlights the need for BSR “to attract and retain human resources”⁷⁰. However, the issue of gender equality in science under this priority area is only implicit but not highlighted directly, although it is inseparable from the success of attracting and utilizing high-level human capital.

Furthermore, flagship projects like **Setting up a Baltic Science Link** with the aim of “building a strong network between universities, research institutes and industries in the region”⁷¹ or project **Create Funding models for transnational Innovation and Research in the Baltic Sea Region** with objective is to “seek to improve the coordination and alignment of existing and future funding for research, development and innovation”⁷², as they promote network of science and funding institutions, could be successfully used as a base for integrating gender dimension into the institutional hierarchies of innovation and science, and therefore to tackle equality issue in a more effective way. But clearly presented gender equality issue in this case remains absent too.

Therefore, overview of the EUSBSR and its Action Plan suggests, that the issue of gender equality in general and in science in particularly should be articulated more explicitly; thus further systemically incorporated into the actions and flagship projects of the Strategy or into targets and indicators set to evaluate implementation of the objectives under relevant priority areas. This would contribute both to the successful integration of EU policy of gender mainstreaming into the Strategy and also to the implementation of the objectives of the EUSBSR itself. The EUSBSR also provides space for using opportunities to foster gender equality in the Baltic Sea region as the member states of the region vary in respect to their national accomplishments in this field. In this case, while tackling various common issues of the region, the framework of international cooperation could be used as a platform for sharing good practices in the sphere of gender equality of advanced countries. Also, as mentioned in the beginning of the Action Plan, implementation of the Strategy has to ensure, that gender dimension would be integrated not only into Action Plan, but also into the governance of the strategy.

2.4. Towards the improvements: Recommendations for fostering gender mainstreaming policy in EU Regional and International Programmes

In the scope of the ERA priority *Gender equality and gender mainstreaming in research*⁷³, these recommendations shall be applied to all the EU Member States as well as to partnering and neighbouring countries.

However, focusing exclusively on Baltic Sea region countries and on Eastern partnership countries, and taking into account above elucidated shortages of the policy implementing Action plans in terms of attention to gender equality in science issues from the one side and, from the other side, considering the number of under-researched topics in the field of gender in science⁷⁴ and factual absence of

69 *European union strategy for the Baltic sea region* ..., *ibid.*, p. 101.

70 *European union strategy for the Baltic sea region* ..., *ibid.*, p. 103.

71 *European union strategy for the Baltic sea region* ..., *ibid.*, p. 103.

72 *European union strategy for the Baltic sea region* ..., *ibid.*, p. 102

73 *A Reinforced European Research Area* ..., *ibid.*, p. 12-13.

74 For detailed enumeration of the topics see Caprile et al, 2012, *ibid.*, p. 65, 67-69.; Marchetti, Raudma, 2010, *ibid.*, p.

comparative data for EU neighbouring countries, as well as taking into attention the three interrelated political approaches ⁷⁵ - Fixing the numbers of women in science; Fixing the institutions; and Fixing the knowledge - - which are highly recommended to be implemented efficiently by accepting highlighted requirements for sustainable structural change ⁷⁶ (i.e. Commitment to implementation; Modernisation of research management; Recruiting women in research organisations; Retaining women in research organisations; Intersectorial mobility and peer review), below are presented several specific concentrated actions of recommendatory nature for the targeted groups of countries – i.e. the EU Neighbouring countries and the Baltic Sea region states.

2.4.1. Recommendations to Eastern Partnership Countries

Considering the absence of available information on gender in science issues in Eastern partnership countries, but striving to develop sound background for sharing good experience and suggesting recommendations for the countries, as well as contribute to strengthen the democracy and sustainable economic development in the countries, it would be suggested at this point of time:

1. To explore, compare and evaluate statistical involvement, contents of participation and representation of women in different fields of science and on various levels of scientific hierarchies (including science policy making, research organizations, etc.). For this objective:
 - To collect statistical data and indicators, which would be analogous to those existant in EU countries (i.e. *She Figures*);
 - To collect and analyse available publications on gender in science topics (following work done in FW7 project “Meta-analysis of gender and science research”);
 - To create report on the gender issues in science in Eastern partnership countries (following ETAN report ⁷⁷ and ENWISE report ⁷⁸).
2. To ensure active participation of scientists and research groups from the Eastern partnership countries in Horizon 2020 program and other scientific activities in EU countries.
3. To establish an expert pool from the EU and the Eastern partnership countries connecting institution, responsible for sustainable, effective and efficient collection, exchange, analysis, interpretation and dissemination of data and information in the initial stages and for continuous cooperation in the following stages.

2.4.2. The recommendations: Baltic Sea Region Countries

Considering lack of attention for gender in science issues in the *Baltic Sea Region Strategy*, but being aware that “gender equality and gender mainstreaming in research” is among the ERA priorities, and taking into account the most-up-to-date recommendations of EU experts, it would be recommended:

1. In research and innovation and higher education areas:
 - To initiate structural change and ensure its sustainability (including monitoring practices,

195-222.

⁷⁵ Caprile et al, 2012, *ibid.*, p. 28-29.

⁷⁶ Avramov, 2011, *ibid.*, 14-17.

⁷⁷ *Science policies in the European Union. Promoting excellence through mainstreaming gender equality*. A Report from the ETAN Expert Working Group on Women and Science. Luxembourg: Office for Official Publications of the European Communities, 2000 [ftp://ftp.cordis.europa.eu/pub/improving/docs/g_wo_etan_en_200101.pdf]

⁷⁸ *Waste of talents: turning private struggles into a public issue. Women and Science in the Enwise countries*. A report to the European Commission from the Enwise Expert Group on women scientists in the Central and Eastern European countries and in the Baltic States. Luxembourg: Office for Official Publications of the European Communities, 2003 [http://ec.europa.eu/research/science-society/document_library/pdf_06/enwise-report_en.pdf]

evaluator studies, etc.) in research and innovation, and higher education institutions and organizations ⁷⁹;

- To continue and expand empirical studies on gender in science issues in general ⁸⁰ and, in particular, on various aspects of processes and procedures related to the implementation of the structural change; to ensure that the studies would systematically encompass all countries in the region.

2. In other areas:

- To ensure integration of diverse approach in experimentations and implications of results, development of technologies, etc. by involving both female and male professionals (i.e. researchers, engineers, etc.) into all stages and processes, and ensure equal payment and employment, advancement, career, and other opportunities for women and men;
- To develop and support quadruple helix models, which connect academia, policy makers, business and civil society ⁸¹ and is gender sensitive in the new projects, and ensure more efficient ways of developing innovations.

2.4.3. VILNIUS RECOMMENDATIONS 2013 submitted to EU COUNCIL

Taking into account the EU2020 Strategy and the reinforced role of the upcoming framework programme Horizon 2020; Supporting the EC European Research Area (ERA) Communication of 2012, especially priority 4 on gender equality in science, and the Horizon 2020 commitment to gender equality; considering the position of the Helsinki Group to foster gender equality in the member states and associated countries; being aware of the multi-dimensions of such a task, and of the need for a joint effort from all the stakeholders, including women themselves, involved with a shared roadmap; and considering that evidence generated by integrating gender in research and innovation should be used to inform other relevant European policies, the participants from numerous EU and neighbouring countries accepted Recommendations for *Promoting Gender Equality in Research Organisations*⁸² during the SAPGERIC conference in November 2013 in Vilnius. The recommendations call on:

The Council of the European Union to:

- Engage Member States to remove barriers to gender equality and provide incentives for structural changes in their research organisations;
- Request the European Commission of its commitment and urge it to adopt a recommendation on structural change;
- Monitor the progress made on structural changes and advance the agenda to promote gender equality under each EU Presidency.

79 For details see Avramov, Dragana. 2011. *INITIATING AND SUSTAINING STRUCTURAL CHANGE. Reflection on the outcomes of the workshop on STRUCTURAL CHANGE in order to improve Gender Equality in Research Organisations in Europe Towards a Recommendation to the Member States*, 30 June – 1 July 2011 [http://ec.europa.eu/research/science-society/document_library/pdf_06/structural-changes-workshop-report_en.pdf]

80 For recommendations for further research on unexplored or underexplored topics in the field see Caprile, Maria (coord.) and Elisabetta Addis, Cecilia Castaño, Ineke Klinge, Marina Larios, Danièle Meulders, Jörg Müller, Síle O'Dorchai, Mária Palasik, Robert Plasman, Seppo Roivas, Felizitas Sagebiel, Londa Schiebinger, Núria Vallès, Susana Vázquez-Cupeiro, eds. 2012. *Meta-analysis of gender and science research*. Synthesis report. Luxembourg: Publications Office of the European Union; Marchetti, Marina and Tiia Raudma, eds. 2010. *Stocktaking 10 years of "Women in Science" policy by the European Commission 1999-2009*. Luxembourg: Publications Office of the European Union.

81 Arnkil, Robert and Anu Järvensivu, Pasi Koski, Tatu Piirainen 2010. *Exploring Quadruple Helix Outlining user-oriented innovation models*. Final Report on Quadruple Helix Research for the CLIQ project. Työraportteja 85/2010 Working Papers. [<http://tampub.uta.fi/bitstream/handle/10024/65758/978-951-44-8209-0.pdf?sequence=1>]

82 The term "Research organizations" stands for all research related institutions: public and private; research funding and evaluating, and accomplishing; centres, institutes, and universities; etc.

The European Parliament to:

- Monitor at appropriate time intervals the progress made on structural changes to promote gender equality in research and innovation.

The European Commission to:

- Adopt the recommendation announced in the ERA Communication of 2012;
- Monitor the implementation of the recommendation with the assistance of appropriate agencies/institutes (i.e. EIGE), including the development of robust indicators;
- Strengthen networks of gender-related stakeholders (e.g. COST *genderSTE* project, Women Rectors Platform, European Platform of Women Scientists, BASNET Forumas, European Centre for Women in Technology, and many other) ensuring an efficient dissemination of information and the coordination of joint efforts;
- Ensure the continuity of a dedicated structure for gender equality policy in research and innovation.

The Member States and Associated Countries to:

- Align and further national policies on gender equality in research and innovation to take account of the decisions made at the EU level on the ERA and Horizon 2020;
- Include gender aspects in the curricula of higher education establishments;
- Support interdisciplinary research in gender studies to strengthen gender knowledge and expertise;
- Link the evaluation, accreditation and funding of research organisations to their performance on gender equality;
- Monitor the progress made with robust indicators;
- Strengthen networks of gender-related stakeholders, ensuring an efficient dissemination of information and the coordination of joint efforts;
- Include gender equality actions in the research components of international and regional programmes (such as Eastern Partnership and Baltic Sea Strategy).

Research funding agencies to:

- Align and further their strategies and programmes to take account of the gender equality objectives established at the EU level in the ERA and Horizon 2020;
- Fund specific programmes and initiatives on structural changes for gender equality in research organisations;
- Identify and remove gender bias at all levels, particularly in practices and structures;
- Ensure gender balance at all levels, including boards and committees;
- Develop in-house gender expertise and briefings for decision makers and evaluators on gender bias;
- Monitor the progress made with robust indicators.

Research organisations to:

- Develop strategies and policies in accordance with the gender equality objectives established at the EU level in the ERA and Horizon 2020;

- Modernize human resources management in order to remove gender bias and discrimination;
- Systematically include the gender dimension in curricula and research activities;
- Monitor and evaluate the progress made on gender equality.
- Professional scientific communities to:
 - Raise awareness and develop expertise on gender in research and innovation;
 - Increase the visibility of women in science, research and innovation, including as keynote speakers in conferences;
 - Promote the gender dimension in scientific publications, including disaggregated gender data in research where applicable;
 - Remove gender bias in their fields and increase the participation of female scientists in scientific publications, editorials, reviews and survey articles.

2.4.4. GEIRICA proposal for updating the EUSBSR action plan

Background

Gender equality is a fundamental value of the European Union referring not only to the main principles of democracy and human rights, but is also seen as an integral part of economic efficiency and excellence, which is clearly expressed in the EU policy agenda. As the *European Pact for Gender Equality (2011-2020)* states: “The Council of the European Union acknowledges that equality between women and men is a fundamental value of the European Union and that gender equality policies are vital to economic growth, prosperity and competitiveness”⁸³.

Considering that knowledge is the currency of the new economy, the well-being and future of EU citizens highly depends on the success of research and development sector. EU strategic documents are emphasizing the significance of the enlargement of the talent pool in sciences by including more women researchers (especially in natural sciences and technology, where women comprise only about 20% of all researchers⁸⁴) to further research and development in Europe. Still prevailing gender inequality in science is one of a major challenges faced when implementing ambitious strategies towards the creation of competitive and innovative economies based on scientific achievements. For this reason, gender equality issue is recognized in the European science policy: Communication from the Commission *A Reinforced European Research Area Partnership for Excellence and Growth*⁸⁵ highlights gender equality and gender mainstreaming in research as one of the five European Research Area (ERA) priorities. The biggest EU Research and Innovation programme ever - Horizon 2020 - also states that “In Horizon 2020, gender will be addressed as a cross-cutting issue in order to rectify imbalances between women and men, and to integrate a gender dimension in research and innovation programming and content.” and commits to “promote gender equality in particular by supporting structural changes in the organization of research institutions and in the content and design of research activities”.⁸⁶

83 Council conclusions on the European Pact for gender equality for the period 2011 – 2020. 3073th Employment, Social Policy, Health and Consumer Affairs Council meeting, Brussels, 7 March 2011 [http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/lsa/119628.pdf] p. 3.

84 European Commission (2012), *She Figures 2012 - Gender in Research and Innovation. Statistics and Indicators*.

85 *A Reinforced European Research Area Partnership for Excellence and Growth*, Brussels, 17.7.2012, COM(2012) 392 final [http://ec.europa.eu/euraxess/pdf/research_policies/era-communication_en.pdf]

86 http://ec.europa.eu/research/participants/data/ref/h2020/legal_basis/fp/h2020-eu-estabact_en.pdf p.122, 167.

Despite the fact that the goal of the overall gender equality and in the sphere of science particularly is clearly stated on the European level, at the same time, *Strategy for equality between women and men – 2010–2015* highlights the fact that current situation of gender equality in science is still unsatisfactory: “The prevailing gender imbalance in science and research is still a major obstacle to the European objective of increasing competitiveness and maximising innovation potential”⁸⁷. Recent *ERA progress report 2013* echoes that stating: “European research still suffers from a substantial loss, and inefficient use, of highly skilled women, and from a lack of gender dimension in research content”⁸⁸.

As gender equality issues can only be effectively solved when tackled systematically, EU promotes the gender mainstreaming policy – a strategy to integrate gender concerns into all policies, and programs of the European Union institutions and Member States. Therefore, as Baltic Sea Region Strategy claims to be consistent with and reinforce all other EU policies, it commits to keeping up with gender equality promotion through gender mainstreaming and structural change, clearly expressed in the EU policy agenda, and serves as a perfect platform of international cooperation in solving these issues.⁸⁹

Gender equality in EUSBSR

The review⁹⁰ of EUSBSR action plan revealed, that although documents of the Strategy refer to gender equality in general, those statements appear to be of fragmentary nature and are not explicitly transferred to actions and flagship projects in particular priority areas. Especially in priority area, concerned with research and innovation, where gender equality would significantly contribute to the enhancing of efficiency and excellence in research and innovation. The general aim of priority area *Innovation* is “Exploiting the full potential of the region in research and innovation” and is further transferred into Action “Establish a common Baltic Sea region innovation strategy”, which seeks to “utilise high-level human capital and promote the mobility of researchers”. Therefore, as gender inequality in science is recognized to be one of the main factors causing the waste of high-level human capital, restricting the mobility of researchers and negatively effecting the quality of scientific research – these strategic goals of enhancing the potential of the region in research and innovation can only be achieved with systematically integrated gender equality dimension, which at the moment is unfortunately lacking in the EUSBSR action plan.

Thus, overview of the EUSBSR and its Action Plan suggests, that the issue of gender equality in general and in science in particular should be articulated more explicitly, thus further systemically incorporated into the actions and flagship projects of the Strategy. This would contribute both to the successful integration of EU policy of gender mainstreaming into the Strategy and also to the implementation of the ambitious objectives of the EUSBSR itself. The EUSBSR also provides space for using opportunities

87 *Strategy for equality between women and men 2010-2015*, Brussels, 21.9.2010, COM(2010) 491 final [<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0491:FIN:EN:PDF>] p. 7.

88 Report from the Commission to the Council and the European Parliament. *European Research Area Progress Report 2013*. Luxembourg: Publications Office of the European Union, 2013 [http://ec.europa.eu/research/era/pdf/era_progress_report2013/era_progress_report2013.pdf] p.7

89 Specific recommendation „To include gender equality actions in the research components of international and regional programmes (such as Eastern Partnership and Baltic Sea Strategy)” was announced in „VILNIUS RECOMMENDATIONS 2013 – Promoting Gender Equality in Research Organisations” endorsed during Lithuanian Presidency for EU conference on the 21-22 of November, 2013 in Vilnius, Lithuania and which were later presented at EU Competitiveness Council on the 3rd December, 2013.

90 Report on the review of EUSBSR and EU Eastern partnership policies under the FP7 – Science-in-Society-2013 project SAPGERIC.

to foster gender equality in the Baltic Sea region as the member states of the region vary in respect to their national accomplishments in this field. In this case, while tackling different common issues of the region, the framework of international cooperation could be used as a platform for sharing good practices in the sphere of gender equality of advanced countries.

Therefore:

- Being aware of the importance of the BSR Strategy to the prosperity of the Region,
- Supporting the EU policy towards gender mainstreaming and structural change promoting gender equality in science and research,
- Taking into account the commitments and objectives outlined in the BSR Strategy in research and innovation sphere: to implement gender equality and utilize high-level human capital; to increase innovation capacity and foster long term transnational cooperation,

Lithuania proposes to complement the Action plan of the BSR Strategy so that these objectives and commitments to implement gender equality and therefore enhance excellence, efficiency in research and innovation through systematic regional cooperation are properly integrated into actions and further – into flagship projects and tackled with specific measures.

The suggestion can be realized by rephrasing the main action under Priority section **Innovation** of EUSBSR Action Plan“– utilise together the high level human capital in the region and to promote the mobility of researchers” as “develop and utilise the high level human capital in the region by implementing structural changes modernizing the research organizations and ensuring gender equality and excellence in research and innovation”.

II. 3. STRIVING FOR RESOLVING GENDER INEQUALITIES IN RESEARCH INSTITUTIONS-MOVIE ON HIDDEN DISCRIMINATION”

3.1. Introduction

In 2009, Marina Cacace, an author of FW 7 project PRAGES report *Guidelines for Gender Equality Programmes in Science*, wrote⁹¹:

Today gender discrimination is rarely explicit. However, the most hidden and deeply-rooted structures of discrimination are still at work, and they show a peculiar vitality and a strong capacity to assume new forms, according to the overall transformations affecting societies and institutions. These structures, mostly out of awareness, are difficult to detect and manage. They are embedded in language, in the symbolic dimension, in quite automatic behavioural patterns, in common sense and in deeply-rooted widespread beliefs. As a whole, they contribute, not only to direct discriminatory processes, but also to a climate or an environment that is conducive to discrimination.

Science and technology are far from being immune from these subtly discriminating dynamics, which are targeted by many programmes aimed at easing cultural and behavioural change in research institutions. As experience shows, change may happen, but it requires programmes to last long enough to let it take root, to simultaneously manage a multiplicity of factors and levels, to overcome conflicts and to be able strongly to involve leaders as well as all the women in the organisation, from scientists to technicians to administrative personnel.

Striving to contribute to achieving of the overall goal of the project SAPGERIC - - that is, to reflect the current state of activities promoting gender equality in research institutions at European level and enhancing an effective dialogue and knowledge sharing among stakeholders (academia, research institutions, funding agencies, researchers, policy makers and society) - - this report provides an account of the accomplishment of one specific WP3 objective: Creation of the short film on “hidden” discriminations as an effective measure lowering the resistance to the structural changes promoting gender equality in institutions for scientific communities where a masculine culture is prevailing. The objective soundly echoes the above presented position.

The report is structured into several parts. The first part – *Introduction* – is aimed at presentation of the overall report. The second part – *The context: Gender discrimination in science* – is devoted for wider description of the topic. That is, after providing general conceptual definition of the phenomenon (i.e. gender discrimination), political framework around the phenomenon and the main research findings on the topic are described. This part is based on previous strongly emphasized works of European experts and European researchers, and such European Commission publications as *Stocktaking 10 years*

91 Cacace, Marina, ed. 2009. *PRAGES. Guidelines for Gender Equality Programmes in Science*. Rome. p. 53. [http://www.retepariopportunita.it/Rete_Pari_Opportunita/UserFiles/Progetti/prages/pragesguidelines.pdf]

of “Women in Science” policy by the European Commission 1999-2009⁹², Meta-analysis of gender and science research⁹³.

The third part of the report – *Experiences of gender discrimination in science in everyday practices* – provides information about steps which were taken and procedures which were accomplished striving to collect information about current factual experiences of gender discrimination in scientific organizations. Also descriptions of the film episodes, which were developed basing on narratives by women-scientists (collected in August-September 2013), are provided in this part. It should be noted here that all collected materials can be presented, but only anonymously and if formally requested.

Concluding remarks is the closing part of the report, which provides summarization of the main results achieved. It is worth mentioning, that the presented project SAPGERIC report not only gives an account about sectional results of the project, but also supports expansion and extension of EU level policies and implementation of strategic recommendations in the field of coping with gender discrimination in science.

3.2. The context: Gender discrimination in science

3.2.1. The conceptual definition

In the broadest terms, the term *discrimination* refers to “unfavourable treatment of particular groups of individuals, on prejudiced and irrelevant grounds”⁹⁴. *Sex discrimination* can be defined as “unequal and harmful treatment of people because of their sex”⁹⁵; usually, sex discrimination is understood to be internalized⁹⁶ and institutionalized⁹⁷. According to Benokraitis and Feagin who have conducted extensive research on the phenomenon of discrimination based on sex: “although both men and women can be targets and victims of sex discrimination, [... it ...] is overwhelmingly a matter of men targeting women”; moreover, “being a woman is frequently a better predictor of discrimination and inequality

92 Marchetti, Marina and Tiia Raudma, eds. 2010. *Stocktaking 10 years of “Women in Science” policy by the European Commission 1999-2009*. Luxembourg: Publications Office of the European Union.

93 Caprile, Maria (coord.) and Elisabetta Addis, Cecilia Castaño, Ineke Klinge, Marina Larios, Danièle Meulders, Jörg Müller, Síle O’Dorchai, Mária Palasik, Robert Plasman, Seppo Roivas, Felizitas Sagebiel, Londa Schiebinger, Núria Vallès, Susana Vázquez-Cupeiro, eds. 2012. *Meta-analysis of gender and science research*. Synthesis report. Luxembourg: Publications Office of the European Union.

94 Blackburn, Simon. 2008. *Oxford Dictionary of Philosophy*. 2nd ed. revised. Oxford: Oxford University Press. p. 102.

95 Benokraitis, Nijole and Joe R. Feagin. 1995. *Modern Sexism. Blatant, Subtle, and Covert Discrimination*. 2nd ed. Englewood Cliffs: Prentice Hall. p. 39.

96 The term *internalization* here is understood in sociological and psychological terms. That is, “through socialization, people internalize cultural expectations, then pass these expectations on to others. *Internalization* occurs when behaviour and assumptions are learned so thoroughly that people no longer question them, but simply accept them as correct. Through socialization, one internalizes the expectations of the society. Lessons that are internalized can have powerful influence on attitude and behaviour.” (Andersen, Margaret L. and Howard Francis Taylor. 2006. *Sociology. Sociology: Understanding a Diverse Society*. 4th ed. USA: Thompson. p. 83)

97 In sociological perspective, the term *institutionalization* can be defined by “the creation of repeatable process that is essentially self-sustaining; it is one in which all the relevant actors can resort to well-established and familiar routines”. Following this view, it is composed of three main components: (a) the *routinization* of collective action (such that everyone could adhere to a common script, recognizing familiar patterns as well as potentially dangerous deviations); (b) the *inclusion* and *marginalization* (whereby those who are willing to adhere to established routines will be granted access to high level exchanges in mainstream institutions, while those who refuse to accept them can be shut out from conversations through either repression or neglect”); (c) *cooptation* (which means that all claims and tactics have to be altered to ones that can be pursued without disrupting the normal practice of existent order). The processes of routinization, inclusion/marginalization and cooptation are distinct, but they are “complementary aspects of institutionalization”. (Giddens, Anthony. Ed. *Sociology: Introductory Readings*. 3rd ed. UK: Polity. p. 315) From the perspective of the relation between individual and organization, “the aim of *institutionalization* is to destroy the personal self-image of the individual and replace it with institutional [organizational] self-concept, which makes the inmate more acquiescent and obliging.” (Kirby, Mark and Warren Kidd, Francine Koubel, John Barter, Tanya Hope, Alison Kirton, Nick Madry, Paul Manning, Karen Triggs. 2000. *Sociology in Perspective*. AQA Edition. UK: Heinemann. p. 130)

that such variables as age, religion, intelligence, achievements, or socioeconomic status”⁹⁸.

There are several types of sex discrimination analysed in research literature, which often are overlapping or occurring simultaneously in real life. These are⁹⁹:

- *Blatant sex discrimination* – the unequal and harmful treatment of women that is typically intentional, quite visible and easily documented. It may or may not be illegal under existing laws.
Examples: favouring a clearly less merited male candidate over a clearly more merited female candidate in recruitment; paying men higher salaries for the same work; most forms of sexual harassment, sexist language and jokes, physical violence (rape, incest, abuse), other.
- *Subtle sex discrimination* – the unequal and harmful treatment of women that is typically less visible and obvious than blatant sex discrimination. It is often not noticed because most people have internalized subtle sex behaviour as “normal”, “natural”, or customary.

For example: many people feel deep down that women are really not as good, capable, competent, and intelligent as men; friendly domination; letting women to do the work but men taking the credit; praising women of their accomplishments as women, not because of the accomplishment itself (the “dancing dog effect”) etc

- *Covert sex discrimination* – the unequal and harmful treatment of women that is hidden, purposeful, and, often, maliciously motivated. This form of discrimination can be noticed and documented very seldom.

For example: male behaviour that consciously attempts to ensure women’s failure in hiring or other employment situations; diverse operating behind the scenes, sabotage, stalling, containment, co-optation etc.

Summarized characteristics of these forms of sex discrimination are presented in Table 1.

Table 1. Sex Discrimination Typology

Type of discrimination	Characteristics				
	Visibility	Intent	Degree of harm	Possibility to document	Possibility to remedy
Blatant	High	Usually intentional	Very severe to mild	Always	Definitely
Subtle	Varies	Sometimes intentional, sometimes unintentional	Very severe to mild	Often	Often
Covert	Very low	Intentional	Very severe to mild	Rarely	Rarely

Source: Benokraitis, Nijole and Joe R. Feagin. 1995. *Modern Sexism. Blatant, Subtle, and Covert Discrimination*. 2nd ed. Englewood Cliffs: Prentice Hall. p. 43.

⁹⁸ Benokraitis, Feagin, 2005, *ibid.*, p. 39.

⁹⁹ The following classification and definitions of the forms of sex discrimination are suggested by Benokraitis and Feagin, 2005, *ibid.*

Several scholars have argued that with anti-discrimination legislation implemented in most countries of the world, sex discrimination has not vanished, but taken increasingly subtler and covert forms which are more difficult to observe, demonstrate and oppose ¹⁰⁰.

Any form of gender (sex) discrimination may occur anywhere in the everyday life of a scientific community. Deeper understanding of discriminatory practices in science institutions may be brought by the concept of *gender regime* – an overall pattern of gender relations within an organization as every organization has its own gender regime, which provides the context for particular events, relationships, and individual practices. The concept is based on relational approach to gender, according to which, gender is first of all not a fixed dichotomy, but a dynamic system, “a pattern of social relations in which the positions of women and men are defined, the cultural meanings of being a man and a woman are negotiated and their trajectories through life are mapped out” ¹⁰¹. Thus, being bearers of gender, organizations create and reproduce gender divisions of labour, cultural definitions of masculinity and femininity, and ways of articulating men’s and women’s interests.

Following R. Connell¹⁰², exploration of gender regimes in organizations (including science organizations, indeed) could be grounded on the model encompassing four main dimensions of gender relations. These are (a) Gender division of labour; (b) Gender relations of power; (c) Emotion and human relations; and (d) Gender culture and symbolism.

More specifically, the first dimension – *Gender division of labour* – is the way in which production and consumption are arranged along gender lines, including the gendering of occupations and the division between paid work and domestic labour. In the sphere of scientific institutions, this dimension is well illustrated by statistical data ¹⁰³ and the “scissor diagram” depicting women’s and men’s distributions in academic hierarchies ¹⁰⁴ (thus, different responsibilities and tasks, different workloads, etc.). Also women’s experiences on requirements of choosing between a career in science and family, negative effects of traditional division of labour at home for women’s careers as well as examples of changing gender relations in the domestic sphere are already widely reported ¹⁰⁵.

The second dimension in the Connell’s model – *Gender relations of power* – denotes to the way in which control, authority, and force are exercised along gender lines, including organizational hierarchy, legal power, and collective and individual violence. Men’s power in the field of science is determined not only by a monopoly of official government sources, but by informal power emerging from the patriarchal system - social networks. Not only individual talents and abilities lead to a successful career, but also the socialization processes of scientists. The successful socialization of scientists includes reliance,

100 Caplan, Paula. 1993. *Lifting a Ton of Feathers*. Toronto: University of Toronto Press; Harding, Sandra and Elizabeth McGregor. 1995. *The Gender Dimension of Science and Technology*. London: UNESCO; Husu, Liisa. 2001. *Sexism, Support and Survival in Academia*. Helsinki: University of Helsinki, Social Psychological Studies 6.

101 Connell, Raewyn. 2006. Glass Ceilings or Gendered Institutions? Mapping the Gender Regimes of Public Sector Work-sites. *Public Administration Review* 66(6): 837-849. p. 839.

102 Connell, 2006, *ibid.*, p. 839.

103 *She Figures 2009. Statistics and Indicators on Gender Equality in Science*. Luxembourg: Publications Office of the European Union, 2009; *She Figures 2012. Gender in Research and Innovation. Statistics and Indicators*. Luxembourg: Publications Office of the European Union, 2013.

104 *She Figures 2009, 2009, ibid.*, p. 73.

105 Caprile, et al., 2012, *ibid.*

dependence on other colleagues. This is needed in order to make it easier to get the latest news from scientific literature, technical support, friendship, cooperation opportunities. Being often isolated from or marginalized in these kinds of informal networks a female researcher has little chance of achieving recognition of his/her scientific work in the field. Success is achieved not only by publishing more or making better research, but much depends also of personal contacts, friendships and collaboration with the key actors in the field ¹⁰⁶.

The significance of this patriarchal system in science increases because of formally fostered individualism and meritocratic culture. The domination of the myth of individualism in academic communities leads to the belief that any differences in careers arise primarily from differences in individual effort. While the myth of individual merit is sustained, it seems that those, who occupy top positions are self-sufficient, have reached the top by their individual efforts, although the essential role here is played by an informal peer support system, whereas all who dare to speak out about the need of support or assistance automatically appear as weaker. Isolated from the patriarchal support system that determines a successful career, women cannot take full advantage of pursuing career in accepted ways, while are forced to take the responsibility for the failures on themselves. Furthermore, formally supported myth of individual merit encourages active self-promotion as an effective means to climb the career ladder. Implementation of this strategy for women is difficult, because such behaviour is often seen as inappropriate for women – they do not want to appear too “pushy” or “bossy”. And even those women who manage to reach the top of the hierarchy positions face constant interference or distrust of their expertise – they are thought to have climbed the career ladder too quickly, they do not have significant experience in leadership positions, tend to put a strain on a team, and it is difficult for many men to accept instructions from women and etc. ¹⁰⁷

The dimension of *Emotion and human relations* refers to the way in which attachment and antagonism, including feelings of solidarity, prejudice and disdain, and sexual attraction and repulsion among people and groups, are organized along gender lines ¹⁰⁸. The culture of scientific institutions impose masculine expectations (such as an appropriate working, talking style and etc.), which limits the range of acceptable behaviour patterns. Masculinity becomes a criterion of science and appropriate professional practice. Scientists respond to these expectations while constructing and performing their professional identities, interacting with colleagues and evaluating other scientists. In order to enhance their status as scientists, women themselves support hegemonic masculinity and subordination by engaging in activities depreciating particular women or traditionally feminine behaviours, expressions as supposedly unscientific, avoiding identifying with other women ¹⁰⁹.

Finally, the dimension of *Gender culture and symbolism* is the way in which gender identities are defined in culture, the language and symbols of gender difference, and the prevailing beliefs and attitudes

106 Bagihole, Barbara and Jackie Goode. 2001. The Contradiction of the Myth of Individual Merit, and the Reality of a Patriarchal Support System in Academic Careers. *The European Journal of Women's Studies* 8(2): 161-180. p.166; Williams, Christine L. and Chandra Muller, Kristine Kilanski. 2012. Gendered Organizations in the New Economy, *Gender & Society* 26 (4): 549-573. p. 565.

107 *Ibid.*

108 Connell, 2006, *ibid.*, p. 839

109 Rhoton, Laura A. 2011. Distancing as a Gendered Barrier: Understanding Women Scientists' Gender Practices. *Gender & Society* 25(6): 696-716. p. 697.

about gender. More specifically, cultural dimension concerns the way in which gender is understood, spoken of, marked or symbolized. Traditional cultural gender dichotomy tend to emphasize differences in men's and women's physical capacities (men stronger), character traits (women more patient, men more ambitious), interests (men technical, women human relations), and skills (men understand machinery). Furthermore, historically femininity has always been perceived as an antipode to science, which, accordingly, was thought to be a realm of masculinity. Thus, together with traditional understanding of women as naturally belonging to domestic sphere and men to public, such historically gendered science culture still prevails and structures everyday practices of science community members. Group solidarity, maintained on sexist jokes and entertainment, diminish a possibility for women to be treated as competent members of scientific community.

To sum up, every science organization has its own gender regime – structure of gender relations – produced by a different organizational history. But what is common to the entire scientific sphere – is a historical-cultural identification of masculinity with science and at the same time the claim of scientific neutrality – this combination creates unique conditions for the various forms of gender discrimination. The pattern and extent of gender division and discriminatory practices usually differ in these different substructures of gender relations. This multidimensional model of gender allows seeing detailed gender relations and offers an analytical approach to identifying everyday discriminatory practices in scientific organizations. Although ¹¹⁰ some of sex inequality battles have had positive effects, numerous negative consequences of sex discrimination can be reported. First of all, the individuals (and mostly women) suffer and experience various negative outcomes of facing sex discrimination (e.g. arising physical and behavioural as well as psychological and emotional problems, increased embarrassment and anger, confusion and loss of self-esteem, disillusionment and depression, and personal economic problems). Second, various negative effects of sex discrimination on organizations also can be identified (e.g. lowered productivity, reduced creativity, loss of profits, loss of talent etc.). Finally, sex discrimination may be costly for entire society (e.g. negative effects on health status of particular groups, lowered levels in general trust in organizations and in respect for particular groups, poor return in societal investment on women's education etc.). Sex discrimination is also a fundamental human rights issue.

3.2.2. The political framework

The anti-discrimination legislation in member states started earlier: “gender equality legislation introduced at the national level in the 1970s and 1980s made sex discrimination illegal” ¹¹¹. In 2000 the ETAN Report on the state-of-the-art of women in science stated ¹¹²:

Some of the more obvious and direct forms of discrimination against women have now been removed. These include the lifting of restrictions designed to prevent women from studying and taking degrees in science and from becoming members of academies and professional associations. Other, indirect forms of discrimination have largely been eradicated too, such as marriage bars that enforced women to resign their posts upon mar-

¹¹⁰ Following Benokraitis, Feagin, 2005, *ibid.*, p. 166-177.

¹¹¹ ETAN Expert Working Group on Women and Science, 2000. *Science policies in the European Union Promoting excellence through mainstreaming gender equality*. Luxembourg: Office for Official Publications of the European Communities. p. 22.

¹¹² ETAN..., 2000, *ibid.*, p. 23.

riage. Age bars are an indirect form of sex discrimination as women are more likely to take career breaks for childbearing and rearing.

Notwithstanding, “at the beginning of the twenty-first century, men and women are found segregated into different areas of science” in different ways (i.e. horizontally, as women are clustered in certain areas of science such as the biological and medical sciences; vertically, as women may constitute about half the undergraduates in some disciplines but they are a small fraction of the professoriat; and contractually, as men are more likely to have tenure, meanwhile women are more likely to be on short-term and part-time contracts)¹¹³. Discrimination, which is “the result of systems and structures, which manifestly or subconsciously prop up the bread-winner/ home-maker myth and the model of the ‘gender contract’ between men and women that goes with it”¹¹⁴, can be seen as lurking behind women’s and men’s segregations in science. In other words, it was stated that “there are several factors behind this situation, in particular certain discrimination mechanisms and anticipation of them by women and little attention paid to particular constraints facing women in the conduct of their professional lives”¹¹⁵. It is recognized, that the outcomes are “a loss for women themselves, for research and for society”.

In 2005, the European Commission, reaffirming that “sufficient and well-developed human resources in R&D are the cornerstone of advancement in scientific knowledge, technological progress, enhancing the quality of life, ensuring the welfare of European citizens and contributing to Europe’s competitiveness” called for “Emphasis should be given to eliminating any discrimination and disadvantages for women researchers, especially those linked to maternity” among such things as “researchers should be offered sustainable career prospects at all career stages, regardless of their contractual situation and of the chosen R&D career path” and “researchers should be treated as professionals and play a full role in the institutions in which they work”, “scientific excellence can be improved by promoting gender awareness and fairness”, “evaluation and selection procedures need to be transparent and free of gender bias”, etc.¹¹⁶.

A year later, in 2006, EC approved the *European Pact for Gender Equality*, which stated that promotion of “women’s employment in all age brackets and reduce gender gaps in employment, including by combating all forms of discrimination” is the first among measures to close gender gaps and combat gender stereotypes in the labour market¹¹⁷. And in the same year 2006 the European Institute for Gender Equality - a European agency to support the Member States and the European institutions (in particular the Commission) in their efforts to promote gender equality, to fight discrimination based on sex and to raise awareness of gender issues - was established in Vilnius¹¹⁸.

When it comes to strategy making level, it is acknowledged, that “evidence shows that research performance is limited by the perpetuation of direct and indirect sex discrimination and that promoting

¹¹³ ETAN..., 2000, *ibid.*, p. 22.

¹¹⁴ Marchetti, Raudma, 2010, *ibid.*, p. 107.

¹¹⁵ Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions. *Towards a European research area*. COM(2000) 6 final. Brussels, 18.1.2000 [<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2000:0006:FIN:EN:PDF>]

¹¹⁶ Council conclusions “*Reinforcing human resources in science and technology in the ERA*”. Brussels, 18.4.2005 [<http://register.consilium.europa.eu/pdf/en/05/st08/st08194.en05.pdf>]

¹¹⁷ Council of the European Union, Presidency conclusions. Brussels, 23/24.03.2006, 7775/1/06 REV1 [http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/ec/89013.pdf]

¹¹⁸ Marchetti, Raudma, 2010, *ibid.*, p. 151.

gender equality at all levels contributes to achieving excellence and efficiency”¹¹⁹. Moreover, since the “direct discrimination is relatively straightforward to recognize and address”, the indirect forms of discrimination, which “characterize the policies and processes of many universities, research institutes and companies, are more difficult to identify and put right”. And the main problem is “a lack of awareness of how systems and structures, policies, processes and procedures can be discriminatory, even where the employers have the very best of intentions on fairness and equality”¹²⁰. In addition to that, it is noticed that “an objective appraisal of the data on women in science, however, clearly indicates that, even though overt discrimination is now virtually absent, the most hidden and rooted structures of discrimination are still in place and continue to produce very visible and quantifiable results”¹²¹. Besides that, it should be recognized, that¹²²:

Being hidden, these discriminating structures are not easily detected. They are embedded in the language, in the symbolic dimension, in quite automatic behavioural patterns, in common sense and in well-rooted widespread beliefs. As a whole, they contribute, not necessarily to directly activate discriminatory processes, but rather to create a climate or an environment conducive of discriminatory conditions for women.

As early as 2007, following *Mandate of the Helsinki Group*, the *STRATEGY PAPER for the Helsinki Group* was developed. The paper draws attention to “Development of procedures to eliminate all forms of discrimination and disadvantages for researchers, especially those linked to parenthood”, among other activities targeted on ensuring work/life balance¹²³.

In addition, in this context, it is important to draw attention to the FW7 project PRAGES: Practising Gender Equality in Science which, after accomplishing exhaustive analysis of the varied practices of the programmes tackled at establishing of gender equality in scientific organizations, resulted in development of three strategies: (1) A friendly environment for women; (2) Gender-aware science; (3) Women’s leadership of science in a changing. Indeed, titles of the strategies echo the “three interrelated political approaches” (i.e. Fixing the numbers of women in science; Fixing the institutions; and Fixing the knowledge)¹²⁴. However, here, keeping discrimination in science in the focus, it is important to notice that “documenting gender discrimination”, as it “is essential to counteract the widespread tendency of staff and managers (often including women too) to ‘deny’ the very existence of the problem in their own organisation or to underestimate its dimensions and impacts”, is the first recommendation for achieving the first objective under PRAGES strategy 1 (i.e. A friendly environment for women)¹²⁵. More specifically, two main lines of action are identified in this realm: (a) Usage of highly-structured tools for data collection; and (b) adaptation of participatory approaches to data and information gathering. Also in the rationale for the PRAGES strategy 3 (i.e. Women’s leadership of science in a changing) is

119 *Structural change in research institutions: Enhancing excellence, gender equality and efficiency in research and innovation*. Luxembourg: Publications Office of the European Union, 2012. p. 6.

120 *Structural change ...*, 2012, *ibid.*, p. 19.

121 Cacace, 2009, *ibid.*, p. 24.

122 Cacace, 2009, *ibid.*, p. 24.

123 Marchetti, Raudma, 2010, *ibid.*, p. 69.

124 Schiebinger, L. 2008, Getting More Women into Science and Engineering –Knowledge Issues. In L. Schiebinger, ed. *Gendered Innovations in Science and Engineering*, Stanford University Press, Stanford, pp. 1-21. Cf Caprile, et al., 2012, *ibid.*, p. 28-29.

125 Cacace, 2009, *ibid.*, p. 54.

said that “influencing the epistemological, theoretical and methodological approaches of science and technology is maybe the most ambitious goal an equality-oriented programme can set for itself, dealing with the deepest level from which more evident forms of discrimination may originate”¹²⁶. The goal is highlighted in by other researchers also¹²⁷.

Hence, summing up at this point, it should be noted that this project SAPGERIC report not only gives an account about sectional results of the project, but also supports expansion and extension of EU level policies and implementation of strategic recommendations in the field of coping with gender discrimination in science.

3.2.3. The empirical findings

Statistical indicators on women’s and men’s distributions in academic and scientific hierarchies lead to conclusion, that “although women are more successful than men in completing tertiary education programmes, they are less successful in entering the PhD level and the lowest steps of the academic career”¹²⁸. The fact is followed by a question: why women fall victim to such rarefaction? There are several hypothetical answers to the question: (a) that it is a result of direct discrimination that derives from choices and decisions made by selection committees that are composed mainly of men; (b) that it is a result of indirect discrimination that operates through gender-biased selection criteria; (c) that it is a result of self-censuring rooted in gender stereotypes¹²⁹. Empirical findings and expert evaluations based answer to these and similar questions can be found among results of FW7 project *Meta-analysis of gender and science research*. More specifically, exhaustive analysis of theoretical and empirical research based publications on different gender in science related topics in Europe, USA and other parts of the world during last couple of decades lead to conclusion, that investigation of “more complex mechanisms, such as discrimination and cumulative advantage and disadvantage” could lead to an explanation of gender differences in scientific careers¹³⁰. Moreover, experts maintain that¹³¹:

Gender discrimination is seen to operate at two distinct, although closely connected, levels. The first is the lack of informal support in career advancement that leads to discouragement. The second level refers to bias in formal assessment procedures that leads to unequal access to research funding or academic positions. The definition and assessment of scientific excellence (the recognition of merit) is not independent of gender relations in academia and society at large. Overall, research concurs that women’s poorer networking resources is a powerful, albeit subtle, explanatory mechanism for understanding women’s greater attrition and slower career progression compared to men’s. It works through an accumulative logic of ‘non occurrences’ and slight exclusionary practices that progressively disadvantage women’s careers and cause a sensation of isolation, difficulty in assuming

126 Cacace, 2009, *ibid.*, p. 103.

127 Hearn, Jeff and Liisa Husu. 2011. Understanding Gender: Some Implications for Science and Technology. *Interdisciplinary Science Reviews* 36(2): 103–13; Schiebinger, Londa. 2008. Getting More Women into Science and Engineering –Knowledge Issues. In L. Schiebinger, ed. *Gendered Innovations in Science and Engineering*. Stanford: Stanford University Press, pp. 1-21 cf Caprile et al, 2013, *ibid.*, p. 28-29.

128 *She Figures 2009. Statistics and Indicators on Gender Equality in Science*. Luxembourg: Publications Office of the European Union, 2009. p. 66.

129 *She Figures 2009. ...*, 2009, *ibid.*, p. 66.

130 Caprile, et al., 2012, *ibid.*, p. 189.

131 Caprile, et al., 2012, *ibid.*, p. 189.

the risks inherent to the scientific career and low professional self-esteem. Women's slight disadvantages from the early stages of the scientific career might turn into wide differences in career outcomes.

In addition, the same report provides another important conclusion: “the overall picture of gender inequality in industrial research, nevertheless, appears to be quite similar to that of academia” as “subtle forms of gender discrimination appear to be closely connected to the long hours culture and the lack of flexibility in balancing professional and private lives, shaping a work culture which lacks the atmosphere of inclusiveness” ¹³². However, research also stresses that “human resource management is more developed in industry than in academia and may play an important role in the promotion of an inclusive work culture, with better career support, more transparent recruitment and promotion procedures and a tight focus on recruiting talent and diversity management” ¹³³.

As it was noted in the same report, “gender discrimination in the scientific system is prohibited, but still exists, though it adopts more subtle forms than in the past” ¹³⁴. More specifically, the discrimination may impact on the selection, hiring and promotion procedures, on the distribution of resources or on the assessment of scientific excellence” ¹³⁵. Also the discrimination may have so called a discriminatory snowball effect, which means that women’s under-representation at the highest echelons is an obstacle for the access of young women into the PhD level and the first stages of the academic career ¹³⁶. Hence, the discrimination, structural barriers and cumulative disadvantage appear in a complex mix, which “account for women’s underrepresentation in the highest scientific positions” and calls for further in-depth research ¹³⁷.

Numerous examples of empirical findings depicting various forms and effects of gender discrimination in scientific institutions in different countries can be found in the report *Meta-analysis of gender and science research*. For example, well known ‘scandals’ which drew attention to gender discrimination in science ¹³⁸: the study which found evidence of sexism and nepotism in the peer-review system in Sweden ¹³⁹ and the report which admitted publicly having given less pay and resources to female than to male scientists of equal seniority ¹⁴⁰; the term ‘Mathilda effect’ ¹⁴¹ highlighting the fact that “gender discriminatory practices follow the same logic of cumulative advantages and disadvantages

132 Caprile, et al., 2012, *ibid.*, p. 189.

133 Caprile, et al., 2012, *ibid.*, p. 189.

134 Caprile, et al., 2012, *ibid.*, p. 27.

135 Caprile, et al., 2012, *ibid.*, p. 27.

136 *She Figures 2009. ...*, 2009, *ibid.*, p. 95.

137 Caprile, et al., 2012, *ibid.*, p. 21.

138 Caprile, et al., 2012, *ibid.*, p. 62

139 Wennerås, Christine and Agnes Wold. 1997. Nepotism and sexism in peer-review. *Nature* 387: 341-343; Wennerås, Christine and Agnes Wold. 2000. A chair of one's own. The upper reaches of academe remain stubbornly inaccessible to women. *Nature* 408(6813): 647.

140 [MIT] Massachusetts Institute of Technology. 1999. *A Study on the Status of Women Faculty in Science at MIT*, Massachusetts Institute of Technology. [<http://web.mit.edu/fnl/women/women.pdf>]

141 Rossiter, Margaret W. 1993. The Matilda Effect in Science. *Social Studies of Science* 23(2): 325-341; Lincoln, Anne E. and Stephanie Pincus, Janet Bandows Koster, Phoebe S. Leboy. 2012. The Matilda Effect in science: Awards and prizes in the US, 1990s and 2000s. *Social Studies of Science* 42(2): 307-320; Knobloch-Westerwick, Silvia and Carroll J. Glynn, Michael Huge. 2013. The Matilda Effect in Science Communication: An Experiment on Gender Bias in Publication Quality Perceptions and Collaboration Interest. *Science Communication* 35(5): 603-625.

already explained by the Mathew effect”¹⁴²; B. Bagilhole’s¹⁴³ works attempting to unveil the hidden mechanisms of male domination in scientific institutions; number of studies¹⁴⁴ showing that “that the maternal wall, or family responsibilities discrimination, penalises mothers, women in general as potential mothers and fathers who seek an active role in family care”¹⁴⁵; L. Husu’s research¹⁴⁶, revealing different forms of gender discrimination in science – “sometimes overt, but most often subtle and hidden, and highlighting the role of so-called non-events as an important form of hidden discrimination”¹⁴⁷:

What is really happening may be that ‘nothing happens’ or that something that should take place in the career does not happen: not being seen, heard, read, cited, invited, encouraged. Consisting of non-events, this kind of discrimination is hard to identify and challenge.

Indeed, the enumeration of authors, their findings and theoretical contributions to shedding a light on the discrimination in science as social phenomenon, could be significantly extended. Also EC commissioned studies and other initiatives in the field¹⁴⁸ would expand the list significantly. However, the given examples are sufficient to substantiate the large volume and complexity of the problem as well as vin-

142 Caprile, et al., 2012, *ibid.*, p. 28.

143 Bagilhole, Barbara. 1993. How to Keep a Good Woman Down: an investigation of the role of institutional factors in the process of discrimination against women academics. *British Journal of Sociology of Education* 14(3): 261-274; Bagilhole, Barbara and Hazel Woodward. 1995. An Occupational Hazard Warning: academic life can seriously damage your health. An investigation of sexual harassment of women academics in a UK university. *British Journal of Sociology of Education* 16(4): 37-51; Bagilhole, Barbara and Jackie Goode. 1998. The “Gender Dimension” of Both the “Narrow” and “Broad” Curriculum in UK Higher Education: Do Women Lose Out in Both? *Gender and Education* 10(4): 445-58; Bagilhole, Barbara. 2000. Too Little Too Late? An Assessment of National Initiatives for Women Academics in the British University System. *Higher Education in Europe* 25(2): 139-145; Bagilhole, Barbara and Jackie Goode. 2001. The Contradiction of the Myth of Individual Merit, and the Reality of a Patriarchal Support System in Academic Careers: A Feminist Investigation. *European Journal of Women’s Studies* 8(2): 161-180; Bagilhole, Barbara. 2002. Challenging Equal Opportunities: changing and adapting male hegemony in academia. *British Journal of Sociology of Education* 23(1): 19-33; other.

144 E.g. Wilson, Jacqueline Z. and Genee Marks, Lynne Noone, Jennifer Hamilton-Mackenzie. 2010. Retaining a foothold on the slippery paths of academia: university women, indirect discrimination, and the academic marketplace. *Gender & Education* 22(5): 535-545; Mervis, Jeffrey. 2012. Is Motherhood the Biggest Reason For Academia’s Gender Imbalance? *Science* 335(6072): 1030-1031; Kulis, Stephen. 1998. Organizational Variations in Women Scientists’ Representation in Academia. *Journal of Women and Minorities in Science and Engineering* 4(1): 43-67; Williams, Joan C. 2004. Hitting the maternal wall. *Academe* 90(6): 16-20; Williams, Joan C. 2005. The glass ceiling and the maternal wall in academia. *New Directions for Higher Education* 130: 91-105; Williams, Jamie M. 2012. A review of professor mommy: finding work-family balance in academia. *Journal of Employment Counseling* 49(3): 140-142; other.

145 Caprile, et al., 2012, *ibid.*, p. 83.

146 Husu, Liisa. 2000. Gender Discrimination in the Promised Land of Gender Equality. *Higher Education in Europe* 25(2): 221-228; Husu, Liisa and Louise Morley. 2000. Academe and Gender: What Has and Has Not Changed? *Higher Education in Europe* 25(2): 137-138; Husu, Liisa. 2001. Sexism, Support and Survival in Academia. Academic Women and Hidden Discrimination in Finland. *Social Psychological Studies* 6, University of Helsinki; Husu, Liisa. 2004. Gate-keeping, gender equality and scientific excellence. In E. Addis & M. Brouns, eds. *Gender and Excellence in the Making*. Luxembourg: Office for Official Publications of the European Communities, pp. 69-76; Husu, Liisa. 2005. Women’s work-related and family-related discrimination and support in academia. *Advances in Gender Research* (Gender Realities: Local and Global) 9: 161-199; Al-Gazali, Lihadh and Virginia Valian, Ben Barres, Ling-An Wu, Eva Y Andrei, Jo Handelsman, Corinne Moss-Racusin, Liisa Husu. 2013. Scientists of the world speak up for equality. *Nature* 495(7439): 35-38.

147 Caprile, et al., 2012, *ibid.*, p. 27.

148 E.g. FP6-2004-Science-and-Society-10 project “Network Ethnicity Women Scientists” (NEWS), 2006-2007; ETAN Expert Working Group on Women and Science, 2000. *Science policies in the European Union Promoting excellence through mainstreaming gender equality*. Luxembourg: Office for Official Publications of the European Communities; and Blagojevic, Marina and Maija Bundule, Anke Burkhardt, Marina Calloni, Ene Ergma, Judith Glover, Dóra Groó, Hana Havelková, Dunja Mladenec, Elzbieta H. Oleksy, Nikolina Sretenova, Mioara Florica Tripsa, Daniela Velichová, Alina Zvinkliene, eds. 2003. *ENWISE Waste of talents: turning private struggles into a public issue Women and Science in the Enwise countries*. Luxembourg: Office for Official Publications of the European Communities; *The gender challenge in research funding. Assessing the European national scenes*. Luxembourg: Office for Official Publications of the European Communities, 2009 [http://ec.europa.eu/research/science-society/document_library/pdf_06/the-gender-challenge-in-research-funding-report_en.pdf]; numerous other.

dedicate active researchers' efforts in the field. In results, as it is reported by EU experts, "a gender-mixed composition of nominating commissions, an increase in the objectivity of the applied selection criteria, tutoring of women, or even the fixing of quotas, are all policies that are generally evoked, and in some countries already implemented, to balance out the unequal situation that continues to prevail in the academic sector and works against the discriminatory snowball effect"¹⁴⁹. Numerous examples of initiatives tackled at improving women's situation in research and science organizations can be found reported already¹⁵⁰. It is worth mentioning that in period from 2004 to 2010, the Glass ceiling index decreased in all European countries from 1.9 to 1.8 on average (e.g. in Czech Republic it decreased for 3.12 to 2.12; in Slovakia from 2.9 to 1.9; in Iceland from 2.24 to 1.48; etc.)¹⁵¹. It is believable, the indicators reflect effect of the efforts in the field; thus, substantiate efficiency of structural changes which are implemented heretofore in science and research organizations.

3.3. Experiences of gender discrimination in science in everyday practices

3.3.1. The procedure: collection of the materials

Materials for the film – i.e. the episodes (concretely, stories about cases of women's discrimination) – were collected by means of electronic communication. More specifically, the invitation to share experiences (see Appendix 1) was disseminated among scientific and women-scientists' networks by e-mail. Such strategy of information collection was chosen because of several reasons. First, considering sensibility and possible painfulness of discriminatory experiences as well as possible feeling of risks related to sharing the information, such strategy ensured minimization of informants' potential fear to be recognized. That is, use of electronic communication provided possibility of voluntary and anonymous participation (e.g. informants were free to send their stories from fake e-mail addresses; they were encouraged to anonymize actors of the stories). However, it should be noted that very open responses were received; none of them was anonymous. Such results prove that gender discrimination is not rare and is a rather painful problem in international academia; the problems need to be made more visible, awareness on them to be increased in order to move towards removing and solving them.

Second, the strategy was focused on collection of fresh material (instead of using information from previous studies and explorations, which obviously have informed the analysis of the new material¹⁵²).

Considering peculiarities of humans' psychological traits (e.g. to notice the most frequent accidents,

149 *She Figures* 2012, 2013, *ibid.*, p. 7.

150 See e.g. Cacace, 2009, *ibid.*; Maes, Katrien and Jadranka Gvozdanovic, Simone Buitendijk, Ingalill Rahm Hallberg, Brigitte Mantilleri. 2012. *Women, research and universities: excellence without gender bias*. Belgium: LERU Gender Working Group paper.

151 *She Figures* 2012, 2013, *ibid.*, p. 95-96.

152 It should be mentioned, that the members of the project group have been exploring gender discrimination in science (and related) issues much before the project SAPGERIC. I.e., dr. L. Husu's dissertation *Sexism, Support and Survival in Academia. Academic Women and Hidden Discrimination in Finland*. Social Psychological Studies 6. (University of Helsinki, 2001) and related research, following that, research project "Entering ERA: Social peculiarities of scientific careers in Lithuania" (Funded by Lithuanian Science and Studies Foundation, leaded by dr. A. Novelskaite, 2008) where the same data collection instrument (questionnaire schedule) was used; numerous materials collected accomplish FP6 Project No 017170 *Baltic states network: Women in science and high technology* (BASNET, 2006 – 2007, <http://www.basnet-fp6.eu/>); D. Giedraityte's interview materials collected and analysed for her master theses "Identity formation of the women scientists in physical and technology sciences" from Vilnius university (Lithuania), 2013; such publications as B. Tupa (ed.) *Queen's gambit: the launch of a research career*. Prague: Institute of Sociology of the Academy of Science of the Czech Republic, 2007, and *Women in Science*. Luxembourg: office for Official Publications of the European Communities, 2009; other.

to memorize the most painful experiences and occurrences), we can assume that the information collection strategy permitted of collecting the most actual information.

Finally, it is worth mentioning that a number of letters expressing interest in dissemination of the invitation to share the experiences as well as receiving information about final results of the activity (i.e. the film) was received during the information collection period.

For the film creation purposes, all materials were reframed striving to secure original expressions, but making the stories adaptable for the film scenario. Period of information collection: July-August, 2013. (The extension: September, 2013). All collected materials can be presented, but only anonymously and if formally request.

3.3.2. The results: episodes for the film

In total, during the information collection period in the summer and beginning of the autumn 2013, 8 responses were received to the invitation to share experiences related to gender discrimination in academia in different countries. The collection period occurring around the summer holiday period in many European countries probably influenced the number of responses received. However, usually more than one story was told in the each letter; in some – even 5-6 stories. Thus, in total 20 episodes for the film were developed as a result of careful editing of the narratives. A geographical spread was achieved, as the narratives represent women-scientists' experiences from Bulgaria, Finland, Italy, Sweden, UK, USA; spread by career position was also achieved, since the narratives tell about women's experiences on different levels of academic/scientific hierarchies, i.e. starting from initial stages such as PhD studies and ending with highest levels of independent researcher.

Most of the informants represented field of physics, some working in chemistry or biotechnology. One of the informants had a background in gender studies. A good variety among informants in their professional experience and positions they occupy in the science structure was also reached: we captured experiences of various researchers – starting with a young postdoctoral student, ending with a head of departments, deans, etc. (e.g. the full professor with the longest work record at the university). In general, most of the informants are experienced scientists in their fields and already possess titles of professors or senior researchers, some of them are involved in international research projects, are members of editorial boards of scientific journals for number of years, are members of scientific councils, etc. Moreover, most of the informants have experience of working in international science organizations and teams in European countries as well as in United States of America. Besides, it is worth mentioning, that some of the informants are active in various national and international organizations promoting women in science.

The episodes, developed following collected narratives of personal experiences of gender discrimination in scientific organizations, events, and other related circumstances, were classified in five groups: (1) Sexual harassment, encompassing 5 episodes in total; (2) Every day practices, encompassing 4 episodes; (3) Family issues, encompassing 3 episodes; (4) Gender language/communication, encompassing 3 episodes; and (5) Students' (or studies years) experiences, encompassing 5 episodes. For the detailed content of the film episodes see Appendix 2.

In general, it should be noted, that the classification of the episodes is very provisory, as usually several aspects of gender discrimination display in one episode. For example, the episode 1.1. reports not only on sexual harassment and men's positioning as superior in general, but also draws attention towards institutions as supporting such (usually men's) practices by "not noticing" (or simply ignoring) the cases; the episode 3.3. not merely reveals practices of women's undervaluation in academic environment, but echoes general tendencies in the labour markets (i.e. that average women's salary is smaller than men's in all economic sectors); the episode 5.5. not only draws attention towards gender discrimination by providing better conditions for men and ignorance of women's contributions, but also reveals cases of research ethics violating practices in the university. List of the examples coming from the collected episodes can be much longer, indeed. However these several examples demonstrate that gender discrimination in science is a complex and a many-sided phenomenon, which may be approached (thus, resolved) at all – individual, organizational, societal – levels of social reality and various contexts.

Finally, it should be reported, that strong encouragement and support for the undertaken initiative (i.e. to bring to the light existent discriminatory practices in academic community) as well as a hope to bring significant improvements to academic institutions and practices was expressed in all letters we received.

3.3.3. The scenario

The first movie scenario (see Appendix 3) was created in early autumn 2013 after detailed analysis of conceptual and empirical literature on discrimination as well as exhaustive exploration of authentic discriminatory experiences told (i.e. sent by e-mail) by women scientists. The scenario was a consistent, developing storyline of couple of scientists at their work environment, representing various levels, contexts and forms of gender discrimination emerging in science institutions. However, during the discussion with IPC members, some serious doubts were expressed concerning the idea of using the science fictional metamorphosis element (where man and women scientists accidentally swap their bodies, thus, roles, and experience a day at work from an opposite gender point of view) in the movie scenario, arguing that it may be unclear and complicate the delivery of the main message to a viewer. Therefore, taking into account recommendations of IPC and other team members, a second scenario for a movie was created (see Appendix 4).

In the new scenario (II), the body swap element was omitted leaving the one main character – a woman scientist. The scenario retained the main idea: to illustrate different forms of discriminatory practices on different levels of academic hierarchy and in various scientific work contexts. However, instead of consistent storyline, the scenario was based on separate episodes. The final version of the movie (based on the latter scenario) had slight changes in accordance to IPC and report authors' remarks: in order to reduce the total time of the movie, some introductory, minor shots between the episodes were cut.

The final version of the movie can be accessed following the link: http://files.vsw.lt/Striving_for_awareness_2013_trumpintas.mp4.

3.4. Concluding remarks

- Review of conceptual description of gender discrimination as a social phenomenon suggests that the phenomena can be approached and understood on different - - individual, organizational, societal - - levels as well as in various contexts and frameworks (e.g. legal, commonly shared knowledge, everyday behavioural practices, related to career advancement, to work-life balance, etc.). Also various forms of discrimination - - e.g. hidden and overt, direct, unintended, etc. - - are to be approached at the given levels and in the suggested contexts. Thus, even not being exhaustively detailed, the review reveals multi-dimensionality and multi-variety of the phenomenon in focus.
- The review of EU level political and legal documents demonstrates that gender discrimination in science (as well as in other fields of economic and other social activities) is illegal today. This does not mean that gender discrimination would have finished, but that it has taken more subtle and hidden forms, as demonstrated by an extensive research literature around the topic. There are numerous reports on gender discrimination cases and discriminatory practices and processes in the scientific institutions. The empirically proved evidence suggests that the subtle and hidden forms of discrimination are indeed very challenging to observe and intervene against, and that the efforts thus far are either too weak or simply insufficient to fight the phenomenon in every-day reality. Thus, additional action based contributions and awareness raising actions are needed, such as the activities reported here.
- The initiative – to collect descriptions of experiences of gender discrimination in science from direct witnesses – could be assessed from several sides. On the one hand, a rather small number of responses was received, raising the issue of the appropriateness of the strategy used (dissemination of a call to share experiences by e-mail). This was intensively discussed before starting information collection process. It was obvious, that women-scientists were not very much inclined to share their experiences in such a way, even if the timing of the data gathering around holiday season probably had its impact as well. However, on the other hand, all narratives we received report painful, derogatory, disdainful behaviours. Moreover, expressions of support, encouragement and even gratefulness were sent to the project group in almost every letter. Thus, we assess that this activity is indeed needed and important.

APPENDIXES

1.1. COUNTRY REPORT: LITHUANIA

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Vilnius, 2013

1. STATISTICS ¹⁵³

Over the recent decade gender balance of R&D personnel has barely changed in Lithuania. During the period from 2003 – 2011 the total number of R&D employees working in Lithuanian higher education, government and business sectors has increased from 14.534 to 22.391. The proportion of women among the personnel ranged from 53% to 55%. During this period, employees with a science degree constituted slightly more than one third of the total R&D personnel – ranging from 32% to 37%. Among the group of employees with a science degree women's share was constantly growing (from 38% in 2003 to 46% in 2011), though men still constitute the majority. Whereas among R&D employees with a lowest educational degree (vocational, secondary education etc.) women has always constituted the majority (except in 2010 – 48%) ranging from 53% to 58%. Therefore, after several years from the first publication of Equal Opportunities for Men and Women in Science Assurance Strategy (EOMWSA) in 2008, nowadays situation remains virtually unchanged: in 2011 women still made up a higher proportion of all the R&D employees (54%); however, among the group of employees with a science degree women were still the minority, although their share had grown from 43% to 46%; there was a temporary gender proportion change among the R&D employees with a lowest educational degree in 2010, when males accounted for a higher proportion (52%), but in 2011 this proportion returned to its previous state, where women are the majority – 58%.

In 2008, most of the R&D employees with a science degree were working in higher education sector (i.e. 5137 persons or 81% of all working in R&D); significantly smaller numbers of the scientists were employed in the public (i.e. 971 persons or 15% of all) and business (i.e. 218 persons or 4% of all) sectors. Men constituted the majority among the R&D employees with a science degree in all sectors in 2008 (respectively, 56%, 54%, 73%). During the several last years, gender proportions slightly changed in all sectors: i.e. in 2011 the distribution of R&D employees with a science degree in the sectors of higher education, government and business sectors was, respectively, 84%, 13%, 3%; most of the employees were men in all sectors (respectively, 53%, 52% and 77%).

Women were the majority (59%) among 2595 university students in doctoral studies in 2008/2009. By the year 2011/2012 gender ratio among doctoral students has remained unchanged: during the recent academic year among the total of 2632 students women again comprised the majority (59%).

The number of researchers engaged in R&D activities in the higher education and government sectors differs by fields of science. In 2008 most of the researchers were working in social (2701 or 22% of total), humanitarian (2631 or 22% of total) and technology (2392 or 20% of total) sciences, to a lesser extent – physical (1864 or 16% of total) and medicine (1244 or 10% of total) sciences, at least – natural (711 or 6% of total) and agricultural (462 or 4% of total) sciences. Taking into account gender balance, in 2008 female researchers accounted for the majority in social sciences, humanities, medicine, natural and agricultural sciences (from 64% to 79%), while male researchers accounted for the majority in

¹⁵³ The data for this chapter were collected from several publicly available sources of statistical information: Lietuvos statistikos departamento duomenų bazė (*Database of national statistical office Statistics Lithuania*) [www.stat.gov.lt]; *Švietimas 2008. [Education]* Vilnius: Lietuvos statistikos dept., 2009; *Švietimas 2011. [Education]* Vilnius: Lietuvos statistikos dept., 2012; *Mokslo darbuotojai ir jų veikla 2008 m. [Researchers and their activities]* Vilnius: Lietuvos statistikos dept., 2009; *Mokslo darbuotojai ir jų veikla 2010 m. [Researchers and their activities]* Vilnius: Lietuvos statistikos dept., 2011.

physical and technological sciences (respectively, 54% and 63%). By the year 2010 gender distribution among researchers has remained almost unchanged: most of the researchers were working in social (2953 or 24% of total) and humanitarian (2786 or 23% of total) sciences, to a lesser extent – technology (2360 or 20% of total) and physical (1868 or 16% of total) sciences, at least – medicine (1015 or 8% of total), natural (720 or 6% of total) and agricultural (376 or 3% of total) sciences. In 2010 women accounted for the majority in the same fields of science – social, medicine, humanitarian, agrarian and natural sciences (from 64% to 81%), while in physical and technological sciences men accounted for the majority (respectively, 55% and 62%). It should be noted that during the two years, gender imbalance increased in agricultural (6%), medical (4%), social (2%) and physical (1%) sciences; while gender imbalance decreased (nearly 2%) in humanities, technology and natural sciences.

In 2011/2012, similarly as in 2008/2009, women accounted for the majority of doctoral students in humanities, social and biomedical sciences (from 66% to 70% of total); while men accounted for the majority of doctoral students in physical and technical sciences (respectively, 54% and 63% of total).

Among researchers engaged in R&D activities in higher education and government sectors women comprised the majority (respectively, 62% and 63%) in 2008 and 2010. Also, women accounted for the majority (i.e. 63%) among those without any scientific degree or academic title in these sectors. Meanwhile, those with a scientific degree or associate professor title were men more often than women (respectively, 52% and 57%) in 2008. In 2010 gender imbalance among researchers with a scientific degree and/or associate professor title vanished to equal proportion of 50%.

However, those with the highest – professor or habilitated doctor titles – were mostly men in 2008 as well in 2010; women comprised only a quarter of this group: among the all R&D personnel with a professor title women comprised 15% in 2008; women habilitated doctors made up 18% of all the staff with this title. By 2010 the proportion of women among professors has increased to 19% and the proportion of women among habilitated doctors has increased to 20%. This gender imbalance in science hierarchy is also reflected in data, showing the proportion of women with the highest academic rank among all the female academic staff. According to this indicator, in 2010 Lithuania took the last place from all EU countries: of all the female academics only 2% had the highest positions of professors, while among men the proportion reached 13%.

In 2008, relatively (i.e. counting from the total number of researchers in particular field), the most researchers with a professor title were working in the physical (9% of all the employees) and technological (8% of all the employees) sciences, to a lesser extent – 7% of all the staff in agricultural, medical and humanitarian sciences; the least professors worked in natural (6% of all the staff) and social (5% of all the staff) sciences. Gender imbalance among employees with a title of professor in 2008 was also most pronounced in the physical and technological sciences, where women comprised respectively 4% and 6% of all the professors. Relatively more women (12% of total group of professors) were in agricultural sciences; in natural sciences, medicine, humanitarian and social sciences women made up about 1/4 – 1/5 (i.e. 20-25%) of all the professors in those fields. In 2010 the most researchers with a professor title were working not only in physical and technological sciences (respectively, 9% and 8% of all the

employees), but also in medicine and natural sciences (respectively, 9% and 8% of all the employees); in humanities there were 7% of professors, in natural and social sciences professors accounted for 6% of all the staff. During this period from 2008 to 2010, gender imbalance among those with a title of a professor has increased only in the field of natural sciences (8%). Gender imbalance decreased from 1% (in physical sciences) to 19% (in agricultural sciences) in all the other fields of science. Therefore, in 2010 women comprised almost 1/3 (i.e. 31%) of all the employees with a professor title in agricultural and social sciences; in humanities and medicine – slightly more than 1/4 (i.e. 26%) of all the professors; in natural, technological and physical sciences – only about 1/10 or less (respectively, 11%, 9%, 5%) of all employees with a professor title. While women's share among those without any scientific degree or academic title in all these science fields (except technological sciences) ranged from 53% to 73% in 2008 and from 51% to 74% in 2010; women's share among the group without any scientific degree or academic title in technological sciences comprised 43%.

Analysis of gender distribution in Senates of universities and Councils of science and research institutions¹⁵⁴ has showed that men predominated almost all the highest institutional structures in 2012: in the Senates of state universities the average share of women was 33% (i.e. 22 – 52%), in the councils of state research institutes the average share of women was 35% (i.e. 0 – 73%). On the board of Lithuanian Research Council (LRC), formed in 2008 and operating today, women comprise 44%. However, in LRT committee of humanities and social science women account for only 1/3 (despite the fact, that women are the majority in these fields); the committee of natural and technological sciences is 100% made up entirely of men. In 2012 there were 9 men and 2 women in the Council of the Centre for Quality Assessment in Higher Education (CQAHE). At the same time in the CQAHE committee for higher education institutions assessment there were 7 men and 3 women, in the committee for study programmes assessment – 9 men and 7 women, in appeal committee for study programs – 2 men and 5 women.

Describing gender issues in science in Lithuania in the context of other European countries¹⁵⁵, the country has some exclusive features. For example, in terms of general gender distribution in research and experimental development sectors, Lithuania appears above EU average: in 2009 the average proportion of female researchers in the EU (total of 27 countries) was 33 %, meanwhile the indicator for Lithuanian was 51% (only Latvia had a higher proportion of female researchers, i.e. 52%). This top position is further sustained taking into account analysis of the number of researchers in the total labour force by sex, which reveals that Lithuania (with Turkey, Latvia, and Bulgaria), unlike the rest of European countries, has a higher share of female researchers among active women than the share of male researchers among active men (9% of female researchers per thousand labour force and 8% of male researchers; EU indicator is 7% of female and 12% of male researchers). Lithuania, together with several other countries (Latvia, Romania, Portugal, Croatia), also stands out of the other European countries in terms of proportion of women among researchers working in three sectors: Lithuania takes the first place among the group of countries having 53% of female researchers in Higher Education sector (EU

154 The information was collected from the official websites of Lithuanian universities and research institutes following list of the science and research organizations provided at the system AIKOS at Ministry of Education and Science of the Republic of Lithuania [http://www.aikos.smm.lt/aikos/svietimo_ir_mokslo_institucijos.htm].

155 *She Figures 2012. Gender in Research and Innovation. Statistics and Indicators*. Luxembourg: Publication Office of the European Union, 2013. p. 30, 56, 92, 93, 96. [http://ec.europa.eu/research/science-society/document_library/pdf_06/she-figures-2012_en.pdf]

average – 40%); it takes the fifth place having 53% of female researchers in the Government sector (EU average – 40%); and takes the sixth place having 31% of female researchers in the Business Enterprise sector (EU average – 19%).

Notwithstanding, on the other hand, Lithuania appears as one of the most hierarchically segregated countries in terms of vertical gender distribution in science. That is, although Lithuania has one of the highest proportion of female PhD graduates (58% in 2010, meanwhile EU average was 46%), at the same time Lithuania appears among those countries which have the smallest proportion of female in grade A academic positions (14% compared with EU average of 20%). Also Lithuania takes the last place among other European countries by indicator of the proportion of women with the highest academic rank among all the rest female academic staff; in 2010 it was only 2% of women in grade A academic positions among the all female academic staff (EU average – 7%; for men the indicators were 13% in Lithuania and 17% in EU). Moreover, Lithuania is ranked on the second place among EU countries by Glass Ceiling Index (i.e. 2.69 compared to EU average of 1.80). Besides, the vertical segregation differs in the field of science: the highest proportion of female grade A staff in Lithuania (as well as in EU) was in Humanities (respectively, 27% and 28%); the lowest proportion of the female grade A staff in Lithuania (again, similar as in EU on average) was in Engineering and Technology (respectively, 5% and 8%). Lithuania had the lowest proportion of female grade A staff in this field among all the EU countries. Hence, although horizontal segregation by gender and by fields is not clearly expressed on the PhD level (where Lithuania has higher proportion of female than men in almost every field of science, except Engineering), the segregation becomes especially evident on the higher positions.

2. LEGAL AND INSTITUTIONAL FRAMEWORK

2.1. Parliamentary level

It is important to note that on the national policy level the institutional and legal mechanisms targeted on gender equality in science are almost absent in Lithuania. Therefore, institutional and legal framework related to more general gender equality policy than a specific, oriented towards equality in science, are presented below in this section.

2.1.1. Legal framework

The Article no 29 in the Constitution of the Republic of Lithuania¹⁵⁶ states:

All persons shall be equal before the law, the court, and other State institutions and officials.

The rights of the human being may not be restricted, nor may he be granted any privileges on the ground of gender, race, nationality, language, origin, social status, belief, convictions, or views.

Indeed, entire national legislation is based in the constitutional principles. The *Law of Equal Treatment*¹⁵⁷ prohibits discrimination because of person's sex/gender (in addition to other social sources of inequalities, such as age, race, attitudes, etc.). Additional document, composing legal gender equality framework in Lithuania, is a *Law on Equal Opportunities for Women and Men*¹⁵⁸. This law prohibits any form of – direct or indirect – discrimination based on sex/gender, harassment or sexual harassment as well as instruction to discriminate on grounds of sex/gender either directly or indirectly. The Law lays down the methods for the implementation of the principle of equality between men and women. Each state and local authority, agency must ensure that all the drafted and passed legislation would provide equal rights for women and men, and must develop and implement programs and measures for equal opportunities of women and men. Finally, and in accordance with the procedures established by the laws, to support programs of non-governmental organizations, which contribute to the implementation of equal opportunities for women and men in relevant fields.

Ministry of Social Security and Labour provides the list of “The main legal acts and strategic documents in field of women's and men's equality in the Republic of Lithuania”¹⁵⁹. However the list encompasses only *State program on women's and men's equal opportunities (for several periods)* and a *Report on the implementation measures under the State program on women's and men's equal opportunities (for several years)*, but does not mentions other national level legal documents.

2.1.2. Institutional framework

Responsibility for the supervision and implementation of the above mentioned *Law on Equal Opportu-*

156 *Constitution of the Republic of Lithuania*, 2006-04-25, (Adopted by citizens of the Republic of Lithuania in the Referendum of 25 October 1992) [http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=275302]

157 *Lygių galimybių įstatymas*, 2003-11-18 Nr. IX-1826 [http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=454179]

158 *Lietuvos respublikos moterų ir vyrų lygių galimybių įstatymas*, 1998-12-01 Nr. VIII-947 [http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=454180]

159 Ministry of Social Security and Labour [<http://www.socmin.lt/index.php?1974321278>]

nities for Women and Men (1998) and *Law of Equal Treatment* (2005) in Lithuania is taken by the **Equal Opportunities Ombudsperson's Office**¹⁶⁰. This office was established 14 years ago and since then had been led by an Ombudswoman, who is assisted by rather feminine staff (i.e. 67% of the staff members are women). It is important to note, that according to Office's 2011 activity report¹⁶¹, majority of complaints received are based on discrimination on sex in a sphere of labour relations.

2.2. Governmental level

The above mentioned *Law on Equal Opportunities for Women and Men* obliges each Ministry and municipality to develop and implement programs and measures to ensure the equal opportunities for women and men within their competence.

2.2.1. Legal framework

The legal framework on the governmental level could be defined by two legal documents. First, it is *The National Men and Women Equal Opportunities Program*¹⁶² and the second and directly related to science is *Strategy of Women and Men Equal Opportunities in Science*¹⁶³ (which was passed for period from 2008 to 2012 and later up-dated but not passed by any legal act).

2.2.2. Institutional framework

On the Governmental level, coordination of implementation of gender mainstreaming policy in all areas of social life is delegated to the **Ministry of Social Security and Labour**. The Ministry has been responsible for the implementation of the *State program on women's and men's equal opportunities (for several periods)*. Among aims of the Program for period of 2010-2014¹⁶⁴, several were directed towards field of education and Science (article no 4.2): to ensure monitoring of application of principle of women's and men's equal opportunities in education and science institutions (article no 4.2.1) and to induce women for striving for the highest degrees in science; to induce men to achieve higher education (article no 4.2.2). Also in the field of development of methods and mechanisms for implementation women's and men's equal opportunities: the Program aims at inducement of co-operation among state and municipal institutions, education and research institutions, non-governmental organisations ensuring an equivalent treatment for men and women and equal opportunities for them (article no 4.8.1).

In regard to gender equality in science topic, the three problems are outlined in the Program:

- ✓ Women enrol to higher education to a larger extent, however, they more often choose traditionally feminine fields of study; thus, after completing the studies they go to less promising positions in terms of career and income (article no 47);
- ✓ Disproportionately low number of female scientists occupying the highest scientific and managerial positions (article no 48);

160 LRS nutarimas 1999-05-25 Nr. VIII-1200 *Dėl lygių galimybių kontrolieriaus tarnybos* [http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=221936].

161 Archive of Office activity reports [<http://www.lygybe.lt/lt/metines-tarnybos-ataskaitos.html>]

162 Socialinės apsaugos ir darbo ministerija. *Svarbiausi Lietuvos Respublikos teisės aktai ir strateginiai dokumentai moterų ir vyrų lygybės klausimais*. (in Lithuanian, Ministry of social security and labour. The main legal acts and strategijų documents of the Republic of Lithuania in field of women's and men's equality) [<http://www.socmin.lt/index.php?1974321278>]

163 Lietuvos respublikos švietimo ir mokslo Ministro įsakymas (2008-06-02 Nr. ISAK-1600) *Dėl moterų ir vyrų lygių galimybių užtikrinimo moksle strategijos atvirtinimo* [http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=322040&p_tr2=2]

164 Lietuvos Respublikos Vyriausybės nutarimas (2010-05-04 Nr. 530) *Dėl valstybinės moterų ir vyrų lygių galimybių 2010–2014 metų programos patvirtinimo* [http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=372298&p_query=&p_tr2=]

- ✓ The teachers, experts in education lack competence in the field of assurance of equal opportunities for women and men (article no 49).

For implementation of the *Program on women's and men's equal opportunities for 2010 -2014* a plan of measures was accepted by the Ministry. The plan specifies series of measures targeted on the implementation of gender equality in science also. That is, following to the aim (article 4.2.1) "to ensure monitoring of application of principle of women's and men's equal opportunities in education and science institutions" there were two measures announced to implement it. First, for the year 2011, "to integrate gender equality assurance topics into organized contests for project support". Second, a measure "to organize seminars to change discriminatory attitude towards women and men in education" is settled for the period of 2012-2014. Ministry of Education and Science serves a responsible institution for the implementation of both measures.

Furthermore, according to the aim (article 4.2.2) "to induce women for striving for the highest degrees in science; to induce men to achieve higher education", Ministry of Education and Science together with Lithuanian Academy of Sciences were responsible for implementing the task "to develop recommendations for higher education and research institutions in order to strengthen equal opportunities for men and women researchers" during the year 2012.

The program also defined other aims and measures, which are directed towards gender equality in a broader sense, and which indirectly connects to the field of science and education. These aims are:

- in the field of employment – to improve integration of men and women to labour market after parental leave, to improve conditions for women and men to reconcile family and work commitments. Assigned measures: various forms of training for those who are coming back after parental leave to acquire motivation and skills needed in labour market, dissemination of information about parental rights in a workplace, evaluation of workplaces according to their equal treatment of men and women.
- in the field of EU and international commitment – to ensure implementation of EU and international commitments on gender equality. Assigned measures: to organize a high level meeting on gender mainstreaming in Vilnius, to allocate funds for women non-governmental organizations for participation in the Association of EU women organizations "European Women's Lobby"; to carry out research on the implementation of the United Nations Convention on the Elimination of Discrimination Against Women.
- in the field of methods and mechanisms for implementation of women's and men's equal opportunities – to encourage co-operation among state and municipal institutions, research institutions, non-governmental organisations ensuring an equivalent treatment for men and women and equal opportunities for them; to ensure systematic comparative evaluation of changes in women's and men's status. Assigned measures: to ensure the functioning of women's organizations electronic network and information portal for women; to carry out an advanced research and evaluation of situation of women and men in all areas.

Moreover, *The National Men and Women Equal Opportunities Program* is implemented by joint activities of all national ministries together with non-governmental organizations, social partners, academics, and municipalities are holding continuous program. The coordination, monitoring and accountability of

the program are ensured by the *Women's and Men's Equal Opportunities Committee*¹⁶⁵, operating since 2000. The Committee is composed of representatives from all the ministries, the Statistics Department and non-governmental organizations. The Committee works in close cooperation with the Equal Opportunities Ombudsman, gender study centres at the universities, social partners (i.e. Lithuanian Labour Federation Women's Committee, Lithuanian Labour Union Confederation Women's Centre, Lithuanian Women Labour Union "Solidarity") and non-governmental organizations. The Ministry of Social Security and Labour supports the Commission technically. In addition, *Men and Women Equality Unit*, established at the just mentioned Ministry, prepares reports on the implementation state of *The National Men and Women Equal Opportunities Program for 2010 – 2014 years*.

In 2008, as an accomplishment of particular measures of the *National Men and Women Equal Opportunities Program*, the Ministry of Education and Science confirmed the *Strategy of Women and Men Equal Opportunities in Science*¹⁶⁶. Later on, in 2011-2012, a target project – "Promotion of Gender Equality in Science" (PGES)¹⁶⁷ – was launched aiming at the implementing goals of the Strategy. More specifically, the project was targeted at integration of gender aspect into the system of science management by social, legal and financial measures. The recommendations for Lithuanian science and education institutions on measures for insurance of gender equality in science and science management as well as up-date of the Strategy of Women's and Men's Equal Opportunities in science were among the main project results¹⁶⁸.

It is worth mentioning here, that several empirical studies were accomplished under framework of the project. Results of the studies show that although gender equality regulation and rules are legally defined at the national level, legal documents regulating scientific activities contain attitudes causing inequalities between men and women in science. Also there are rather strong beliefs and stereotypes about gender in science, which contributes to the discriminating attitudes in Lithuania. More specifically, almost half of survey participants reported they believe "a person of the opposite sex who had acquired the same education and started the same career, during the same time would have reached the same stage of career", however notion that men on similar terms would have reached more, was more common among women (while men more often stated the belief that if a woman would be in his position, she would have earned less money). Also men were more likely to believe that women have inherent duty to family and that being a housewife is just as important as work. Meanwhile women acknowledged that it is better for the family when a man earns the money, and woman owns the house and children. Additionally, most of the survey participants tended to agree with idea, that women can work in positions requiring leadership as well as men, and if they want, may achieve the same career

165 Lietuvos respublikos vyriausybės nutarimas (2000-03-07 Nr. 266) *Dėl moterų ir vyrų lygių galimybių komisijos sudarymo ir jos nuostatų patvirtinimo* [http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=358700]

166 Lietuvos respublikos švietimo ir mokslo Ministro įsakymas (2008-06-02 Nr. ISAK-1600) *Dėl moterų ir vyrų lygių galimybių užtikrinimo moksle strategijos atvirtinimo* [http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=322040&p_tr2=2]

167 Lithuanian Academy of Sciences, project LYMOS (in Lithuanian only) [http://lma.lt/index.php?option=com_k2&view=item&layout=item&id=362&Itemid=30&lang=lt]

168 Andriuškevičiūtė, Jadvyga and Aušra Gribauskienė, Agnė Jurčiukonytė, Alicija Kupliauskienė, Vilius Leonavičius, Aurelija Novelskaitė, Živilė Rutkūnienė, Giedrė Purvaneckienė, Nora Skaburskienė, Eugenijus Stumbrys, Virginija Šidlauskienė, Gražina Tautvaišienė, Artūras Tereškinas, Nijolė Vasiljevienė. *Lyčių lygybės skatinimas moksle. BASNET Forumo LYMOS projekto rezultatai [in Lithuanian – Inducement of gender equality in science. BASNET Forumas LYMOS project results]*. Vilnius: BASNET Forumas, 2012.

heights as men; however women have to work harder in order to gain the recognition of their qualifications. Finally, most of the survey participants were inclined to believe, that the number of women in science is limited because of their devotion to family and general tenacious attitude to give preference to men's initiative. And a scientist is perceived as capable of analytical thinking, open to innovation, insightful and creative – the characteristics which are applied more to men, than women. Also another study, accomplished by the Social Research institute among Lithuanian scientific community in 2008 – “Social security of scientists”¹⁶⁹ – showed that only slightly more than one third of scientific community thought that women and men scientists have equal opportunities in Lithuania (women constituted 18% of those supporting this claim). Moreover, the study “Copyright laws in science communication”¹⁷⁰, accomplished by Vilnius University in 2008, revealed the trend of continuous growth of male scientists' seniority and a rapid start of women scientists' seniority after 1990, meanwhile in Biomedical sciences for both men and women seniority as well as growth of total number of researchers was even. The latter results suggest that individual scientific areas are characterized by different scientific standards of performance, which determine different effects on women and men in various research activities within different scientific cultures.

2.2.3. Resources

The funding for the implementation of the Program comes from the state budget – from pre-approved general appropriations for the ministries and agencies involved in the implementation of the Program – and other sources of funding, as well as with the support of the EU funds. According to a plan of the implementation measures¹⁷¹, there might be assigned other funds, received in accordance with the procedures based on legislation of the Republic of Lithuania. The preliminary budget required for the implementation of the Program measures for five years (2010-2014) was 974000Lt. For the above mentioned science and education oriented measures, the amount of 15000 Lt was planned. However, it must be noted that part of the planned measures had no estimated cost, so the budgeted was of intentional nature.

Analysis of the Lithuanian state budget expenses for 1999-2006¹⁷² lead to “unexpected conclusion: in fact, the state budgeted is based on principle of gender”. That is, such fields of activity as national defence, government, public order as well as export oriented brands of industry (oil and its products), sectors of finances, energetic services, etc. – the fields which are dominated by men – receive the largest portion of budgetary funding; meanwhile the fields where women compose majority – i.e. education, culture, health care, social security – are funded on principles of residuals. All this denotes existence of gender asymmetry in distribution of budgetary expenses; such practice not only has negative effect on national economics, especially national incomes, but also justifies and induces gender inequality in the country.

169 Lazutka, R. *Mokslininkų socialinės garantijos*. Baigiamoji tyrimo ataskaita. (in Lithuanian, *Social guarantees of scientists*. The final report), 2008. p. 21, 87. [http://www.smm.lt/smt/docs/eksp_stud/Mokslininku%20socialines%20garantijos.pdf].

170 Stonkienė, M., Atkočiūnienė, Z.O., Matkevičienė, R. *Autorių teisės mokslo komunikacijoje. Lietuvos mokslininkų kūrinių, publikuojamų valstybės remiamuose moksliniuose žurnaluose, teisinė intelektinės nuosavybės apsauga*. Baigiamoji ataskaita. VU-ŠMM, 2008. p. 173, 174. [http://www.smm.lt/smt/docs/eksp_stud/MOKSLO_KURINIU_INT_LIETUVOJE_ataskaita.pdf].

171 Lietuvos Respublikos Socialinės apsaugos ir darbo Ministro įsakymas (2010-07-08 Nr. A1-323) *Dėl valstybinės moterų ir vyrų lygių galimybių 2010–2014 metų programos įgyvendinimo priemonių plano patvirtinimo* [<http://tar.tic.lt/Default.aspx?id=2&item=results&aktoid=145B7E8D-80CB-435E-98F1-B5C755E6F1B9>].

172 Rakauskienė, Ona Gražina ir Vaida Lisauskaitė. *Lyčių aspekto integravimas į biudžetą*. Vilnius: Lygių galimybių plėtros centras, 2008. p. 83-88. [http://www.gap.lt/images/publikacijos_img/lyciuaspektai3.pdf].

2.3. Scientific research level

2.3.1. Legal/normative framework

The main legal document defining Lithuanian science and education institutions is a *Law on Higher Education and Research*¹⁷³. However, the Law does not mention gender (e.g. women and/or men as social categories) as such. Thus, gender equality question remains untouched here. However the issue is mentioned in the internal documents of science and education institutions. More specifically, there are established Academic Ethics Committees in every Lithuanian University. Despite thenational level analysis of research ethics related organizational documents at Lithuanian science and education institutions in 2010 -2011 ¹⁷⁴ had not been focused on gender, a purposeful review of ethics codes reveals that gender aspect is integrated in these documents by stating that, for example, “Academic ethics is violated if ... students or colleagues are discriminated by language, actions or academic assessment on ... sex or sexual orientation ... as well as the tolerance of such discrimination” ¹⁷⁵, “discrimination of colleague, defamation by language, actions or academic assessment due to the person’s sex or sexual orientation” ¹⁷⁶, “members of academic community do not discriminate or put indignities upon each other by language, actions or academic assessment due to sex, sexual orientation, marital status, type of work, etc.” ¹⁷⁷. Unfortunately, in most important documents regulating science institutions (statutes, ethics codes) gender usually appears as only a formal aspect and is often lost among other formal statements defining the equality of all the persons refereeing to other dimensions (e.g. age, achievements, etc).

2.3.2. Institutional framework

Inside the science and education institutions, active gender studies centres can be found only in three universities in Lithuania. These are Vilnius University Gender Studies Centre (<http://www.lsc.vu.lt/lt/>), Siauliai University Gender Studies Centre (http://www.su.lt/index.php?option=com_content&view=article&id=166&Itemid=971&lang=lt) and the Centre for Gender Studies of Kaunas University of Technology (<http://ktu.lt/smf/turinys/lyciu-studiju-centras>). Symptomatically (thinking about old tradition of association of term “gender” with “women” exclusively), all the centres are led by women. The centres focus on general social issues related to gender (mostly – women); attention to the gender issues in science is extremely rare and fragmented. In addition, while there is an informal network of gender studies and research bringing together 26 scientists and connecting the major Lithuanian universities, however, only some of members of the network focus their research and other activities on gender issues in science.

In this context, it is worth mentioning the unique initiative in Lithuania – a project “Family planet – family friendly organization”, conducted under EC initiative EQUAL at Siauliai University in 2004-2006¹⁷⁸. The project revealed that traditional discourse of work prevails in some Lithuanian universities (thus, it

173 *Law on Higher Education and Research*, 2009-04-30 No XI-242 (As last amended on 24 April 2012 – No XI-1987) [http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=438419]

174 Research project „Research ethics status in Lithuania: the situation analysis“, MIP-37/2010.

175 Klaipėdos universiteto pedagoginių ir mokslo darbuotojų etikos kodeksas (in Lithuanian, Klaipėda university ethics code of the pedagogical and scientific staff) [www.ku.lt/etika/doc/etikos_kodeksas.doc]

176 Lietuvos energetikos instituto Etikos kodeksas (in Lithuanian, Ethic code of Lithuanian institute of energetic)

177 Kauno technologijos universiteto Akademinės etikos kodeksas (in Lithuanian, Academic ethics code of Kaunas university of technology) [http://ktu.lt/sites/default/files/bylos/Apie/1_nutarimo_priedas_akademines_etikos_kodeksas.pdf].

178 Inčiūrienė, Sigita. ŠEIMOS PLANETA: harmoningos bendruomenės link (in Lithuanian, Family planet: towards harmonized community) [<http://family-friendly-university.su.lt/straipsnis.htm>]

is likely in most), there is divergence in interest to develop university as a family-friendly organization, family needs of University members are treated as informal and less valuable, there is lack of communication and management skills, lack of time and space for managing family and work role balance.

In addition, it is worth mentioning that a study “Lithuanian schoolgirls and female students in exact sciences”, funded by Lithuanian Ministry of Science and Education in 2007-2008 ¹⁷⁹ revealed that Lithuanian Universities’ newspapers tend to present quite stereotypical gender images in the context of science and by this not only reinforce the prevailing stereotypical images of women and men in science, but also form new gendered attitudes. Also the study demonstrated that female students in physical and technological sciences face harsh attitudes against women during the study process at university. The environment is highly de-motivating and forcing young women to retreat from these fields of science. Accordingly, this leads to a growing gender imbalance on the higher levels of academic hierarchy in different fields of science. Moreover, although gender equality is highlighted in 2008 approved curricula and special courses on gender equality are organized for schoolmasters, teachers of exact sciences at secondary school level lack understanding of gender issues and awareness towards gender equality. Therefore, teachers (un)consciously shape stereotypical attitudes towards gender of their pupil. Respectively, last class secondary school students already have fairly strong attitude, that exact sciences are not as attractive and suitable for girls/women, like they are for boys/men. Accordingly, girls are less inclined to choose the latter fields of science as a study object in higher education system.

2.3.3. Resources

To our knowledge, there is no targeted funding for gender in science issues on the level science and education institutions in Lithuania. The only exclusion was above mentioned LYMOs project, which suggested fellowships for female and male scientists returning after maternity/paternity leaves.

¹⁷⁹ Novelskaitė, Aurelija ir Giedrė Purvaneckienė, sud. *Moteris fiziniuose ir technologijos moksluose: mokinė, studentė, mokslininkė*. (in Lithuanian, A woman in physical and technological sciences: a schoolgirl, a female student, a woman-scientist). Vilnius: VU leidykla, 2011.

3. NON-GOVERNMENTAL, PUBLIC LEVEL

On the non-governmental level (or on public dimension), there are several national and international NGOs which focus their activities directly on gender equality issues. However, just several of them unite women-members of academic community and only one works directly towards improvement of women's position in science.

3.1. Legal/normative framework

To our knowledge, there is no any legal framework defining gender equality in science issues on the public level. The only general provision is stated in Constitution Article no 35¹⁸⁰:

Citizens shall be guaranteed the right to freely form societies, political parties and associations, provided that the aims and activities thereof are not contrary to the Constitution and laws.

No one may be compelled to belong to any society, political party, or association.

Hence, the Constitution ensures freedom to establish gender equality targeted associations (thus, non-governmental organizations also) and ensures citizens' right to participate in their activities.

3.2. Institutional framework

The only non-governmental organization, which targets all its activities onto gender in science issues is an international association BASNET forum (<http://www.basnetforumas.eu/>). The association has been created following the FP 6 project "Baltic Cooperation Network: Women in Science and High Technology" (2005-2006). Now it is "is an international association based on the member institutions of the unique network linking women scientists working in the sciences and high technology and science policy makers for insurance of equal gender opportunities in sciences in the Baltic States region". The mission of BASNET Forumas is to mobilize the efforts of members to support the implementation of BASNET Women in Sciences strategy in the BALTIC States region; The Vision of the association is gender-sensitive and women-friendly system of S&HT, the gender-balanced and gender-aware academic community, where both counterparts has equal opportunities to develop and fully exploit her/his talents of researching, teaching, administrating, and policy making at all levels of institutional hierarchies in S&HT. Activities of the BASET Forumas are concerned with:

1. Monitoring and analysis of Baltic States science policies targeted to gender-sensitive and women-friendly system of S&HT;
2. Mobilization of international efforts of social partners for the implementation of BASNET strategy in the Baltic States region; Coordination of BASNET network;
3. Accumulation and dissemination of good practices in solving women in science problem;
4. Updating and analysis of BASNET Data basis;
5. Other activities to improve women in sciences situation in Sciences and high technology.

It is worth mentioning that significant contribution to the functioning of the institutional mechanism brings European Institute for Gender Equality (<http://eige.europa.eu/>), which was established

¹⁸⁰ *Constitution of the Republic of Lithuania*, 2006-04-25, (Adopted by citizens of the Republic of Lithuania in the Referendum of 25 October 1992) [http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=275302]

in Vilnius in 2006 and is the first EU agency on gender equality in the region – “a European agency which supports the EU and its Member States in their efforts to promote gender equality, to fight discrimination based on sex and to raise awareness about gender equality issues”. The main objectives of institute are: to contribute to the promotion and strengthening of gender equality, to raise EU citizens’ awareness of gender equality issues, provide technical assistance to European Community institutions dealing with gender equality issues, in particular the European Commission and authorities of Member States. The EIGE’s tasks are to collect and analyse comparable data on gender issues, to develop methodological tools, in particular for the integration of the gender dimension in all policy areas, to facilitate the exchange of best practices and dialogue among stakeholders, and to raise awareness among EU citizens.

Moreover, being a member of the EU, Lithuania experiences the influence to the general situation of gender equality in science coming from organizations and structural units on EU level. Such organizations, specifically oriented towards gender equality in science, are Helsinki group of women in science (<http://cordis.europa.eu/improving/women/helsinki.htm>) and the European Platform of Women Scientists (<http://www.epws.org/>). Having Lithuanian representatives in these structures not only speeds up the information flow from Lithuania to other EU member states, but also accelerates flow and dissemination of the EU-level information to Lithuania.

On the national level, there are some non-governmental organizations working in field of gender equality in general. These are *Kaunas Women’s Employment Information Centre* (<http://www.muic.lt/>), with a mission to “improve the situation of women in Lithuania, solving their problems of employment, business creation and development, leadership training, influencing public policy on equality issues”; the *Social innovation Fund* (<http://www.lpf.lt/>), with a mission “to achieve gender equality and equal opportunities for all through social innovation and education”; *Centre for Equality Advancement* (<http://www.gap.lt/>), which its shareholders are the Office of the Equal Opportunities Ombudsman and NGO Kaunas Women’s Employment and Information Centre, and which activities present a continuation of the Open Society Fund-Lithuania Women’s programme that was active in 1997-2002, expanding its scope in an attempt to unite the activities of governmental and nongovernmental organizations working in the field of gender equality in Lithuania.

For many years the horizontal cooperation between the institutions working towards establishing gender equality in Lithuania has been supported by the only Information Web Page for Women and the electronic network of women organizations, both of which are supported by the *Women’s Information Centre* (<http://lygus.lt/mic>). This portal and the electronic network comprises about 130 politicians, list of public institutions, non-governmental organizations, social partners, researchers, and other experts in the field. Such a network is currently the fastest and the most efficient way of communicating and encourages cooperation among all institutions working in the field. It should be mentioned that although gender equality issues in science are not in the focus of the latter mentioned public organizations, their existence and activities create a favourable background for discussions targeted on gender in science issues in Lithuania.

3.3. Resources

The resources of the BASNET Forumas association are based on (a) Membership fee and (b) Financial Contributors from Lithuanian Science Council and European Funds¹⁸¹.

The EIGE's budget for the period 2007-2013 amounts to €52.5 million. The Institute will employ approximately 30 staff during 2010 and in the near future plans to recruit seconded national experts to enhance its expertise in the field of gender equality¹⁸².

The implementation of the above mentioned *Law on Equal Opportunities for Women and Men* is based on co-operations of non-governmental organisations, universities, social partners and other agents. The provision of article no 3 is approved in the implementation plan of the program ¹⁸³, where part of the measures (as well as resources needed for their implementation) are assigned to be accomplished by such non-governmental organisations as *Kaunas Women's Employment Information Centre* and other social partners.

181 BASNET Forumas. Resources [http://www.basnetforumas.eu/index.php?option=com_content&view=article&id=57&Itemid=110&lang=en]

182 About EIGE [<http://eige.europa.eu/content/about-eige>]

183 Lietuvos Respublikos Socialinės apsaugos ir darbo Ministro įsakymas (2010-07-08 Nr. A1-323) *Dėl valstybinės moterų ir vyrų lygių galimybių 2010–2014 metų programos įgyvendinimo priemonių plano patvirtinimo* [<http://tar.tic.lt/Default.aspx?id=2&item=results&aktoid=145B7E8D-80CB-435E-98F1-B5C755E6F1B9>]

1.2. COUNTRY REPORT: NORWAY

Author: Svandis Benediktsdottir, *Norwegian University of Science and Technology, Norway*

Trondheim, 2014

1. STATISTICS ¹⁸⁴

The situation in Norway is the same as in other parts of Europe. Women do not have the same access as men to the highest positions in the research sector. In other words, talent is at stake, and an active effort is needed to achieve more gender balanced recruitment.

Two aspects of gender equality efforts in academia are unique to the Nordic countries. First, statistics on education and research in the Nordic region have been available by gender since the 1980s, and even earlier in some countries, which has been crucial for developing adequate data on gender equality measures in academia. Secondly, gender equality in academia has developed into a separate policy area, often parallel with the public research funding for women's studies and research. This research has helped to set the agenda for gender equality policy in academia and establish knowledge for the area.

The Nordic countries were among the first to enact legislation and establish government enforcement mechanism in the field of gender equality. The first gender equality laws and national action plans or programmes were introduced in the 1970s and 1980s, and separate administrative mechanisms and systems to promote gender equality were established in all the Nordic countries. In 2010, a committee consisting of prominent social scientists was asked to study the Norwegian gender equality based on life cycle, ethnicity and class. "Skjeie – 2010". They concluded that it is primarily education and the labour market that need a boost in gender equality in the years to come, after many years of public efforts to shape gender equality at home and facilitate the combination of family and work life balance. They pointed out that the Norwegian educational and employment system are highly segregated on gender, which has serious negative consequences for the distribution of money and power in the Norwegian society. It can also be a challenge for the equality work in Norway that people might think that we have already achieved gender equality, so there is certainly no point in fighting for it. Another idea that could prevent further work for gender equality is the idea that equality almost happens by itself.

Although Norway still has many challenges before reaching better gender balance in higher positions in Academia, there are some positive measures that might bring the process further the years to come. An interesting thesis by researcher Matthias Wullum Nielsen "Gender Equality in Scandinavian Academia: A comparative Perspective" compares the efforts of six Scandinavian universities to promote gender equality among their research personnel through their own gender equality strategies, action plans and other documents on gender equality.

The University of Oslo and the University of Bergen are the Norwegian university involved in the study, along with Uppsala University and Lund University and the Copenhagen and Aarhus University in Denmark.

According to Nielsen, the universities arguments give a strong indication of how they perceive and understand the concept of gender equality and what their notion or the "gender equality university" entails.

¹⁸⁴ Source: Norsk likestillingshistorie 1814-2013, Fagbokforlaget 2013; Source: Kilden – Information Center for Gender research in Norway (12.11.2013)

All six of the universities in Nielsen's study argue for gender equality using instrumental arguments related to usefulness. "The utilitarian arguments involve the role of women as untapped potential in the growing international competition for talent, international reputation, innovation and quality. This pervades all six universities legitimization of their gender equality efforts" says Nielsen.

In addition to studying equality texts, Nielsen compares the various measures implemented at the six universities "It's clear that Norway is the leader in Scandinavia when it comes to using structural, systematic measures to bring about change" says Nielsen. The measures include the recruitment of academic personnel to associate professor and adjunct professor positions, moderate gender quotas and financial incentive schemes. "Structural measures like these plays a crucial role in career opportunities for female researchers in academia" he says.

Gender balance is critical for the quality of research, the relevance of research to society, and the competitiveness for research institutions. Recruitment of both genders to research has been good for many years. Although women currently comprise the majority of students and research fellows and almost half of the permanent academic staff they held only 24 per cent of professorships at Norwegian universities colleges in 2012. These results show that there is still a way to go. Even in areas where women constitute the majority of doctoral students, it is men who comprise the majority of those recruited to research careers at the senior level.

Statistics on science and teaching, Research and Development (R&D statistics), is in Norway compiled every other year. NIFU Nordic Institute for Studies in Innovation, Research and Education is responsible for statistics on the university and university college sector (the UoH sector/University and College sector) and the institute sector, while Statistics Norway is responsible for the business world

1.1. The university and university college sector

The female representation in academic positions at the universities was 41 percent in 2010. In 2010 the share of women among the researchers was highest at the state university colleges (52 per cent). In 2012 the female representation in academic positions at the universities had increased to 42 percent, and for university colleges it was 54 percent, which is the highest among the state research institutions. The Norwegian School of Economics has relatively low representation of female representations in academic position. In 2010 the share of women in academic positions was 25 percent; in 2012 it has increased to 29 percent.

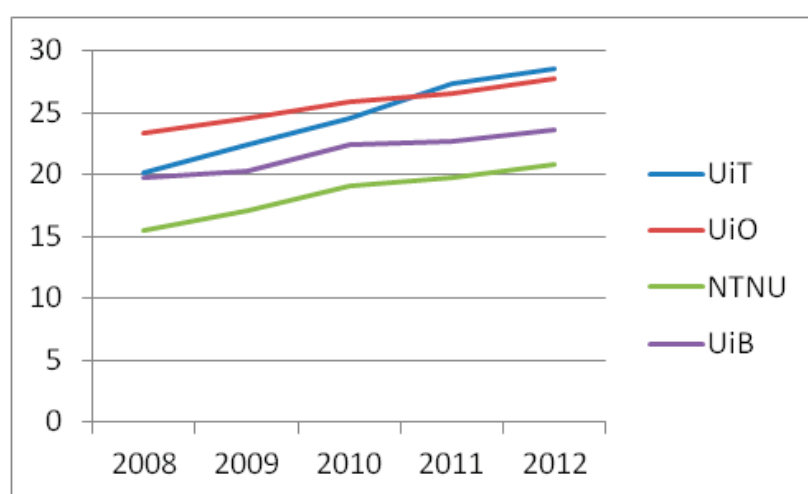
At the Norwegian Academy of Music the female representation in academic positions were 31 percent in 2010, two years later it was still the same. On the other hand at the Norwegian School of Veterinary Science the female representation in academic positions was 54 percent in 2010, and in 2012 it has increased to 56 percent.

Academic positions – professors

- In 2010 the share of women among full professors in the University and College sector was 21%, an increase of one percentage point from 2009. In 2012 the share of woman in full professor positions was 24, 1%.

- In 2010 humanities and medical and health science had the highest share of women among full professors, 28 %.
- Engineering and technology had the lowest share of women among full professors in 2010 with a share of 10 %. In 2007 technological subjects had the lowest female ratio with 6 %.
- The University of Oslo had the highest share of women both among full professors and associate professors in 2008. In 2012 The University of Tromsø – the arctic University of Norway had 28, 5% female professors, a rise from 12, 1% in 2003. In 2012 they have the highest proportion of female professors in Norway, 28, 5%. These results are due to great efforts among the university leadership.
- The lowest proportion of female full professors in 2008 was found at the University of Stavanger 12, 4%. In 2012 the ratio was 20, 5%., which is very good.

Figure 1. Proportion of female professors at the four largest Norwegian universities 2008-2012

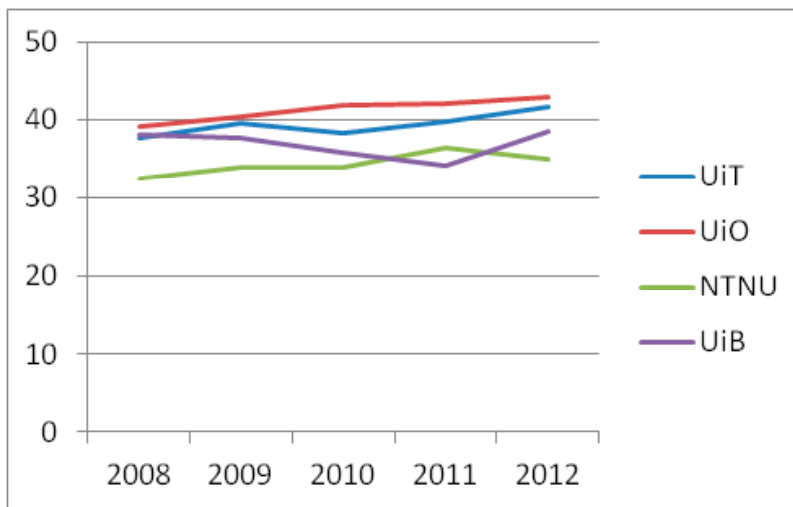


UiT	University of Tromsø
UiO	University of Oslo
NTNU	Norwegian University of Science and Technology
UiB	University of Bergen

Source: Norwegian Social Science Data Service/Research and Educational/Database for Statistics in Higher Education)

As shown in Figure 1, all four of the largest universities have seen an increase in the proportion of women at the professor level in the past 5 years. This same trend occurs in other parts of the sector as well. All the same, overall progress in these areas has been too slow, and it is clearly slower than could be expected if women and men had the same career development after degree completion (60 per cent women).

Figure 2. Proportion of female associate professors at the four largest Norwegian Universities 2008-2012



Source: Norwegian Social Science Data Service/Research and Educational/Database for Statistics in Higher Education)

As shown in figure 2. All of the universities have seen an increase in the proportion of women in associate professor positions the last 5 years. The same progress as seen in proportion of female professors. In 2008 the Norwegian University of Science and Technology (NTNU) had lowest rate of associate professors with 32, 5 per cent. The University of Oslo had highest rate in both 2008 and 2012, with nearly 40 per cent (39, 2 %) in 2008, and 42, 9 per cent in 2012. The Norwegian University of Norway (NTNU) had lowest rate in both 2008 and 2012. In 2008 it was 32, 5 per cent, and in 2012 it was 25, 1. NTNU is specialized in technology and natural science, which traditionally is dominated by men.

Academic positions – research fellows

- The share of female research fellows fell in the period 2009-2010 from 53 to 52 %. In 2009, 47 % of postdocs were women. In 2012 it was the same.
- In 2007 was the first year that female PhD candidates outnumbered their male counterparts. In the first half year of 2012 there were 747 doctoral disputes at Norwegian universities and colleges. This is an increase of 46 from the first half of 2011. Total of 377 women, and 370 men.

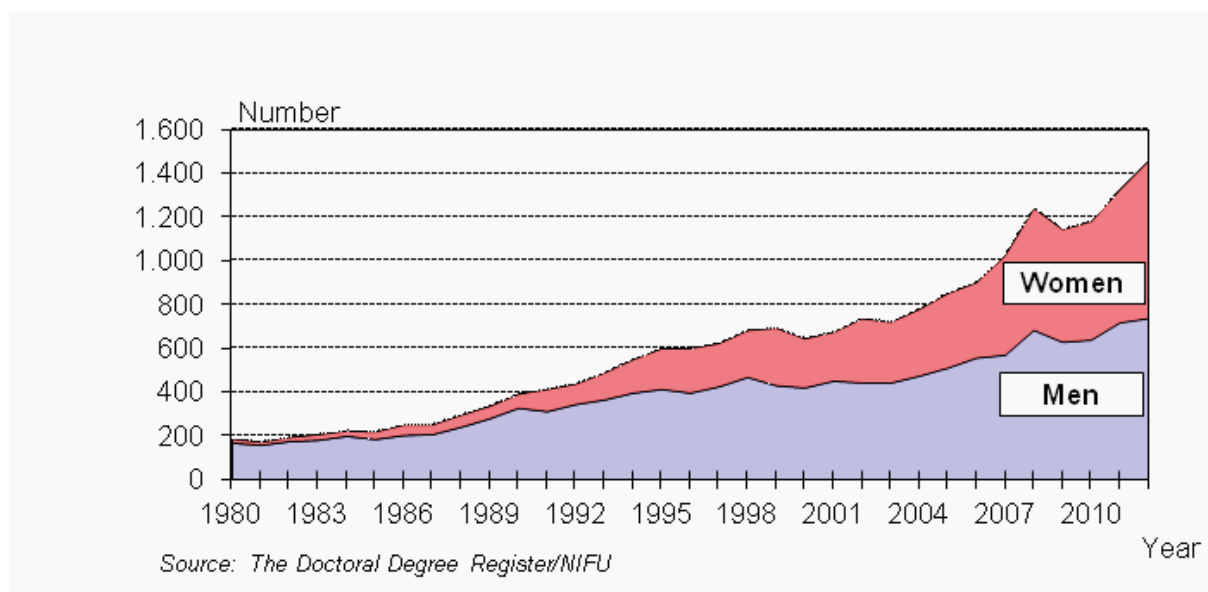
Universities, female and male representation in other positions (2008-2012):

- Academic director: 66, 7 % women, 33 % men for the period from 2008 – 2012. The same ratio every year.
- Full professor: 19, 5 % women and 85 percent men in 2008. In 2010 22, 3 % women and 77 % men. In 2012, 24, 1 % women and 74, 9 % men.
- Associate professor: 34, 9 % women and 61, 9 % men in 2008. In 2010 36 % women and, 64 % men. In 2012, 38, 7 % women and 61, 3 % men.

1.2. The institute sector ¹⁸⁵

- In 2008, 38% of the researchers in the institute sector were women. (37% in 2007).
- The national faculties of social sciences had the highest female representation with 49% in 2007.
- 35% of the female researchers in the institute sector had in 2008 a PhD degree (33% in 2007).
- At the enterprise-oriented institutes women made up 30% of the Researchers staff that had a university or university college degree in 2008 (27% in 2007).
- At the public-oriented institutes women made up 41% of the researchers staff that had a university or university college degree in 2008 (the same as in 2007).

Doctoral degrees 1980 – 2012 by gender

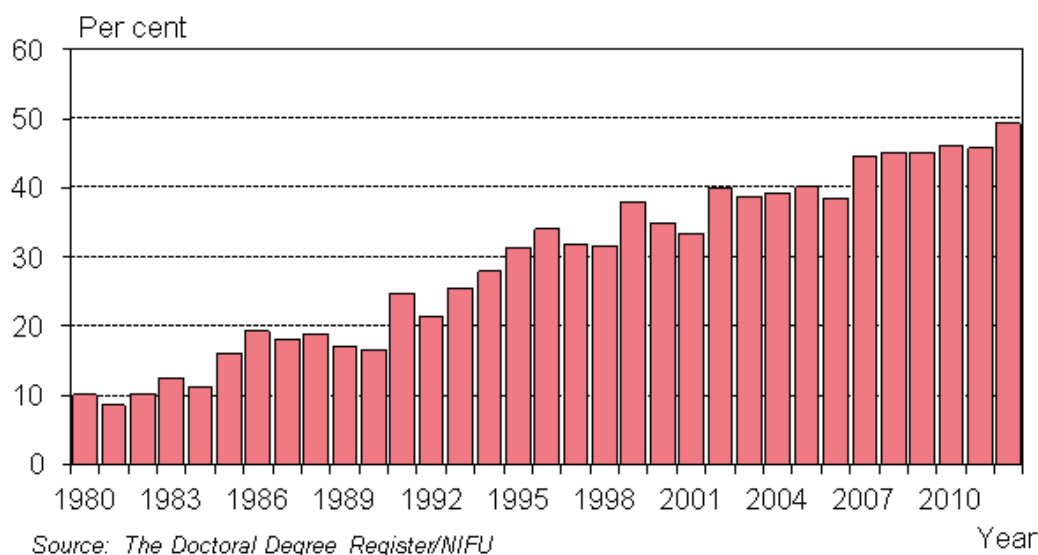


Since 2010 the proportion of women PhD candidates has increased significantly. In the first half of 2010 it was 46 percent.

The gender distributions diverge. While the proportion of women is nearly 60 percent of doctoral degrees awarded in medicine and health, the proportion of women in math science and technology was just over 20 percent.

¹⁸⁵ Source: NIFU/DBH: Women in Science, June 2008, March 2010, and December 2012)

Doctoral degrees 1980 – 2012, Percentage women



2009:

In 2009 1 148 persons defended their dissertation at Norwegian universities and university colleges. This is a decline of almost a hundred persons compared to 2008, where 45 per cent of the PhD graduates were women, the same percentage as in 2007 and 2008. In most of the subject fields the number of women and men were roughly equal. Within mathematics/natural sciences women made up 38 per cent in 2009, while the number of women in technology has increased considerably from 20 per cent in 2007 and 2008, to 30 per cent in 2009. 28 per cent of the PhD graduates were persons with foreign citizenship. PhDs in 2009 per subject field and gender:

- The humanities: 54 women and 54 men finished their PhD degree
- The social sciences: 114 women and 137 men finished their PhD degree
- Mathematics/the natural sciences: 106 women and 171 men finished their PhD degree
- Technology: 39 women and 89 men finished their PhD degree
- Medicine and health sciences: 178 women and 158 men finished their PhD degree
- Agriculture/veterinary medicine: 27 women and 21 men finished their PhD degree

1.3. Education

The number of students at Norwegian universities and colleges increased from about 214 200 in 2008 to 221 600 in 2009. Women and men have reached an equal number of gains in enrolment. Female and male students reached the same rate of growth in 2009 compared with a much faster rate to the benefit of women in 2008.

Less females completed tertiary education for the first time in several years in 2007/08. Approximately 34 100 tertiary degrees were completed by students in 2007/08; a fall of 400 graduations compared with 2006/07. The drop is explained by a declining number of females who completed tertiary education

Fewer female graduations had the greatest impact in the field of Health, welfare and sport. Almost 400 less graduations were awarded to women in this field of education in 2007/08 compared with 2006/07. The largest increase was in Business and administration. In Science, there were 120 less graduations at undergraduate level but the number remained stable at graduate level.

A total of 84 and 72 per cent of the graduations from Health, welfare and sport and Teacher training and pedagogy respectively were awarded to women in 2007/08. There was a similar majority of men in the fields of Science and Transport and communications, safety, security and other services – 74 per cent in both fields.

2. LEGAL AND INSTITUTIONAL FRAMEWORK

2.1. Parliamentary level

In Norway the Equality Law was operated on 9 June 1978, and it entered into force on 15 March 1979. The Gender Equality Act promotes gender equality and improves women's position in society. It shall ensure that women and men are given equal opportunities in education, employment and professional development.

2.1.1. Legal framework

The purpose of the Act is that the two sexes should have equal opportunities in social life, home and work, but it is expressly stated that the law "is particularly aimed at improving the position of women" Equality Act is an implementation at the national level of the fundamental human right not to employ discrimination based on sex. In addition to Norwegian law and human rights rules EEA law obligations apply. Under Article 69 of equal pay for work of equal value and Article 70 of the principle of equal treatment for men and women and a number of EU directives are implemented through provisions in the Equality Act.

The 10th June 2005 CEDAW (United Nations International Convention on 18 December 1979 on the Elimination of All Forms of Discrimination Against Women) incorporated in the Act § 1b, as the current Norwegian law (effective 1 July 2005). This section was repealed in 2009, but in return CEDAW incorporated it in the Human Rights Act of 1999, as the current Norwegian law.

2.1.3 Institutional framework

Equality and Anti-Discrimination Ombud is professionally independent, and administratively associated with the Ministry of Children and Equality. The Ombud is meant to be a low threshold offer that is easily accessible to users. Anyone can make an enquiry. Employers, employee representatives and others can get advice and legal guidance about how to prevent discrimination and promote equality. There is no charge for using Equality and Anti-Discrimination Ombud.

The Anti-Discrimination Ombud Act with its regulations regulates the work of LDO. LDO was set up on January 1, 2006. The Gender Equality Act prohibits discrimination on the basis of gender, and applies to all areas of society.

The Equality and Anti-Discrimination Ombud shall: Enforce the equality and discrimination legislation. Pinpoint conditions that prevent equality or contribute to discrimination. Provide advice and legal guidance on work that promotes equality. Document and mediate knowledge about equality and discrimination, and be a national competence centre for equality and discrimination

2.2 Governmental level ¹⁸⁶

Ministry of children, equality and social inclusion has the coordinating responsibility for gender equality policies. Key measures in the Government's work for gender equality integration are the activity

¹⁸⁶ Source: Rapport 15.07.2009 "Education from Kindergarden to Adult Education" Norwegian Ministry of Education and Research.

and reporting obligations that are embedded in the Gender Equality and Antidiscrimination Acts, the reporting instructions and the main budget circular from the Ministry of Finance. The national institutions as well as the local institutions, (Universities) focus on 2 main problematic areas:

1. Women and leadership in higher academic positions, full professor and associate professors.
2. Permanent positions vs. short contracts project funding from the University, The Research Council and industry.

Two aspects of gender equality efforts in academia are unique to the Nordic countries. First, statistics on education and research in the Nordic region have been broken down by gender since the 1980s – and even earlier in some countries – which has been crucial for developing adequate data on the gender equality measures in academia. Secondly, gender equality in Academia has developed into a separate policy area, often in the wake of or parallel with the public research funding for women's studies and gender research. This research has helped to set the agenda for gender equality policy in academia and produce a knowledge base for the field.

In Norway, public institutions must submit reports on the progress made on gender equality and describe planned gender equality measures. The Norwegian Ministry of Education and Research has required the universities and university colleges to draw up action plans for gender equality.

Explicit mention of the role of the universities and other institutions of higher education in promoting gender equality is only found in the Norwegian and Swedish acts relating to universities and university colleges and in the Swedish directive governing higher education institutions. In addition, legislation in these two countries requires that hiring committees for university lecturers and professors must include both women and men.

In Norway, all public institutions are required by law to work actively to promote gender equality, and these efforts are to be documented each year. Norwegian universities and university colleges have drawn up specific action plans on gender equality. In Norway there are 8 universities, all financed by the state.

Equality is a natural part of the Education Act, the Core Curriculum and the various subject curricula. Education and training are to be organized so that everyone can choose an educational path and a vocation that suits their own interests and abilities, irrespective of traditional gender role expectations.

Equality is to be integrated in all education so that everyone is ensured the same conditions and opportunities. There must be a foundation for everyone to have the same rights, obligations and opportunities, both in working life, in community life and private life.

The topic of equal opportunities is just as important in higher education. The Universities and Colleges Act states that "University and university colleges are to work actively, purposefully and systematically to archive gender equality for all job categories at the institution"

2.2.1. Legal framework

Ministry of Education and Research

The improvement in the gender distribution in senior academic posts is proceeding more slowly than hoped for. Universities and university colleges are therefore required to prepare strategic plans for gender equality, with targets for gender distribution and measures to achieve these targets. The recent reform in higher education, known as the Quality Reform, has increased and clarified the responsibilities of higher educational institutions in strategic planning and producing results. It is therefore the institutions themselves that formulate and implement the various gender equality measures, based upon what subjects they teach their needs and the primary guidelines. In 2012, the percentage of women in senior-level positions at the various MST institutions was 8–25 percent. In all MST subjects combined, women comprise about 15 percent of professors and 25 percent of associate professors. Biology and biotechnology have the most women in senior-level positions, whereas informatics and information technology have the fewest.

Incentive found to promote women in higher positions in technology and natural science ¹⁸⁷

The Ministry of Education and Research began the incentive scheme in 2010. It was originally planned to last three years, and a total of NOK 30 million, up to NOK 10 million per year, was set aside. The Universities could apply for a mount of NOK 300 000 for every recruitment of women in mathematics, technology and natural science positions during one year.

There were no restrictions for how the universities should use the money. The Norwegian University of Science and Technology and the University of Tromsø used the amount they received from the Ministry to recruit women scientists in assistant professorship positions. These positions are highly dominated by men.

The Ministry of Education and Research decided to evaluate the scheme after its third year. Proba Research has submitted the evaluation report *Kvinner i realfag: En evaluering av insentivordningen for kvinner i høyere stillinger i MNT-fag* ("Women in mathematics, natural science and technology: An evaluation of the incentive scheme for women in senior-level positions in MST subjects") (Proba report 2013-2010)

2.1.1. Institutional framework

The Research Council of Norway ¹⁸⁸

The Research Council of Norway is a national strategic and funding agency for research activities, and a chief source of advice on and input into research policy for the Norwegian Government, the central government administration and the overall research community.

Gender perspectives are to be integrated into all research activity funded by the Research Council, as

¹⁸⁷ Source: <http://eng.kifinfo.no/c62967/nyhet/vis.html?tid=86265>

¹⁸⁸ Source: www.forskningssradet.no/en/Researcher_recruitment_strategy/1185261825643
http://www.forskningssradet.no/en/Researcher_recruitment_strategy/1185261825643
http://www.forskningssradet.no/en/Gender_issues/1195592877653

well as into the evaluations of programmes, subjects and institutions. Strengthening the dialogue with institutions and research communities on gender equality with regard to recruitment and research management is another important measure towards achieving results on a national basis.

Norwegian legislation stipulates that all public institutions in Norway must take active steps to promote gender equality. The Research Council bears national responsibility for research policy-related activities to analyze and develop gender research, gender perspectives as well as gender equality in research. The Council is also responsible for initiating, implementing and monitoring research activities within this field.

In 2007 the Research Council adopted a new policy for gender equality and gender perspectives in research. An action plan for further efforts has also been drawn up. Gender perspectives are to be integrated into all research activity funded by the Research Council. The Research Council seeks to create a framework for increasing the recruitment of women to subjects with a low percentage of women and develop initiatives to boost the proportion of women in tenured academic positions.

The research Council has not been satisfied with the gender balance in the project leader positions, with only 14 percent female project leaders in 2011 and 18 percent in 2012. Thus they decided to announce the possible use of moderate affirmative action in their new call for funding, assuming all other quality-related factors being equal, during the final processing of grant applications. Projects led by women project manager will be viewed in a favourable light. The result was that a larger share of applications than usual was sent from female applicants, and four out of nine approved applications held women project leaders. It seems that the explicit announcement itself, stating the possible use of moderate affirmative action, helped inspire and increase the share of women applicants. And thus the share of women project leaders doubled in two years, 20 29 percent in 2013.

Continuing the Research Council long term efforts, a new research programme was established. The budget for the Gender Research Programme was total NOK 56 million for the 2008-2012 programme period.

Policy for Gender equality and gender perspectives in research 2007-2012 ¹⁸⁹

The new Programme on Gender Balance in Senior Positions and Research Management (BALANSE) is a policy-oriented programme at the Research Council and has a programme period of minimum five years, from 2013 to 2017. The primary objective is to improve the gender balance at the senior level in Norwegian research through new knowledge, learning and innovative measures. Recruitment of both genders to research has been good for many years. This is why the low proportion of women among senior-level researchers and top-level management is cause for such concern. The BALANSE programme is the Research Council's new initiative to readress this problem. Gender balance is critical for the quality of research, the relevance of research to society, and the competitiveness of research institutions. The vision is to become the European leader in gender balance in senior-level positions and research management. The BALANSE programme seeks to improve the gender balance in senior-level positions

¹⁸⁹ Source: The Research Council of Norway, work programme 2013-2017 http://www.forskningsradet.no/en/Home_page

in Norwegian research by promoting the research institutions' gender equality efforts targeted towards research and research management. The programme will support efforts to bring about cultural and structural change. The BALANSE programme will serve as a national learning arena and develop a gender equality toolkit for use within the sector. This will be achieved through three main areas of activity: A total of NOK 80 million in funding will be announced in the period from 2013 to 2017.

2.1.2. Resources

Committee for Mainstreaming – Women in Science ¹⁹⁰

In addition to demands for strategic planning at the institutional level, the Committee for Mainstreaming – Women in Science was established by the Ministry of Education and Research, in 2004. The Committee's mandate has been to work on integrating gender equality into higher educational establishments in Norway. It has functioned as a national coordinator for gender equality and the integration thereof into universities and university colleges. It is in direct dialogue with the higher education community and proposes strategies, evaluates the efficacy of policies and makes recommendations, also in relation to organisational development. The committee has organised meeting places and debates between various institutions and not least functioned as the Ministry's advisory organ and as the national force for the integration of gender equality.

The committee's closing report was published in February 2007. In the report the committee's work in its first three years is summed up and recommendations are made as to which measures the Department can employ to improve the gender balance in the Norwegian higher education sector. The Minister of Education and Research, Øystein Djupedal, renewed the committee's mandate for a new three year period until 2010, and in April the new committee was in place and continuing the work of its predecessor.

Launched in 2004 by the Ministry of Education and Research, the KIF committee has now completed three terms. The third committee changed its name from the *Committee for Mainstreaming – Women in Science* to the *Committee for Gender Balance in Research*. The fourth KIF committee has been appointed to serve from 1 January 2014 to 31 December 2017. It is chaired by Professor Curt Rice at the University of Tromsø – the arctic University of Norway. The Committee will support and provide recommendations on measures that can contribute to the mainstreaming of the gender equality efforts at the institutions within the university and college sector as well as the research institute sector. The Committee may also contribute to an overall awareness-raising around issues connected to the skewed gender balance in academia and the research sector. Actors and institutions in the university and college sector and in the research institutes sector, departments and the Research Council of Norway will be able to apply for advice from the Committee.

Objectives of the committee

The KIF Committee shall provide support to and recommendations for measures that promote the integration of gender equality efforts at the institutions in the university and university college sector and

¹⁹⁰ Source: Talent at Stake. KIF. 2010. Website – KIF <http://eng.kifinfo.no/>

the independent research sector, thereby enhancing equality between women and men. Further, the committee shall work to raise the overall awareness of issues related to the uneven gender balance in academia and the research system.

The committee shall offer assistance and advice to players and institutions in the university and university college sector and the independent research sector, the ministries and the Research Council of Norway upon request. It may also initiate measures and assess the impact of these. The committee's primary tasks must be incorporated into the areas of responsibility under the Ministry of Education and Research. International perspectives must be reflected in the committee's activities.

Organization

The KIF Committee is appointed by the Ministry of Education and Research. Members and deputies may be reappointed, but no member may serve longer than two consecutive terms. Representatives from the student organizations are appointed for one year at a time. The Ministry of Education and Research finances the committee's activities within the framework of the annual national budgets. The allocations cover the costs of the committee's operations and secretariat, and provide support for gender equality measures implemented within academia and the independent research institute sector.

The committee is appointed from 1 January 2014 to 31 December 2017. An evaluation of the committee's work will be conducted at the end of this period. The board of the Norwegian Association of Higher Education Institutions is given the organizational responsibility for the committee and its secretariat. The committee is to work in close cooperation with the Research Council of Norway and the Information Centre for Gender Research in Norway (KILDEN). The committee itself, in consultation with the board of the Norwegian Association of Higher Education Institutions, is given responsibility for the ongoing formulation of guidelines for the committee's efforts.

The committee shall submit reports on its activities to the Ministry of Education and Research and to other relevant players on a regular basis.

Composition of the committee

The committee shall be comprised of the following members:

- Four members and one deputy from the university and university college sector, to be recommended by the Norwegian Association of Higher Education Institutions.
- One member and one deputy from the Research Council of Norway, to be recommended by the Research Council of Norway.
- Two members and one deputy from the independent research institute sector (one member must be from a technical-industrial institute), to be recommended by the Norwegian Association of Research Institutes (FFA).
- One member and one deputy from the student organizations, to be recommended by the Norwegian Association of Students and the National Union of Students in Norway.

In addition, the Ministry of Education and Research and KILDEN may have one observer each on the committee.

The committee's members should hold sufficiently high-level positions at the institutions and have a strong commitment to gender equality efforts at the institutions. The committee must be comprised in accordance with the provision of the Gender Equality Act regarding the representation of both genders on public committees, boards and councils, cf. Section 21.

If a member can no longer serve on the committee for various reasons, such as illness or a change of employer, and can no longer represent the institutions/organizations listed above, the Ministry of Education and Research shall appoint a new member in consultation with the institution/organization which has recommended him/her.

2.3. Scientific research level

2.3.1. Legal/normative and institutional framework

Universities and University Colleges Act ¹⁹¹

The University and University Colleges Act of 01.08.2005, regulates activities of Universities and University Colleges.

In paragraph § 6-2. Gender Equality; Universities and colleges must work actively and systematically promote gender equality in all categories at the institution.

§ 6-3. Announcement and employment in teaching and research positions
(1) Recruitments in research and teaching are decided by the University board, or other institutional level decided by the University Board. The Board itself determines the composition of the recruitment committee. Students are to be represented in the committee.

(2) The recruitment organ announces positions in teaching and research. If there is underrepresentation by one gender, there shall be a special invitation to apply for the position, in generally women.

(3) Employments to these positions are made on basis of recommendation. Both women and men shall be represented among the committee members. And it is required to emphasize gender equality when hiring in these academic positions.

(6) The Ministry of Education and Research may make regulations concerning the procedures and criteria for the appointment or promotion to teaching and research positions.

National Research School in Gender Research, Norway

The National Research School in interdisciplinary gender research has the following goals:

- To offer a high quality programme to PhD students in gender research as well as to other students who have a gender perspective in their dissertations
- To collectively provide a broader research environment for students and advisers
- To strengthen national collaborations
- To strengthen international collaborations through joint initiatives

¹⁹¹ Source: Lovdata website 2013

- To contribute to the continuation of a Nordic Research School in Gender Research

Target group

Interdisciplinary gender research is both an established and an expanding area of research. There is a need to strengthen the research training of two groups of students: Those who are doing an interdisciplinary PhD using gender theory as their most important framework, and those for whom gender is an important part of their analysis and who are doing their PhD degree in a different field. The collaboration around a National Research School will contribute to the development of gender research, strengthen gender research networks, and further the visibility of – and recruitment to – gender research.

Three year plans

The Norwegian University of Technology and Science will lead the Research School for the first three years. In accordance with the plans for the Research School, the Academic Director must ensure that at least one PhD course is arranged each year between 2011- 2013, and must also coordinate the information about the courses with the other member institutions. The courses can be arranged collaboratively, for instance in conjunction with other Nordic Research Schools.

Previous Research Schools

In 1997 the centre's for Women's Studies and Gender Research at the universities in Oslo, Bergen and Tromsø and at The Norwegian University of Technology and Science started collaborating to offer national PhD courses in gender research. These were offered in 1998, 1999 and 2001 (the Vatnahalsen courses). The courses were in demand, and course evaluations were very positive. Later the research training was integrated into *The Nordic Research School in Interdisciplinary Gender Studies*, financed by NorFa (now NordForsk) from 2004 to 2009. The Norwegian centres have participated as co-organizer and advisers. Continuing the Nordic research training collaboration is an important goal.

Academic Director is Professor Merete Lie, Department of Interdisciplinary Studies of Culture, Norwegian University of Science and Technology. The following institutions are partners in the National Research School in Gender Research: University of Agder, University of Bergen, University of Nordland, Norwegian University of Science and Technology, University of Oslo, University of Stavanger, and University of Tromsø.

Norwegian University of Science and Technology (NTNU) ¹⁹²

NTNU is Norway's primary institution for educating MSc-level engineers and scientists also has comprehensive programmes in social sciences, teacher education, the arts and humanities, medicine, architecture and fine art. Cross-disciplinary research delivers creative innovations with far-reaching social and economic impact. The university has most courses in Norway in technology and art and aesthetic subjects.

¹⁹² Source: NIFU/DBH

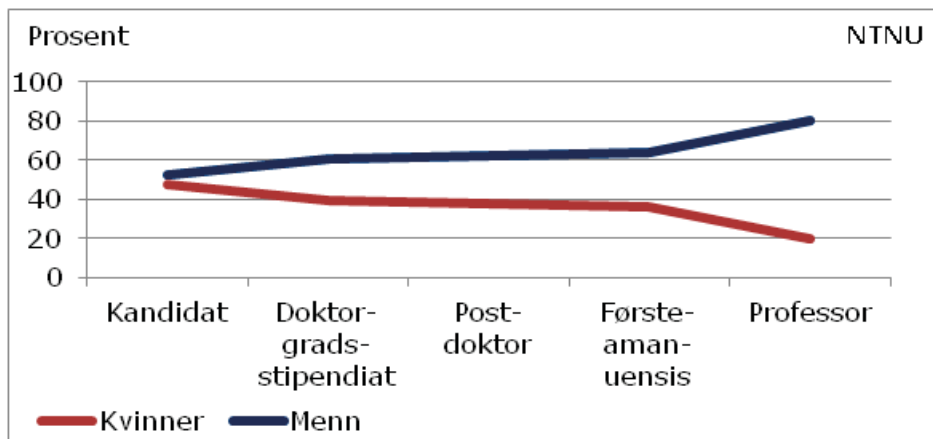
NTNU is committed to encouraging and promoting women in academic and administrative positions. Gender Equality is implemented in NTNU's Strategic Plan 2011-2020, approved by NTNU Board on March 2011 "*NTNU has a particular challenge in recruiting more women to technology and science*". Some of the Faculties have its own Strategic Plan and also their own Gender equality plan: Faculty of Engineering, Faculty of medicine. Since 1997 the University has developed its first gender equality plan. Since 2003 with own activity plans and annual Gender Budget € 560 000.

Female researchers can take advantage of variety of programmes and services to ensure they get the support they need. The most comprehensive of these are.

- Start packages for women in permanent scientific positions at departments with less than 25 % of women in these positions. NTNU wants to ensure that all women achieve their highest potential no matter their academic positions, but recognize that departments or programmes where men dominate can be particularly challenging. The start package is to support women in these situations, and they can use the fund to technical equipment and assistance at the laboratory.
- Qualifications Scholarship for women in associate professor positions to promote for professorship.
- Mentoring programmes for women researchers; PhD candidates, postdoctoral- and associate professor positions.

The programme is a permanent element in NTNU's strategy for gender equality and organizational development. It is a programme for mutual learning and exchange of experience, networking, and mobilizing expertise. Mentors are professors, both men and women. Mentees are PhD candidates, post-docs and associate professors. At the heart of the programme is the constructive dialogue between a mentor and a mentee.

Percent of women and men in academic positions from candidate to full professorship 2012

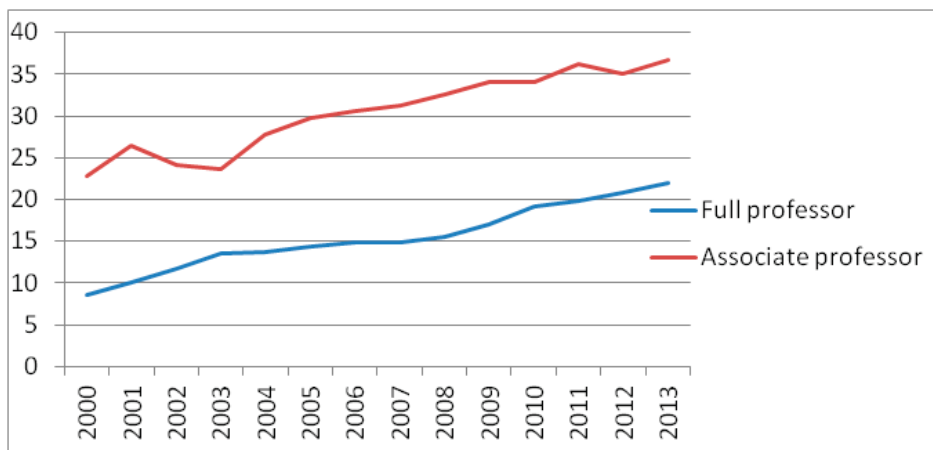


The Norwegian University of Science and technology is specialized in technology and natural science. It also offers a range of bachelor's, master's and doctoral programmes in the humanities, social science, economics and public and business administration, and aesthetic disciplines.

There is also a professional degree in the programmes of medicine, psychology, architecture, the fine arts, music, and teacher education, in addition to technology.

With its 7 faculties and 49 departments, there are 22 000 students, half of whom are studying technology-related subjects or natural science. 48 percent of NTNUs students are female.

Percentage of women in scientific positions 2000 - 2013



Source: DBH 2012

2.4. Non-governmental, public level ¹⁹³

Scientist networks

Network for female design researchers

- The goal of the network is raising awareness about women working in the design research field. The network establishes contacts and communications between female design researchers on different professional levels. It consists of an annual meeting, where key research- and research policy related questions are discussed, and of an interactive homepage for communication and dissemination of information, such as seminars, job announcements, scholarships and conferences. Particular themes of interest for the network are within the following areas:
- Design research topics,
- Career strategies,
- Day-to-day issues in the departments,
- Institutional policies

Web site: Scandinavian Network for Women in Design Research. Contact person: Martina Keitsch, Department of Product Design.

Network meeting at the Department of Economics at the Norwegian School of Economics and Business Administration

At the Department of Economics at the Norwegian School of Economics and Business Administration, all female scientific staff, both in permanent and temporary positions, gather once a month. The purpose of these meetings is to improve the work environment among women, both academically and socially.

Norwegian Female Academics (Norske kvinnelige akademikere NKA)

Norwegian Female Academics is an association for all women with higher education. It was established on 8th November 1920 with Norway's first female professor, Kristine Bonnevie, as a leader. The network aims to improve women's opportunity to use their knowledge on all levels in society, work for gender equality by acting as role models, and spread information on international issues that concern women. They also act as a network with women academics abroad, work for family-friendly work place, and contribute with comments in national matters. Norwegian female academics are asked to comment on relevant issues and are, among other things, engaged in questions concerning women in science. NKA organizes around five meetings a year and release newsletters. The network also organizes seminars and a Nordic seminar as well. All women who have completed at least a three year education at university level can join the NKA.

The Moment network for women technologists

Moment is a network for women technologists who have a connection to the Northern region. The main goal is to retain and attract female technologists to the North through a strong international

¹⁹³ Source. KILDEN for the Committee for Gender Balance.

network and encourages women to partake in the new technological challenges and opportunities of the North. The Moment network gives women technologists the opportunity to meet, become more visible, improve their managerial skills through a mentor programme, and speak with one voice, and also an opportunity for personal and academic development. The network gets financial backing from Nordlang County and the mining company Store Norske Grubekompani and is run by Narvik University College. Female technologist, scientist or a technology student with connection to the North, are free to join the network.

Women in Science: Science ladies (Kvinner i Realfag)

This group was established in the autumn of 2003. Their aim is to recruit more women to permanent positions at the Faculty of Mathematics and natural Science at the University of Bergen. Realdamene organize around two seminars/meetings each semester – everything from social gatherings to academic lectures and debates. The network has also been asked to comment on matters related to gender balance in science studies at the university. The network is open to scientists and students of the Faculty of Mathematics and natural Science at the University of Bergen.

1.3. COUNTRY REPORT: ICELAND

Authors:

Guðný Gústafsdóttir, Þorgerður Einarsdóttir, *University of Iceland, Iceland*

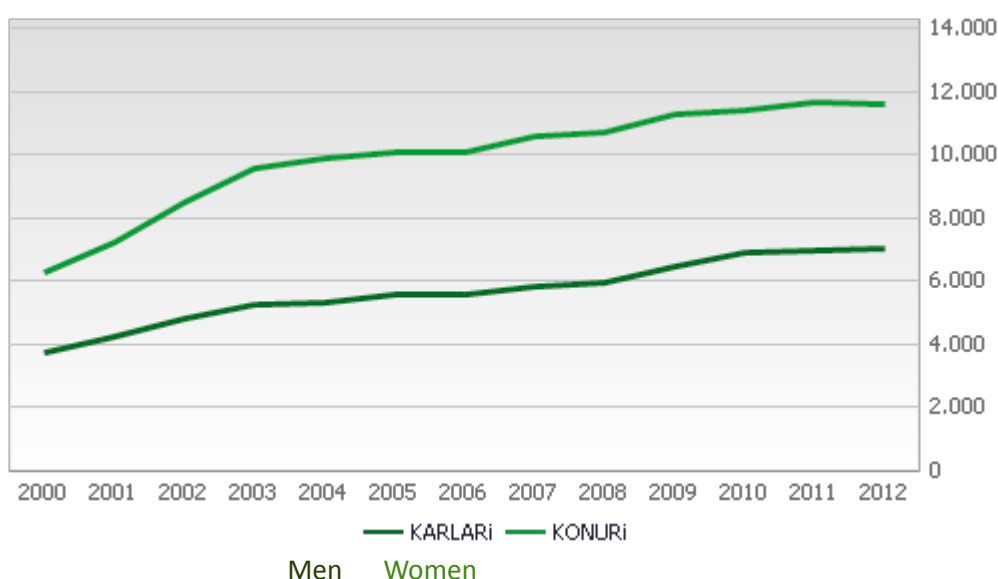
Reikjavik, 2014

1. STATISTICS

1.2. Students at higher educational level

In contemporary Iceland, women outnumber men in colleges and universities (upper secondary and tertiary level); in autumn 2011, registered women were 27.216 and men 21.507 with the number still rising into 2012. Women were 55.9% of all educational levels above elementary school and men 44.1%. When the gendered division after educational level is observed, according to the Icelandic measuring guideline ISNAM2008, it reveals itself that women are 52% of students on secondary school level, 38% of students in additional studies, 62.5% of student at university level and 62.4% of PhD students (Statistical series, 2012).

Figure 1. Registered students at university level by gender 2000-2012 (Statice.is, n.d.)



The only field women are a minority is in additional studies. Additional studies are defined on the border of secondary educational level and university level. Examples of additional studies are various internships, such as 4th stage engineer study, tourism studies, technical training and such. Women are gaining ground in additional studies. In autumn 2009 they were 29.3% of those registered in additional studies and in 2010 they had reached 34.6%.

Gendered numbers according to fields of study

In autumn 2011 students were registered in 282 fields of study. The choice of study is considerably gendered. Women outnumber men in 164 or 58% of the courses of studies. Men outnumber women in 106 or 37.6% and in 12 courses of studies gender ratio is equal. Among the studies where gender-participation is equal is corporate law, operation management, theatrics and greenhouse production.

On 25 study-fields men are exclusive registrants such as in electric technology, mechanical technology, steel construction and masonry. Registered students in plumbing are 81 thereof 1 woman. Study-courses exclusively occupied by women are 21, including nursing, midwife studies, reception secretary,

dressmaking, podiatrist medicine and gerontology.

In universities most students registered are studying social science, business and law. Over 70.000 students or 37.1% of students study within those fields. Over 3.000 students study within humanities and art. In the faculty of health and welfare there are a little less than 2.300 students registered. Women outnumber men on every field of study except empirical science, mathematics, computer science, engineering, production and construction (Figure 2).

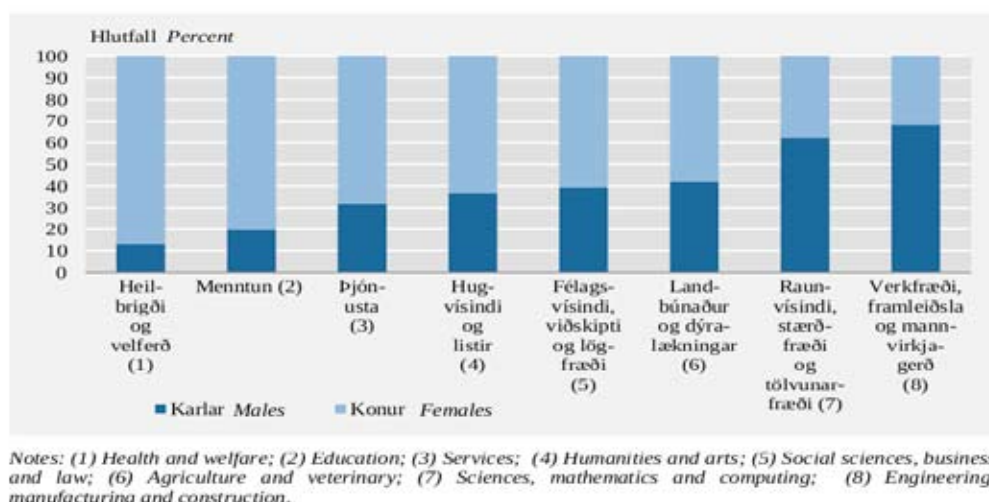


Figure 2. Proportion of registered students at the tertiary level by broad fields of study and sex in autumn 2011 (Statistical Series, 2012)

PhD Students

Registered PhD students 2011 counted 452 people, 282 women and 170 men. Most PhD registrants study pedagogical education, 42 women and 16 men. The second largest field occupied by doctoral students is biology, 25 women and 22 men. The third largest field is health science with 18 women and 9 men.

Table 1. Graduated PhD students according to gender from 1997-2012, all faculties

	1997	2002	2007	2012	Total
Women	5	24	150	286	465
Men	9	21	114	184	328

(statice.is, n.d.)

In general, the number of graduated doctoral students from Icelandic Universities has increased substantially over the last 15 years with female graduates outnumbering the male increasingly by the year.

1.2. Employees at higher educational level

Employees at university level were 2.902 in November 2011 of which employees in teaching were 2.018. More than half, or 52.6% of the employees at university level, were women. The number of employees at university level has decreased by 140 between November 2010 and November 2011 and

has not been as low since the school year 2005-2006; the number of women decreased by 7.5%, and the number of men by 1.2%. At the same time the number of students at university level has increased by 1.7% since the school year 2010-2011.

Roughly one third (33.7%) of teaching staff at the university level had a PhD; significantly more men (43.7%) than women (22.6%). In 2011 well over half of the teachers at universities were adjuncts and other part-time teachers, or 58.7%, in total 1.216 (amounting to 40.3 full-time equivalents), and the number had increased by 41 from the previous year. The number of Full Professors decreased by 14 between 2010 and 2011; Assistant Professors by 31 while the number of Associate Professors increased by 8; The office personnel decreased by 145, but the number of specialists increased by 108. This gives an indication of the budgetary cuts at the university level during the last years. The figure below demonstrates the full-time equivalent unit teaching at the university level in Iceland in November 2011.

Figure 3. Full-time equivalent unit of teaching at the university level in Iceland in November 2011 (Statice.is, 2013)*)



*) Translation: Próffessorar – Professors; Dósentar – Associated Professors; Lektorar – Assistant Professors; Stundakennarar – Lecturers; Aðrir starfsmenn – Other employees.

Majority of academic staff at the university level is at the University of Iceland, in total 1368 in 2012. Of these 717 were women (52%) and 651 were men (48%). Although there are fewer men than women employed at the UI the men tend to be higher ranked within the institution, and more women are office personnel.

Table 2. Gendered numbers according to primary professional designations within the University of Iceland

	Full Professors Associate Professors Assistant Professors	Specialists Scholars Scientists	Researchers	Office personnel	Technicians
female	221	15	170	249	14
male	346	26	107	97	46
Total	567	41	277	346	60

Table 3. Gendered numbers of academics

	Full Professors	Associate Professors	Assistant Professors	Adjuncts	Specialists	Total
female	70	66	85	48	15	284
male	191	90	65	29	26	401
Total	261	156	150	77	41	685

(jafnretti.hi.is, 2013)

The number of female Full Professors has increased steadily from the turn of the century. In 2012 for example women were a quarter of Full Professors compared to 7% in 1996. However, the increase in number of female professors has damped down since 2006. The number of female Associate Professors has also increased through the years; in 1996 they were 20% but in 2012 they were 42%. Among Assistant Professors, adjuncts and part-time-teachers women outnumbered men; women were 63% and men 37%. In 2013 men outnumber women highest ranking administrators and now three out of five deans of the Universities Scholars are men (hi.is, n.d.).

1.3. Research

Despite the vast majority of female students at the Universities in Iceland, the figures in the report demonstrate obvious, gendered differences in choices of study-courses and possibilities of personal headway within the academia. The gendered hindrances within the academic structural framework have been studied from different viewpoints. Following are the latest studies on the topic, beginning with a report made by a doctoral student, the MA and MS thesis and finally a report written by Thorgerdur Einarsdóttir, head of Gender Studies at the University of Iceland.

1. In 2002 Thorgerdur Thorvaldsdottir wrote a report revealing the gendered commenting of the selection board at the University of Iceland resulting in favouritism for male candidates (jafnretti.hi.is, 2014).

2. 2002: In the report “Women in science” enforced by the Ministry of Education in 2002, the administration-system of science and research in Iceland was covered. It was mapped that more men than women were in higher positions in academic positions, on boards and managements of research and science in the period 1994-2002 and that the number of women in administration decreased when it came to upper management. In other words; the more powerful positions the fewer women involved (stjornarrad.is, 2002).

3. In 2010-2011 the equal opportunities committee at the University of Iceland initiated and supported two studies of the gender imbalance in the natural sciences at the university. One of them is Hrafnhildur Snaefridar- og Gunnarsdóttir MA thesis (2011) that mapped the dominant discourse within the culture of computing, electrical and computer engineering, mathematics and physics at the University of Iceland. The findings describe male culture within the culture of these departments. Most obvious were ideas based on traditional dualistic discourse and hierarchy of the sciences, marginalizing the social sciences and humanities (jafnretti.hi.is, 2014).

4. The other study is a MA thesis written by Þuríður Ósk Sigurjónsdóttir (2011) on “The Gender of Empirical Science”. The thesis explores educational choices and conditions of women studying male dominated majors at the School of Engineering and Natural Sciences at the University of Iceland. The results show that women are high academic achievers and have strong self-efficacy in the fields of study, but they need motivation and support to choose studies in traditionally male fields. The findings suggest that students identify with the culture and values of their majors. When it comes to attitudes toward gender at the School of Engineering and Natural Sciences at the University of Iceland, there are clear signs of conflict in which women experience to lesser extent than men that respect, recognition and equality is prominent within their departments. This may indicate that the identification was not totally successful (jafnretti.hi.is, 2014).

5. In 2011-2012 the equal opportunities committee initiated and funded two other studies on gender mainstreaming and how to measure the efficacy of gender mainstreaming. One of the studies is an MS thesis written by Dagný Skúladóttir (2012). The goal of the research was to map what measurements were suitable for the evaluation of equality work at the UI. The thesis suggests criteria linked to the aims of the Equality plan 2009-2013 modelling on equality-measurements from the Uppsala University and the glass ceiling theory (jafnretti.hi.is, 2014).

6. The other study is the MA thesis of Kristín Anna Hjálmarsdóttir (2013). In the thesis Hjálmarsdóttir reveals that despite the clause in Icelandic Equality Act no. 10/2008 and the Equality plan of the University of Iceland’s stress the importance of gender mainstreaming it has not yet been institutionalized at the University of Iceland. The study explores how to institute gender mainstreaming at the UI. It identifies barriers and searched for a suitable approach. Four prerequisites were identified for successful institutionalization: clear definitions, strong political will, knowledge and resources. The method identified as suitable for the University of Iceland originates in Sweden and is known as The Ladder. Some of its tools were adjusted for the University of Iceland in the thesis. They were tested with practical examples in a preliminary framework (jafnretti.hi.is, 2014).

7. In September 2011 Thorgerdur Einarsdóttir wrote a report for the Ministry of Education Science and Culture, mapping the gendered discrepancy within science in Iceland. The report was a part of the framework needed for the Gender Budgeting Project administrated by the Ministry.

The report highlights concerns of the Icelandic Centre for Research; RANNIS¹⁹⁴ On account of the

194 RANNIS supports research, innovation, education and culture in Iceland. RANNIS cooperates closely with the Icelandic Science and Technology Policy Council.

gendered imbalance within several branches of science (stated above), women are less frequently in power-positions in science and have less impact on strategic planning. Fewer women than men apply for grants and they are allocated lower amounts. Women's status in the grants system is incident to their position and proceeding in the academia and it's therefore impossible to separate the two.

During the period examined, the number of women on council of specialists and dispensation had increased but still over 60% of representatives in the councils of specialists at RANNIS were men. Members of the councils are important "gate-keepers" of the science community. It is important that the members of the various boards reflect the broad surface of science and the people that practice it. After the making of the report the gendered imbalance equalized. According to paragraph 15 in the **Act on Equal Status and Equal Rights of Women and Men** the ratio of each gender should not be lower than 40% on government committees. Obviously the clause has not been honoured fully.

Peer review has always been considered one of the basic structure and equity guideline of science-work and research. Lately, many scientists have doubted the reliability of the peer review. It is stated, that although it serves as a quality control measurement, the basis of presumption is unknown. Others emphasize that even so, the peer review is the mostly reliable guideline available.

International research has shown that gender sensitive evaluation process is necessary in order to secure equal opportunities in research and science.¹⁹⁵

The grants condition itself is important when it comes to gender-equality. In 2003 the order and framing of science was altered with the law on science- and technological commissions no. 2/2003 and the law on official support of science and research no. 3/2003. Upon the legislation the subject was moved upwards within the administration and therewith its social and political value increased.

Finally, Einarsdóttir identifies the necessity of gender budgeting and gendered integration when it comes to strategic planning for science and research. Gendered budgeting is built on three main aspects vital to the policy making. First, it is necessary to make gendered analysis on the budget and expenses; second, the budget / expenses need to be restructured according to gendered interests and third, gendered integration needs to be one of the analytical factors in the budgeting process (mentamalaraduneyti.is, 2011).

8. The most recent research within this area is the PhD-dissertation of Thamar Melanie Heijstra (2013) Seeking balance: A study of gendered life in Icelandic academia. The dissertation revolves around the work-family balance of academics in Iceland, and whether ICTs and flexible working hours are facilitating factors. Furthermore, the study addresses the lower rate of women as compared to men in full professor positions, and examines the explanations offered for this imbalance by academics themselves. The results reveal that academics are attached to their flexibility and ICTs, even though these work arrangements do not seem to be particularly beneficial for their work-family balance. More women than men use their flexibility to attend to family matters, and hence, flexible working hours and ICTs seem to reinforce traditional gender relations. Women and men also explain the gender imbalance among full

¹⁹⁵ See for example Agnes Wold & Christine Wenneras (1997)

professors differently, and even if family related factors do not have a significant impact on the academic career making of women it is a common explanation to the gender difference (Heijstra, 2013).

2. LEGAL AND INSTITUTIONAL FRAMEWORK

2.1. Parliamentary and governmental level

2.1.1. Legal framework

National legislation

1. The principle of equality is addressed in the **Constitution of the Republic of Iceland**; Article 65, No. 33/1944, cf. the Constitutional Law Act, No. 97/1995:

“Everyone shall be equal before the law and enjoy human rights irrespective of sex, religion, opinion, national origin, race, colour, property, birth or other status. Men and women shall enjoy equal rights in all respects.” (althingi.is, 2014)

2. The Equality Act is intended to ensure equality between women and men and their equal status in all respects since 1976. **Act on Equal Status and Equal Rights of Women and Men** No. 10/2008, as amended by Act No. 162/2010 and No. 126/2011:

“The aim of this Act is to establish and maintain equal status and equal opportunities for women and men, and thus promote gender equality in all spheres of the society. All individuals shall have equal opportunities to benefit from their own enterprise and to develop their skills irrespective of gender. This aim shall be reached by the following means, amongst others: “a. observing gender equality perspectives and working towards gender mainstreaming in policy-making and decision-taking in all spheres of society, b. working to secure equal influence of women and men in society, c. specifically improving the position of women and increasing their opportunities in society, d. working against wage discrimination and other forms of gender-based discrimination on the employment market, e. enabling both women and men to reconcile their work and family life, f. increasing education and awareness-raising on gender equality, g. analyzing statistics according to gender, h. increasing research in gender studies, i. working against gender-based violence and harassment and j. changing traditional gender images and working against negative stereotypes regarding the roles of women and men.” (althingi.is, 2014).

3. The objective of the **Act on Public Support for Scientific Research No. 3/2003** is to strengthen scientific research and graduate education in Iceland by supporting basic research and applied research and to encourage co-operation among parties working on scientific research, as well as ensuring the reliability and quality of information on science and research in Iceland. (althingi.is, 2014).

4. All institutions of higher education in Iceland fall under **The Higher Education Institution Act no 63/2006**. The Act applies to educational institutions providing higher education leading to a degree and which have been accredited by the Ministry of Education, Science and Culture. The definition of a Higher Education Institution is an independent educational institution which conducts teaching, research, preservation and search for knowledge, and creativity in the fields of science education, technology and arts. The role of Higher Education Institutions is to contribute to the creation and dissemination of knowledge and skills to its students as to society in general (althingi.is, 2014).

Parliamentary resolution

1. *According to Article 11 of the Act on Equal Status and Equal Rights of Women and Men* the Minister of Social Affairs and Social Security shall present to the Althingi (the Icelandic parliament) a motion for a parliamentary resolution on a four-year gender equality action programme. In the **Parliamentary resolution on the Equality Act from 2010/2011**, the following clauses affect the enforcement of gender equality in research and science:

Item 5. A strategy to enforce gender budgeting stating that pilot projects should be initiated in ministries and institutions with the objective to develop procedures and methods for the preparation of gender-budgets. The project was administrated by The Ministry of Finance. Time frame for the project was estimated from 2011-2014.

Item 9. The Gender Equality Fund

Studies and projects carried out by grants from the Gender Equality Fund for the purpose of maximum benefit relating to actions for gender equality. A council of specialists occupied by, inter alia, experts in the field of gender studies, should make a professional evaluation of applications.

The project is administrated by The Prime Minister's Office

Item 22. Proportion of women on the boards of companies and institutions

Information should be disseminated and promotional material drafted to raise awareness of the entry into force of Act no. 31/2010, which stipulates that in companies and private companies employing more than 50 employees on average per year, both sexes shall be represented on the board when the board is composed of three members. When the board is composed of more than three members, it shall be ensured that the proportion of either sex is not lower than 40%. This is on responsibility of the Ministry of Economic Affairs.

Item 31. Gender equality in universities

Education on gender equality should be established within universities. A working party should be established to plan and implement such a process; the party should be composed of representatives from universities and the Ministry of Education, Science and Culture and experts in gender studies. Experience should be shared between educational institutions with presentations, meetings and cooperation. Responsibility: The Ministry of Education, Science and Culture.

Following an amendment to the laws on public limited companies (No. 2/1995) and private limited companies (No. 138/1994), companies that have over 50 employees are obligated to have both women and men on their company boards and if the board-members are more than three, the percentage of women or men cannot be under 40%. These amendments also included changes that will make monitoring easier. These changes took effect in 2013 (althingi.is, 2011).

2.1.2. Institutional framework

The Centre for Gender Equality was founded according to the Act of Equal Status and Equal Rights of Women and Men no 10/2008. The function of the Centre is defined in paragraph 4 of the Act. The Centre is a national bureau in charge of the Act on Equal Status. The Centre provides general counselling and education in the field of gender equality for governmental and municipal authorities, institutions, companies, individuals and NGO's (jafnretti.is, n.d.; althingi.is, 2014). The Centre is located in Akureyri.

According to paragraph 5 of the Act of Equal Status and Equal Rights of Women and Men a Gender Equality Complaints Committee is also operative as a platform for act on non-observance or law-breaking of the Equality Act (althingi.is, 2014)

The Equal Status Council was also established according to paragraph 8 the Act of Equal Status and Equal Rights of Women and Men to be a platform for equality policy formulation. The Council is manned by representatives of the confederation of employers, institutions and NGOs in the field of gender equality.

According to paragraph 10 of the Act of Equal Status and Equal Rights of Women and Men a Gender Equality Forum is held every year where a report on equality issues is presented and selected equality matters discussed (althingi.is, 2014).

2.1.3. Resources

Grants

The Icelandic Centre for Research (RANNIS) supports research, innovation, education and culture in Iceland. RANNIS cooperates closely with the Icelandic Science and Technology Policy Council and provides professional assistance in the preparation and implementation of the national science and technology policy. RANNIS administers competitive fund in the fields and research, innovation and culture, as well as strategic research programmes. RANNIS operates according the Act on Public Support for Scientific Research No. 3/2003 (rannis.is, n.d.).

The Icelandic Research Fund for Graduate Students merged with the Icelandic Research Fund in the beginning of 2013. The implementation of funding doctoral studies is under discussion within the board. Doctoral students will continue to be participants in the majority of the projects funded by the Icelandic Research Fund.

The Icelandic Student Innovation Fund is to provide an opportunity for universities, research institutions and companies to recruit students, in graduate and postgraduate studies, to undertake research projects during the summer time.

Table 10. Examples of allocated grants from the research- and innovation fund of RANNIS by gender

	2011	2013
Female program managers	162	117
Male program managers	252	218
Total	414	335

(rannis.rhi.is, n.d.)

The Gender Equality Fund

Studies and projects carried out by grants from the Gender Equality Fund for the purpose of maximum benefit relating to actions for gender equality. A council of specialists occupied by, inter alia, experts in the field of gender studies make evaluation of applications.

In 2013 there were five grants for the total amount of 9, 4 Million ISK given to female Doctoral students, Professors and other researchers studying matters of gender equality in Iceland (forsaetisraduneyti.is, n.d.).

The Society of University Graduate Women

The main task of the society was to give grants to postgraduate women. Grants were last given in 2010 (felaghaskolakvenna.is, n.d.).

Hladvarpinn, memorial fund

The fund was founded as such in 2008 by the shareholder of Hladvarpinn, upon the sale of real estate owned by the women movement in Iceland. The fund is intended to strengthen the cultural activity of women in Iceland. In 2013 a little less than 12 m.ISK was granted to 24 women or projects (Hladvarpinn.is, n.d.)

Student Loan Fund, the Icelandic Government Student Loan Fund

The SLF was founded in 1961 to guarantee equal opportunity to study, irrespective of the student's financial position. The Fund offer loans at educational institutions that require preparatory study comparable to university studies in Iceland (lin.is, n.d.).

Gender Budgeting

Since the Beijing Conference in 1995 gender mainstreaming **has been adopted almost globally as a** strategy by which gender equality is to be pursued. The implementation of Gender budgeting in Iceland started in 2009 at the governmental level. During the period, the first pilot projects were processed and in 2012 the results of the work released in a budget proposal. A further three-year plan of Gender budgeting-work was approved by the government in 2011.

Gender budgeting is an application of gender mainstreaming in the budgetary process. It means a gender based assessment of budgets, incorporating a gender perspective at all levels of the budgetary

process and restructuring revenues and expenditures in order to promote gender equality.

Gender budgeting is a way of linking gender equality policy with macroeconomic policy.

- It is based on the premise that budgets are not gender neutral.
- It is a way of expediting gender mainstreaming.
- It applies to the revenue raising side as well as the expenditure side of budgets.
- It begins with analysis of the impact of the budget on women and men, and progresses to integrate gender into budget-planning.

Gender budgeting features a three step process:

1. **beginning with analysis from a gender perspective,**
2. moving onto restructuring the budget based on gender analysis and finally
3. mainstreaming gender as a category of analysis in the budgetary process.

2.2. Scientific research level

2.2.1 Institutional and legal framework

Universities

In Iceland there are seven universities, one leading research centre and several, smaller study centres.

1. The University of Iceland is a public research university situated in Reykjavik. The university is the largest and oldest institution of higher institution, founded in 1911. During the first year of practice there were 45 students registered at the University of Iceland, thereof 1 woman. In 1926 the first woman defended her doctoral thesis.

The rector of the University of Iceland is Mrs. Dr. Kristin Ingólfssdóttir. She is the President of the Governing Council and the first woman to hold the position of the rector of the University of Iceland in July 2005. The members of the University Council are ten; six women and four men. The schools within the University of Iceland are listed below according to information from their websites, varying after information given by each school.

The University of Iceland is divided into five schools and their administration is as follows:

School of Education: Dean: woman, heads of faculties: 3 women

School of Humanities: Dean: man, heads of faculties: 2 men, 2 women

School of Engineering and Natural Sciences: Dean: man, heads of faculties: 5 men 1 woman

School of Social Sciences: Dean: man, heads of faculties: 5 men 1 woman

School of Health Sciences: Dean: woman, heads of faculties: 5 men, 2 woman (hi.is, n.d.)

2. The University of Reykjavik. Departments: Business, Computer Science, Law. The UR is a private University (limited company), owed by a non-profit organization, the Confederation of Icelandic Employers

and The Federation of Icelandic Industries. The council of the University of Reykjavik is appointed by its owners and consists of eight people; five men and three women.

The University of Reykjavik works according to various policies and strategies concerning the operation. Among others are the Human Resource Strategy, Quality Policy and Equality plan. The Equality plan is based upon the principle of equality similar to Article 65 of the Constitution of the Republic of Iceland no. 33/1944 adding the social variables of disability and political opinion (ru.is, n.d.).

3. The University of Akureyri. Schools of: Health Science, Humanities and Social Science and Business and Science. The Council of the UA is manned by seven people: Rector (male) two other men and four women. The UA also has other councils and committees such as the Council of Quality, and the Council of Equality. The UA operates according to various policies and strategies, such as the Human Resource Strategy, Ethics and Equality programme agreed by the University Council in June 2009 (unak.is, n.d.).

4. The University at Bifröst. Department of: Business, department of Law and department of Social Sciences. The University council is manned by the rector (male), four other men and seven women. The UB operates in terms of various policies and plans including an Equality plan, aiming to equalize the status of women and men within the University at Bifröst (bifrost.is, n.d.).

5. Hólar University College. Faculties: Aquaculture and fish biology, Equine Studies, Rural Tourism. The University council is manned by the rector (woman), three other women and four men. Among policies and plans the UH works by is the Environmental policy and the Equality plan of the University built on the Equal Right Law of Iceland no 10/2008. The plan aims to equalize the opportunities, rights and status of all women and men within the Hólar University College, at all levels (holar.is, n.d.).

6. The Agricultural University of Iceland. Faculties: Faculty of Land and Animal Resources, and Faculty of Environmental Sciences. The University council is manned by the rector (male) along with three other men and three women. The UA works in terms of its policies and strategies, among other the Environmental policy and the Equality plan. The Equality plan is built on law no. 10/2008, and is aiming towards a gender-equal University (lbhi.is, n.d.).

7. Iceland Academy of the Arts. Departments of: Arts Education, Design and Architecture, Fine Arts, Music and Performing Arts. The Academy has a female rector. On the board of the Academy there is one woman and four men. The Academy has an Equality plan, authorized in 2005 (lhi.is, n.d.). As the overview of the Universities show, considerable emphasis is on business and law within the level of higher education in Iceland. However, there are also two small universities, no. 5 and 6 that pursue both traditional and new trades of agricultural science.

Table 4. *Distribution of registered students in the universities in 2011*

University	Number of registered students
University of Iceland	13919
University of Reykjavik	2468
University of Akureyri	1493
University Bifröst	431
Iceland Academy of the Arts	414
The Agricultural University of Iceland	238
Hólar University College	172
Total	19135

Table 5. *Distribution of registered students according to gender at the universities in 2011*

University	Number of registered males	Number of registered females
University of Iceland	4848	9071
University of Reykjavík	1491	977
University of Akureyri	365	1128
University Bifröst	180	251
Icelandic Academy of Arts	169	245
The Agricultural University of Iceland	81	157
Hólar University College	40	132
Total	7174	11961

(statice.is, n.d.)

Other scientific research institution

An additional institution of science and research in Iceland is DeCode. It is a scientific enterprise, founded and operating mostly in the private sector but also in collaboration with the University of Iceland and the National University Hospital. DeCode is a leading research company in mapping the human genome and in discovery of genetic risk factor for diseases. DeCode was founded and operated by MD Dr. Med Kári Stefánsson but in 2012 it became subsidiary of Amgen Ltd. Dr. Stefánsson is the Chair of Board and management. Board: chair, two men and one woman. Unfortunately, information on gendered numbers of staff or an Equality plan at DeCode was not available (decode.com, n.d.).

Gender equality at the University of Iceland

Equality-work at the University of Iceland is divided in the following factors: Equality Policy of UI; Equal Opportunities Officer; Equal Rights Committee; Council for Disability Rights; Equality Focussed Student Organisations.

The Equal Opportunities Officer of the UI is a full-time employee who holds an administrative position within the university and oversees equality related matters, working alongside the Equal Rights Committee and the Council for Disability Rights, of which she is the chair. Among other things, the Equal Opportunities Officer is to ensure that the Equal Rights Policy is followed and implemented, she also

provides education and advice concerning equality related matters as well as working towards making equality and diversity an established part of the University of Iceland.

The Equal Rights Committee of the University of Iceland is aimed to oversee equality in a broad sense and is to have gender equality at the forefront of its work. One of the core values stated on behalf of the University of Iceland is an emphasis on democratic practices, ensuring that equality is reached at all levels (jafnretti.hi.is, n.d.).

The University approved its fourth Equal Rights Programme on January 16th 2014, previous programmes are 2000-2004, 2005-2009, 2009-2013. In addition, the five schools of University are obliged to have an equal rights programme.

2.2.3. Resources

Grants

1. The University of Iceland Research Fund

The purpose of the University of Iceland Research Fund is to strengthen research activities within the university. Those eligible to apply include tenured lecturers or specialists working at the University of Iceland. The fund is managed by the University Council Science Committee.

In 2014 254 applications reached the UI Research Fund for the total amount of 582 million ISK (m.ISK). Amounts applied for and the average of amounts granted are in thousands of Isk (th.ISK) are revealed in the table below.

Table 6. Applications per faculty and average amount applied for

Faculty	Amount applied for (th.ISK)	Number of projects	Average amount applied for (th.ISK)
Social sciences	63,32	32	1,98
Health science	193,2	78	2,48
Humanities	56,28	31	1,82
Educational science	52,06	28	1,86
Engineering & natural science	211,1	72	2,93
Research Centres of the UI	6,38	4	1,6
Total	582,34	249	2,34

Table 7. Allocated grants and average amount assigned per project

Faculty	Total amount granted (th.ISK)	Number of projects	Average amount assigned (th.ISK)
Social sciences	29,1	29	1,01
Health science	68,24	66	1,03
Humanities	32,05	29	1,11
Educational science	21,24	25	850
Engineering & natural science	85,15	70	1,22
Research Centres of the UI	3,5	4	875
Total	239,28	223	1,07

223 projects were approved for, for the total amount of roughly 239 m.ISK and the average amount granted per project was 1.073 th. ISK.

Table 8. Allocations of grants according to faculty and gender

Faculty	Female	Male
Social science	16	13
Health science	26	39
Humanities	10	18
Educational science	19	6
Engineering & natural science	14	56
Research centres	1 (manager)	3 (managers)

Aside the gendered division between faculties the figures show in which faculties the budget is invested. Also, research has shown that male applicants receive higher amounts than female applicants (sjodir.hi.is, n.d.).

In 2013 157 applications were put in the fund for Doctoral grants, 34 were approved for.

Table 9. Allocated grants according to mentor's gender and faculty

Faculty	Number of applications	Number of grants	Female mentor	Male mentor
Social sciences	23	5	2	3
Health sciences	48	10	3	7
Humanities	35	5	2	3
Educational science	11	3	2	1
Engineering & natural science	40	11	1	10
Total	157	34	10	24

(hi.is, n.d.)

1.4. COUNTRY REPORT: BELARUS

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Minsk, 2014

1. STATISTICS

1.1. Overview on the system of positions/affiliations in Belarus

Training of scientific personnel in the Republic of Belarus includes the following stages [1]:

- Professional orientation of high-school students.
- Higher education on the selected specialty (4-5 years).
- Master programs followed by the defence of master's thesis and assigning a master's degree (1-2 years). The following criteria for assigning master's degree are taken into consideration: quality of master's thesis and number of publications.
- Postgraduate studies full time (3 years) or part-time (4 years), followed by defence of PhD thesis and awarding PhD degree. The alternative is independent scientific work without enrolment in full-time/part-time postgraduate studies program ("soiskatelstvo") followed by protection of PhD thesis and assigning the appropriate degree as well (5 years); possible for specialists with 2 years previous work experience. The following criteria for assigning PhD degree are taken into consideration: quality of PhD thesis, number of publications, participation in the national and international research projects, and practical implementation of the results of the research.
- Full-time doctorate studies followed by the defence of doctoral thesis and assigning a Doctor's degree. The following criteria for assigning a Doctor's degree are taken into consideration: quality of doctoral thesis, number and significance of publications, participation in the national and international research projects, and evidence of practical implementation of the results of the research. [2].

After 5 year work experience in Higher Education Institutions (not less than 240 academic hours per each year) researchers with PhD or doctoral degree can apply for the title of an associate professor or professor [3].

The policies concerning training of scientific personnel in the Republic of Belarus are governed by the following organizations: the Council of Ministers, the National Academy of Sciences of Belarus (NASB), the State Committee on Science and Technology of the Republic of Belarus and the Higher Attestation Commission of the Republic of Belarus (HAC).

1.2 General tendencies of changes in researchers' number in the country

In recent years there has been an increase in the number of organizations engaged in scientific research: 446 organizations in 2009; and 530 organizations in 2012. The 55% of them were state-owned organizations (mainly research institutes universities and academic departments) [4]. Nevertheless, the number of scientific personnel in Belarus today is only 29% of its size in comparison at the beginning of the 1990s: the number of personnel engaged in research in 1990 in the Belorussian State Soviet Republic was 107 296 people; in 2012 – 31 194 people (0.7% of total employment in the state organizations).

The data on changes in the number of scientific personnel in the period from 2005 to 2011 are presented in Table 4 of Appendix 1. The ratio of 3 major subgroups of personnel engaged in scientific research, namely researchers, technicians and supporting staff for the past four years has remained relatively constant (Fig.1.2.1)

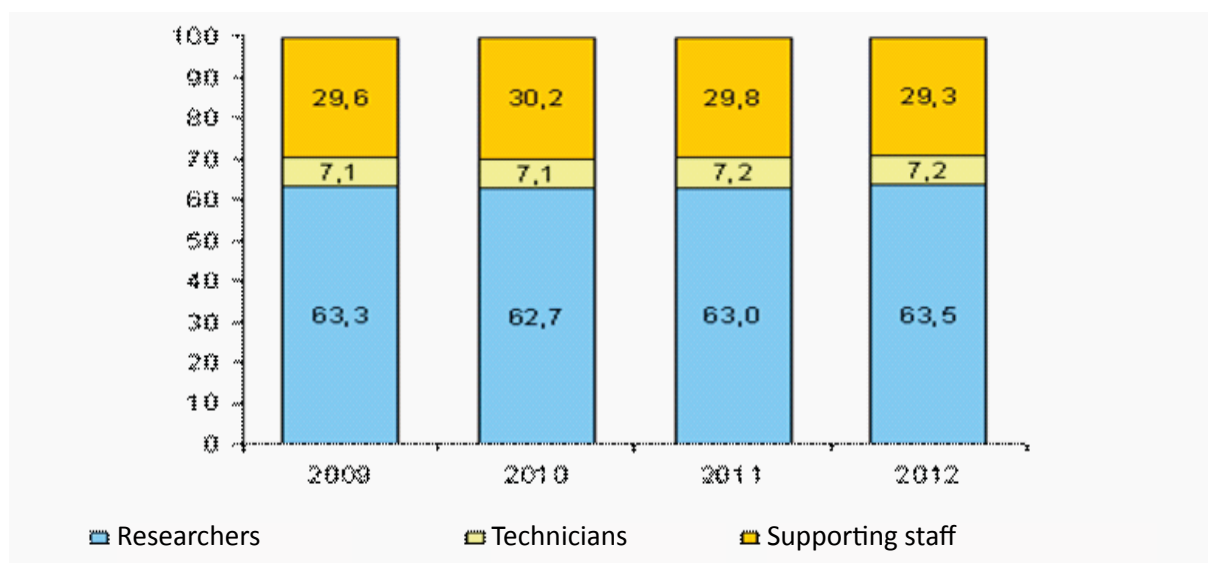


Fig 1.2.1 Structure of personnel engaged in research and development by category, %. The data of the project of the Belarusian Institute for Strategic Studies (BISS) “Human capital in Belarus: sources of competitiveness and modernization” [4]

Four periods could be separated in the process of the number changes of scientists in Belarus (Fig. 1.2.2) [5]:

1 -	1990 - 1997 -	collapse of number of scientific personnel;
2 -	1998 - 2005 -	stabilization of number of scientific personnel;
3 -	2006 - 2009 -	“imaginary growth” in number of scientific personnel;
4 -	2010 - 2012 -	Threat of unbalancing of mechanism of human resource capacity reproduction in Belarussian science in general.

Despite of the obvious negative consequences of the crucial reduction in number of scientific personnel in the period from 1990 to 2012 along with the outflow of the most demanded on the international labour market specialists, the quality of scientific workers generally remained at a high level, and, as it evidenced by the qualifications structure of the scientific personnel (Fig.1.2.3), a number of parameters have even significantly increased (Appendix 1 Table 4).

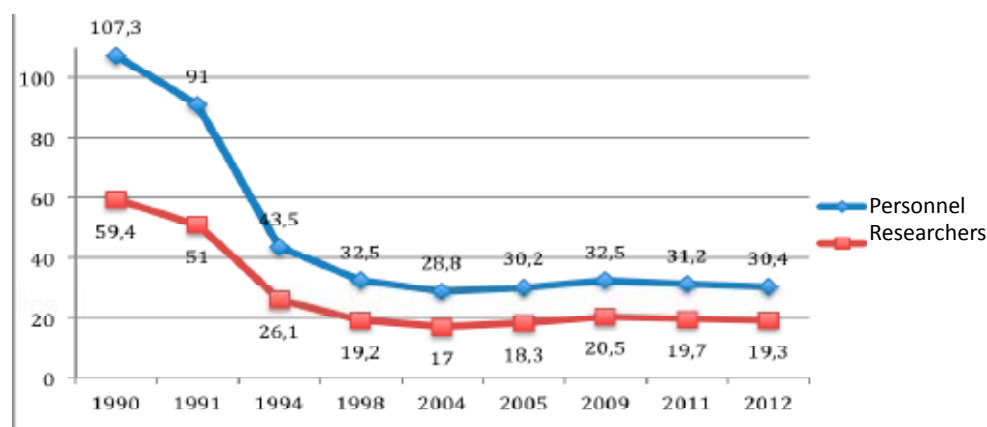


Fig. 1.2.2. Changes in number of scientific personnel 1990 - 2012, thousand people [5, p.4]

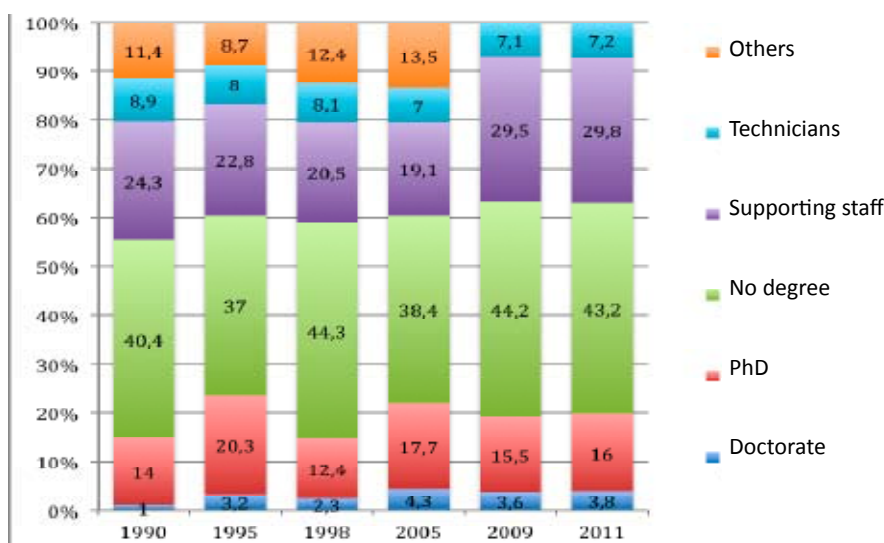


Fig. 1.2.3. The qualifications structure of scientific personnel 1991 - 2012, % [5, p.7]

The growth in researchers' rate has been provided by only two branches of science - technical and human sciences. In the natural and medical sciences there was a drop in the researchers' rate. The situation in agricultural and socio-economic sciences remained unchanged [5, p.7] (Fig.1.2.4).

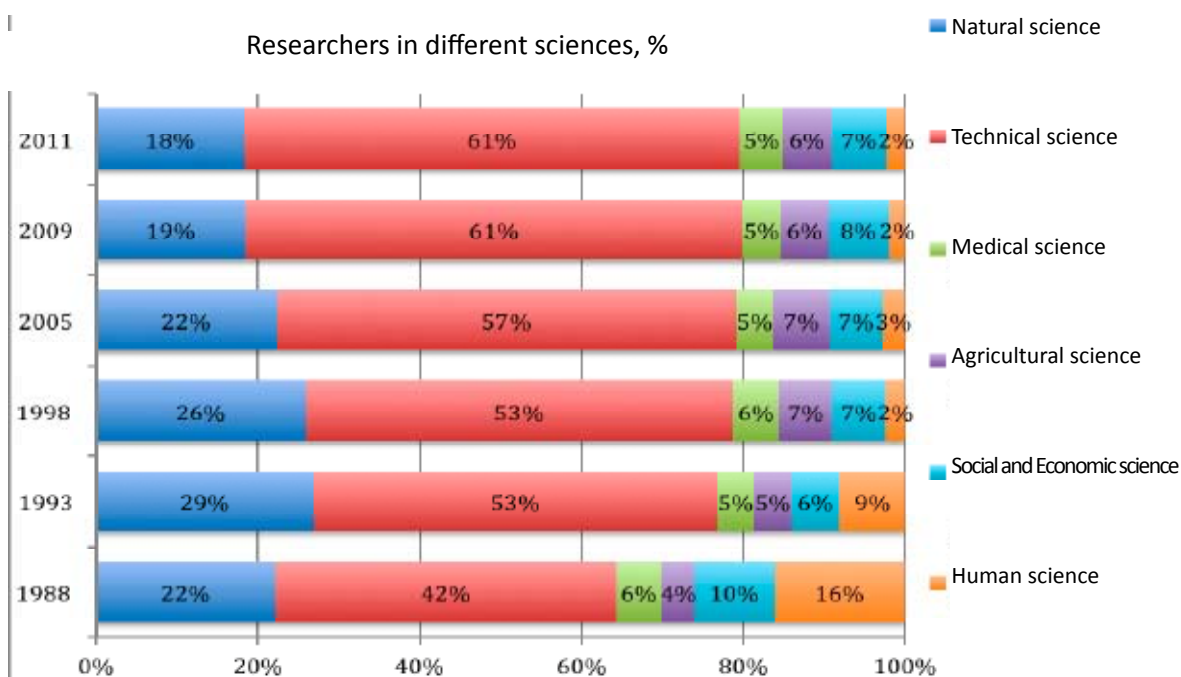


Fig. 1.2.4. Distribution of researchers among different branches of science, % [5. p.7]

1.2. Educational characteristics of Belarusian population: gender aspect

In modern Belarus the education level of women in quantitative terms is higher than men. Among working women the 54.6% have higher and special secondary education while the same indicator among men is 37.1 % [6]. Women are more likely to appear among students in higher education (59%) and specialized secondary (53.8%) institutions, as well as among graduate students (58.4%). At the same time 67.1% of students enrolled in vocational institutions are men [7].

According to the statistics among all the students of higher education institutions enrolled in the first stage of higher education women dominate in the following educational profiles:

- social protection (90,9 %);
- catering, hotel and consumer services (82, 6 %);
- human sciences (81, 2 %);
- environmental sciences (79, 9 %);
- pedagogy (76, 7 %);
- health care (73, 4 %);
- communication, law and economics (72, 6 %);
- art and design (71, 4 %).

Men are more often trained in the following specialties:

- security (87, 4 %);
- engineering and technology (72 %);
- architecture and construction (67 %) [7].

Distribution described is partly due to existing formal and informal criteria for selection of applicants to the appropriate specialty, including gender requirements. For example, only male citizens of appropriate age are eligible to enter the Military Academy of the Republic of Belarus (in accordance with the official order of enrollment) [8].

At subsequent stages of education (PhD and doctoral studies) indicated trends are evident even to a greater extent. While the share of women in the post-graduate students is almost the same level as in the first stage of higher education (among all students enrolled in PhD programs women consistently constitute 50-55%). At the doctoral level their number is somewhat smaller - 40-45% [7] (see Appendix 1 Tables 10-16, Appendix 2 Figure 1).

1.3. Scientific personnel in Belarus: gender aspect

On the strength of the tendency of consequent growth of the number of women scientists in Belarus in 1960-80ss [9], by 1995 the proportion of women in the total number of specialists engaged in scientific research and development, had exceeded the proportion of men (Table 1.3.1) [10].

Table 1.3.1. The proportion of women among researchers with different academic degrees

Year	The proportion of women in the total number of researchers, %	Among researchers with different academic degrees, %	
		PhD	Doctorate
1988	40,0	28,2	13,1
1995	53,3	32,0	11,0

At the same time, since 1990 there is a decrease in the absolute number of scientific personnel in Belarus: from 1990 to 2001 in 2.5 times [11].

The examination of the trend of reducing the number of employees of the scientific sphere over the last 25 years from a gender perspective will show the following.

1991-1997.: As a result of the collapse in number of scientific personnel in 1991-1997 and intensive outflow of men from the research sphere, the proportion of women in science had increased. This circumstance contributed to the establishment of a gender balance in the total number of specialists engaged in scientific research [12]. Intensive outflow of men from research related to the fact that the money was not paid, but they had to support their families. Reduction of wages did not have such a strong influence on the dismissal of women. Also the institutional inertia of women and inertia in changing their economic behaviour took place.

1998-2004.: Since 1998 the trend had changed, outflow rate of women increased and became higher than that of men. As for men, during this period (1998-2004) only the most motivated men were left in science, for whom remuneration factor was of secondary value. At the same period the clear signs of aging of scientific personnel appeared in Belarus (mainly in the category of “PhD”). But women outflow was more intense. If during the previous period they didn’t dismiss so intensively hoping to improve their positions in the research area, by 1998 they realized that their expectations had not been realized and began to move into other economic sectors. By the end of the period there were more men than women. Thus, by 2003 compared with 1997, the number of men decreased by 451 persons and women - by 1445. It made its adjustments to the gender ratio: the proportion of women dropped from 53.3% (in 1995) to 44.0%, and men, respectively, increased from 46.5% (1995) to 56.0% [13].

2005-2009.: The tendency of increase of men’s rate in comparison to women was similar to the previous period (1998-2004). By 2010 the proportion became the following: 57.8 % of men and 42.2 % of women [4] in the total.

2010-2013: However, despite the increase in the total number of men (by 1119 people compared to 1997) and the decrease in the number of women (838 compared to 1997) [4, p.12] to 2010, separate analysis of each areas of science show that gender ratio had changed dramatically - almost everywhere (except technical area) women began to dominate (Fig.1.3.1). The situation is the same in absolute numbers (Tabl.1 Appendix1). The gender ratio in more specific fields in 2010 could be seen in Fig.1.3.2. By the end of 2010 the wave of cuts of researchers touched men and women in different degrees and depending on the area of science. Thus, in the natural sciences the number of men decreased by 417 people in comparison to 2003, but women – only by 176. In the humanities number of men decreased by 71 people and women – by 88. In the medical sciences the number of men increased by 18 men more, and women - decreased by 115. In the social sciences the number of men decreased by 75 people and women - increased by 116. In two areas, the number of researchers increased: in the technical field – up to 2056 men and 810 women, and in the agricultural - 59 men and 60 women [4, p.16]. The percentage could be calculated via Tabl.1 Appendix 1.

The results have shown that the number of women in public and medical sciences reached 63.2% and 61.4 %, respectively, exceeding the number of male researchers in 1.7 and 1.6. In the humanities and agricultural sciences, the proportion of women was 57.6 % and 56.2 %, exceeding the number of men

by 1.4 and 1.3 times, respectively. Even in the natural sciences, which were traditionally “male”, the female researchers began to dominate: gender ratio there dropped from 50.5 % to 49.5%. The only sector where the male researchers continued to dominate was engineering science: 66% to 34 %, respectively [4, p.13].

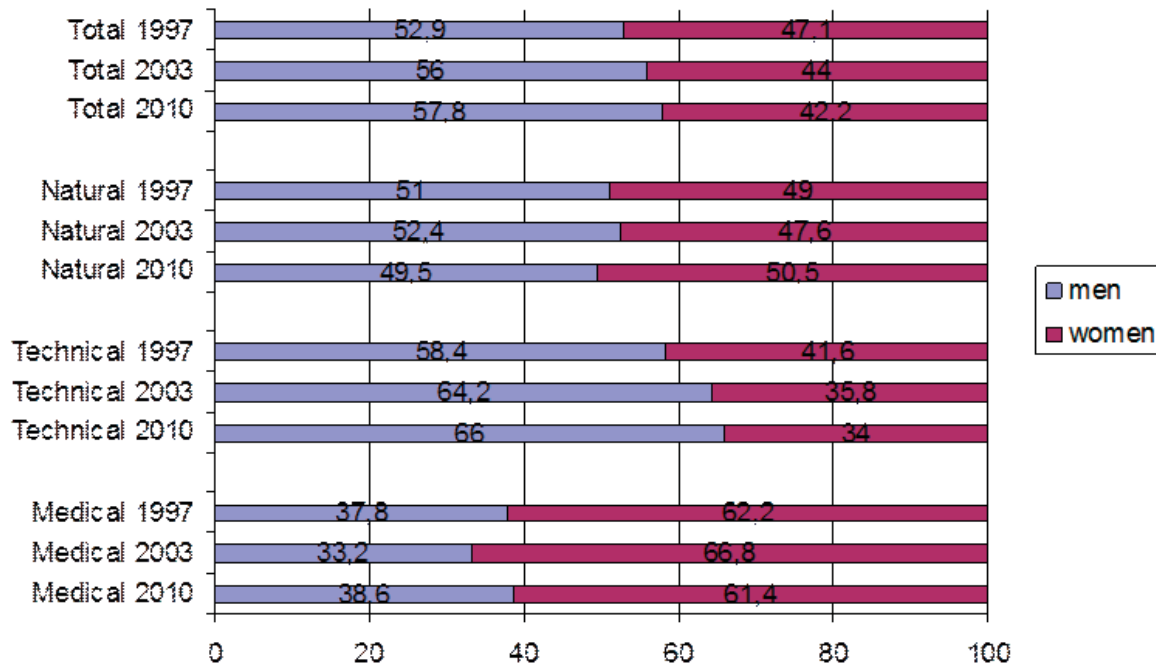


Fig 1.3.1. Gender structure of researchers, % (1997, 2003, 2010) [4, p.14]

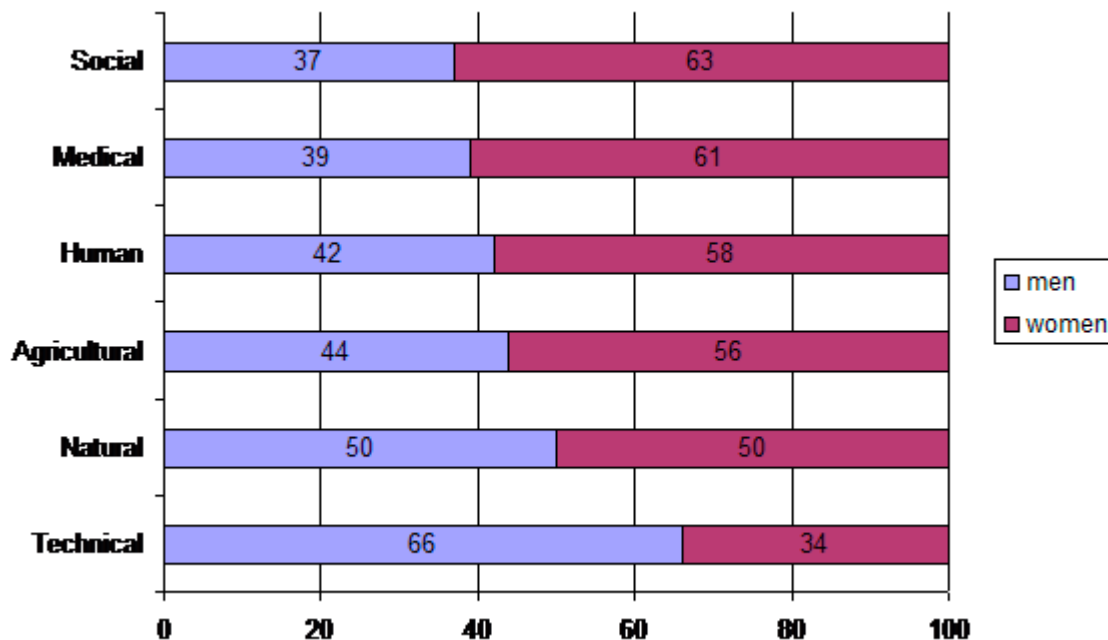


Fig 1.3.2. Gender structure of researchers in different fields, % (2010) [4, p.13]

The following example could be given as an illustration of the processes described above. It is the National Academy of Sciences of Belarus, where more than 30% of researchers of the country are work-

ing. There the women under the age of 49 years are dominating. The greatest proportion for the favour of women is in 30-39 years category [14]. In general, at the beginning of 2010 the ratios of female researchers in the National Academy of Sciences in different age groups were:

- under 29 years - 50.7%,
- 30-39 years - 54.8%,
- 40-49 years - 53.3%,
- 50 - 59 years - 48.8%,
- 60-69 years - 35.0%,
- 70 years and older - 18.6% [4].

However, despite the fact that women make up almost a half among the researchers, predominantly male researchers have academic degrees (according to the data for 2010, Fig. 1.3.3).

According to the National Statistics Committee, in 2012 about 20% of the total number of researchers has a degree. Among them there were 719 doctors and 3071 PhD, of them women, respectively - 123 and 1168 (17% and 38% of the total, respectively) [4] (see also Appendix 1, Table 5).

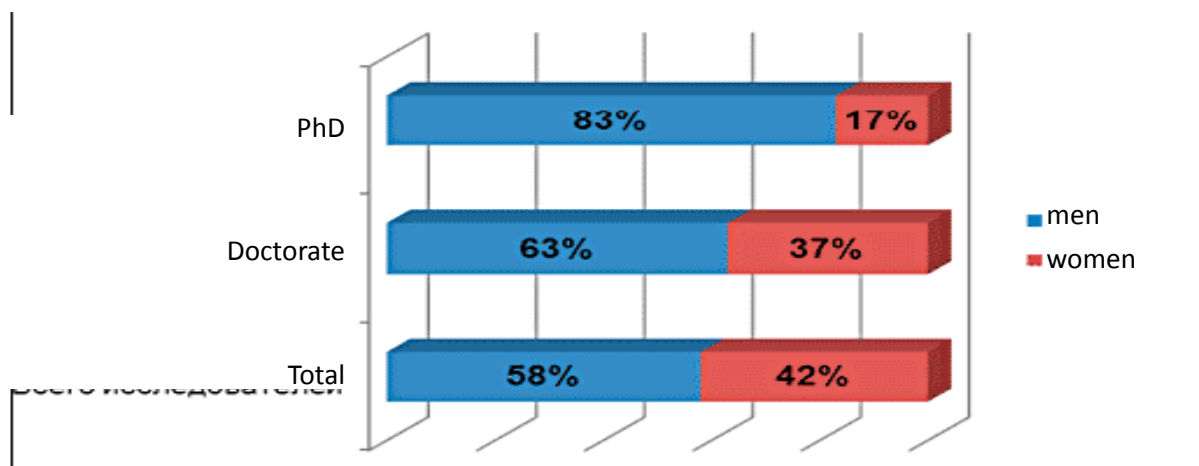


Fig 1.3.3. The gender ratio among researchers with different degrees (2010) [15]

At the same time there is a steady trend of outstripping growth of the number of women in the group of highly qualified scientists: in the majority of areas the increase in the proportion of PhD and Doctorate women comes amid falling proportion of PhD and Doctorate men [16] (Fig. 1.3.4, 1.3.5 Appendix 1 Tables 2-3).

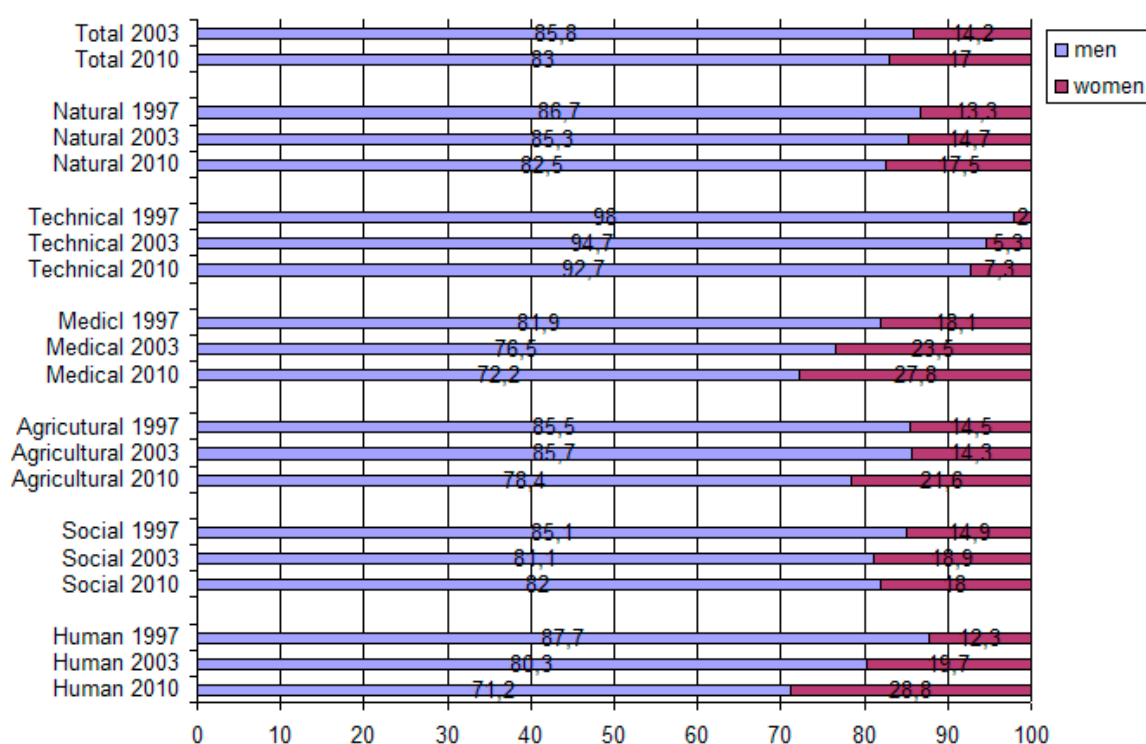


Fig.1.3.4. Gender composition of doctorates, % (1997, 2003, 2010) [4]

As it can be seen from the figures there had been a tendency to increase the proportion of women doctors in natural, medical, technical, agricultural sciences and humanities during the 7 years (from 2003 to 2010). The reverse situation had occurred only in the social sciences. Overall the proportion of male doctors decreased by 2.8 percentage points (down to 83.0%), and women - increased by 2.8 percentage points (to 17.0%) [4] (See also Appendix 1 Table 2).

Opposite changes in the proportion of women in various sciences had taken place in the category of PhD specialists as well (Figure 1.3.5, Appendix 1 Table 3). There was an increase in the proportion of PhD women in the natural, technical, agricultural, and social sciences. The situation was reversed in humanities and health sciences. In general, in this category proportion of men fell by 2.2 percentage points (down to 63.2%) and females respectively increased by 2.2 percentage points (to 36.8%) [4] (see Annex 1, Table 2-3).

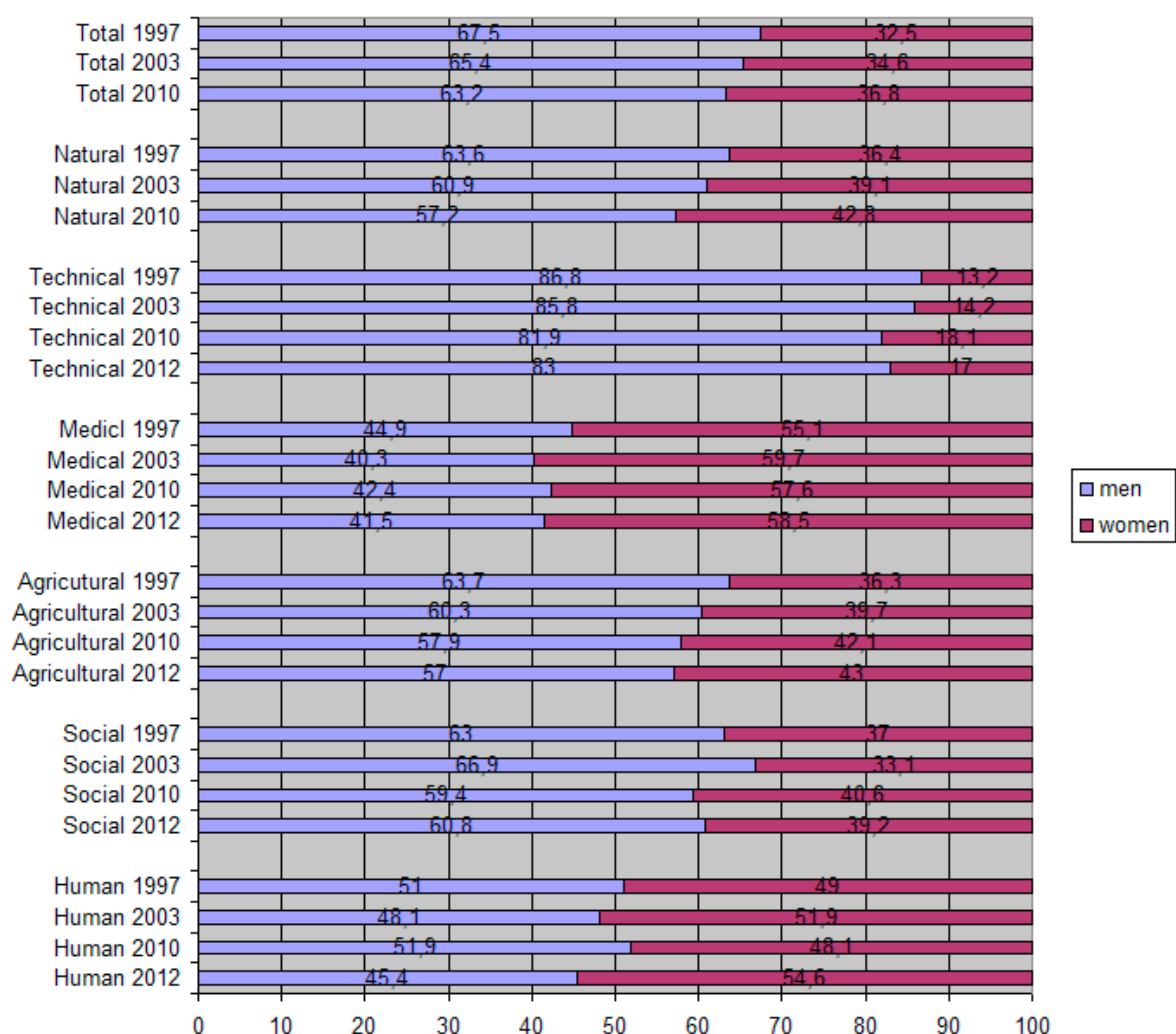


Figure 1.3.5. Gender composition of PhD researchers, % (1997, 2003, and 2010) [4]

Despite the fact that the number of women researchers in the humanities and social and medical sciences exceeds the number of men significantly, the number of PhDs among them was significantly less (see Table 1.3.2, Appendix 1 Table 6).

In addition, an unequal distribution of power resources in the field of science between men and women: only 11.6% of women working in science are leaders, but men leaders make up 20.7% [7]. Promoting women's career is difficult especially in physical and mathematical sciences and engineering. This is primarily due to the fact that in the research institutions of physical, mathematical and engineering profile the most employees are men, who are competing for positions and profitable projects and are not interested in the "additional" competitors. Therefore they are willing to support the version of the low efficiency of women in scientific research.

Table 1.3.2. Proportion of men and women among researchers with scientific degrees, % (2011) [15]

Sciences	The proportion of women with PhD *	The proportion of men with PhD*	The proportion of women with Doctorate degree*	The proportion of men with Doctorate degree *
Humanities	48,8	51,2	28,8	71,2
Medical	57,6	42,4	27,7	72,3
Social	40,6	59,4	18,0	18
Technical	18,1	81,9	7,3	92,7

* Among all the researchers with this degree

What concerns scientific career, the “backlog” of women is obvious. As it’s noted by I.R. Chikalova since 1929 there have been only 2 women elected as the full members the National Academy of Sciences. They are Russian historian A.M. Pankratov (1940) and the Belarusian geneticist L. Khotyleva (1980). There have been 7 women-corresponding members. They are a historian N.V. Kamenskaya (1959), an agrochemist T.N. Kulakovskaya (1969), a linguist Y.F. Mackiewicz (1969), a medical doctor T.V. Birich (1972), a biochemist M.T. Chaika (1991), a mathematician F.M. Kirillova (1996), a microbiologist N.I. Astapovich (1996). There are very few women among members of expert councils at higher Attestation Commission, scientific councils and thesis reviewing councils. Almost all the key positions in the scientific sphere are occupied by men [17].

In addition, the practice of unequal payment for women and men still exists. Statistical reports in line “Science and scientific services” constantly state that the average wage for women is less than it is for men [17]. Thus, the ratio of wages of women in science compared to men’s wages in 2010 was 78.4% [7]. Applied to scientists at identical positions with identical salaries actual reduction takes place due to discriminatory distribution of occasional rewards, bonuses, allowances [17].

According to A. Lavrukhin, increasing proportion of women in the number of researchers today, on the one hand, has become a steady trend, but, on the other hand, is not a result of the policy of establishing gender equality in science. The main cause of the feminization of modern scientific personnel is rather a sharp decline in the social status of science (and scientists) in the Belarusian society and the reduction in scientists’ revenue [18]. The main reasons for the outflow of highly qualified personnel are obvious. They are insufficient levels of income in comparison with the business sector, lack of proper updates in logistical base and information support of scientific and technical activities [19]. Only a socially reasonable salary might attract and retain active scientific kernel. [19] In 2011, wages in the “Science and scientific services” branch were only 21.2% higher than wages in the industry; and the level of wages in the “Education” branch (category “Teaching Staff”) - 19 % higher than wages in the industry [20]. However, article 38 of the Law “On Scientific Activity” provides excess of 1.5 times the average monthly wage of scientific and pedagogical workers of that in the industry [19].

Thus, the process of feminization of science from 1991 to 2012 in terms of the pace and scope was comparable to what happened in the Soviet period from 1960s to the 1980s, but significantly different in nature. [22]

1.5. Teaching staff of higher education institutions of the Republic of Belarus: a gender perspective

In the higher education sector in 2012 research and development were performed by 70 organizations (universities and institutions). The number of researchers (with and without degrees, the positions could be partly combined or separated from teaching) in the higher education sector at the end of 2012, which amounted to 2,003 people, or 10.4% of the total number of researchers in the whole country [21].

Changes in the scientific staff of the Republic described above also apply to the structure of teaching staff of higher education institutions from all departments (which comprise a little less than 25 thousand people in Belarus).

The proportion of female teachers in those institutions increased significantly, exceeding the 50% limit. In Belarusian higher education institutions there are more women occupying positions in the general faculty than men [7] (Figure 1.5.1 and Appendix 1 Table 7). At the same time female teachers in higher education institutions are significantly younger than their male counterparts (see Appendix 1 Tables 8-9).



Figure 1.5.1 Gender composition of faculty (by the end of 2009) [7]

The number of women occupying positions of doctors and professors of departments and their share in the total number of professors comparing to men also steadily increases [23].

Among those working in higher education institutions there are 235 women doctors of Science and 223 professors [24].

A pattern of reducing the proportion of men similar to scientific field is observed in higher education institutions for the female associate professors, senior teachers, teachers and assistants.

Obviously, the numerical predominance of women in higher education is yet only at the expense of

lower service levels. No wonder that women remain a minority among the administrative authorities of scientific institutions of higher education [23]. In Belarus, 4 women are rectors of higher educational institutions, while there are 52 male rectors [24].

1.6. Scientific career in gender aspects

Chikalova I.R., professor of the Department of Cultural Sciences at Belarusian State University, Doctor of Historical Sciences, notes that the study of empirical data in conjunction with the analysis of biographies of scientists have shown that a scientific career is much more demanding for women and develops slowly compared to the male counterparts. *Chikalova I.R.* believes that this is due to the need to overcome gender stereotypes.

These stereotypes lead to women discrimination (usually hidden), in practice manifesting themselves in an artificial slowdown of professional advancement, failures in the scientific recognition and appropriate encouragement.

As a result, being concentrated at the lower levels of professional science, women are limited to non-creative types of work that do not give scientific recognition and personal satisfaction, but make men scientists free from routine [25]. To be engaged in science, a woman needs to overcome a large number of obstacles. There are a lot of facts of strong horizontal and vertical segregation in the scientific field.

Horizontal segregation - is an uneven distribution of human resources (in this case, men and women) by fields and professions [25]. According to *Chikalova I.R.* there are stable and common stereotypes that women's thinking does not meet all the disciplines, but only human and social. These prejudices are laid down during the family and school education, and then by practice of formation of a contingent of university students. Already at this stage scientific disciplines become marked as "male", "female" or "neutral" [17]. At the level of scientific personnel, this segregation becomes fixed even more strongly (Appendix 1 Tables 1-3, 6, 10, 15).

Vertical segregation - is the uneven distribution of human resources (in this case, men and women) in various positions in the professional hierarchy. *Chikalova I.R.* points to a widespread belief that women are less competent. As a result science is seen as a male sphere of activity, where the invasion of women is undesirable. This gives rise to the desire to preserve science, at least at the leadership level as the sphere of masculine activity, while the women's participation in it is seen as little desirable, although inevitable phenomenon [17].

Also, women in Belarus experience problems with publication of their results. For example, despite the fact that in the humanities there are significantly more women scientists, more publications in scientific journals are published by male authors. This is true for attempts to get a grant as well [25].

Currently in Belarus scientific rating of scientist is considered according to the Scopus, ISI and Russian Science Citation Index data on the number of publications, citation index of all works, citation index without self-citation index and Hirsch index as well. Thus, taking into account the fact of women's difficulties with publications mentioned above, it can be assumed that scientific ratings of women in

Belarus will not be very high. In 2011, researchers of the Central Scientific Library of the National Academy of Sciences of Belarus together with the library of the natural sciences of the Russian Academy of Sciences analyzed the results of the research activities of the Belarusian scientists over the past 5 years. The rating of citations in authoritative scientific journals according to the database Scopus were taken as a basis for the analysis. According to Scopus there were no women among the ten most cited scientists in Belarus for 2006-2010 [26]. Taking into account, that the scientific rating of scientific supervisor is one of the criteria of project reviewing, the reasons for automatically limited women's access to grants become clear.

Such a situation is caused by the peculiarities of the position of women in modern Belarusian society. In addition to their professions, women also continue to be imputed as a mother, wife, home keeper, etc. Thus, for the majority of working women pressing issue is to combine all these roles [23]. Survey of the 89 PhD women working in institutions of NASB, has revealed that in their scale of values put have health in the first place; the family – in the second; the work – in the third; security – in the fourth and self-realization – only in the fifth place. [17] Since motherhood, caring for family and HOME are primarily considered as women's responsibilities, respectively women have fewer resources to be engaged in scientific activities. In addition, the survey has shown that 40% of them have had "difficulties in career", 40% are concerned about "the inability to find another suitable job", 35% feel "gender inequality", 30% "live in fear of losing their jobs," 25% are afraid of being laid off by age, 20% are not satisfied with "relationships with others at work", the difficulty to find additional income bother 40% of the respondents [17]. In addition, there is a certain "bullying" sexism against women engaged in scientific activity, which manifests itself in an abusive statements, derision, neglect, etc.; stigma image of women engaged in science like the "gray mouse" or "blue-stockings" [25].

The involvement in the communication system plays an important role in the research activities, because the achievement of good results requires a constant exchange of information. In low-skilled scientific status there is only a little chance to join the informal network of scientific communication: such a researcher is not interesting to anyone because she is not a carrier of upscale information and does not have sufficient organizational capacity. The most women scientists find themselves in such a situation. And they have to do much more than their male counterparts to enter the community, participation in which not only provides the exchange of information, but also support. Women have to constantly prove their ability to work at the appropriate level, to seek recognition of their achievements and support their research. The law of accumulated benefits is relevant in science.

Social mechanisms of the scientific community is functioning in a way that someone, who has already achieved success, moves into the upper layers of the stratification system of science with no abuse of anyone and with the recognition of the increased access to the resources needed for research (finance, information, international contacts, competent assistants). Unrecognized scientist, located on the lower level of the stratification structure, should seek the necessary resources with incredible difficulties and low chances of success. Women usually stay in the lower layers of the scientific community, with great difficulty, fit into this upward spiral accumulated benefits [23].

Especially strong opposition to scientific career of women usually appears after discovering their desire to become a doctor of sciences or their claims for positions of heads of laboratories, departments and higher positions. Typically, getting the master's thesis takes young woman as much time as young men. [17] But further, when she starts to aspire for higher positions, the phenomenon of "glass ceiling" takes place.

2. LEGAL AND INSTITUTIONAL FRAMEWORK

General information about the political system of the Republic of Belarus

Republic of Belarus is a unitary democratic social state. State power is exercised on the basis of its division into legislative, executive and judicial power. Belarus is a Presidential republic. The President of the Republic of Belarus is the head of the state. Following the Constitution, the legislative body is the Parliament. Executive power is exercised by the Government - the Council of Ministers, which is the central body of state administration. There are a range of relevant ministries accountable to the Council of Ministers: Ministry of Architecture and Construction, Ministry of Interior, Ministry of Housing and Communal Services, Ministry of Health, Ministry of Foreign Affairs, Ministry of Information, Ministry of Culture, Ministry of Forestry, Ministry of Defence, Ministry of Education, Ministry of Taxation, Ministry of Emergency Situations, Ministry of Natural Resources and Environment, Ministry of Industry, Ministry of Communication and Information, Ministry of Agriculture and Food, the Ministry of Sport and Tourism, Ministry of Statistics and Analysis, Ministry of Commerce, Ministry of Transport and Communications, the Ministry of Labour and Social Protection, Ministry of Finance, Ministry of Economy, Ministry of Energy, Ministry of Justice.

National Academy of Sciences of Belarus (NASB) is the highest state scientific organization of the Republic of Belarus, which obeys to the President of the Republic of Belarus and is accountable to the Council of Ministers. NASB organizes and coordinates theoretical and applied research carried out by all subjects of scientific activity. Usually public research institutions have double system of subordination: they are accountable to the Ministry of the corresponding profile and Academy of Sciences as well.

2.1. Parliamentary level

General information on the Parliament of Belarus

The Parliament of Belarus called the National Assembly of the Republic of Belarus, is a representative and legislative body, and consists of two chambers: the House of Representatives and the Council of the Republic.

The House of Representatives holds 2 annual regular sessions and is elected for 4 years. The House of Representatives consists of 110 deputies who must be citizens of Belarus at the age over 21. Functions of the House of Representatives are: consideration of drafts of the laws, the appointment of presidential elections, the approval of the candidates nominated by the President for the post of Prime Minister, the assessment of the government, the initiation of votes of no confidence, if necessary.

According to the Constitution, the House of Representatives is considering draft laws, including the approval of the main directions of domestic and foreign policy of the Republic of Belarus; military doctrine, ratification and denunciation of international agreements, the fundamental concept and principles of the rights, freedoms and duties of citizens, the Citizenship status of foreigners and stateless persons, the rights of national minorities; approving the national budget and report on its implementation; establishment of national taxes and fees; the principles of the property; the basics of social

protection, the principles of regulation of labor and employment, marriage, family, childhood, motherhood, fatherhood, parenting, education, culture and health, environmental protection and rational use of natural resources; establishing the procedure addressing the administrative-territorial structure of the state, local government, the judicial system, court proceedings and the status of judges, the criminal liability; amnesty, declaration of war and peace, on the legal regime of military and emergency; of state awards; and interpretation of Laws.

Council of the Republic is a regional representative body consisting of 64 members. Local Councils elect 56 members: eight from each region and 8 from Minsk. 8 more members appointed by the President of Belarus. Candidates for the Council of the Republic must be over 30 years and have resided permanently in the corresponding region of Belarus at least for 5 years. The main function of the Council of the Republic is the acceptance or rejection of draft laws approved by the House of Representatives.

2.1.1. Legal framework

The Republic of Belarus has made some progress in aligning the social status of men and women. Currently in Belarus issues of women position in society and gender equality are regulated by:

1. Constitution proclaims the equality of the sexes. According to Art. 22 of the Constitution (1994, as amended and supplemented) men and women are all equal before the law and are entitled without any discrimination to equal protection of the rights and legitimate interests. In addition, the Constitution contains a list of grounds on which discrimination by gender is prohibited in social and labour issues. In particular, Art. 39 of the Constitution states that “men and women in accordance with their abilities, training have the right of equal access to any position in the government”; Art. 41 of the Constitution enshrines the universal right to choose one’s profession, occupation and work in accordance with their inclinations, abilities, education, training with regard to social needs, as well as to safe and healthy working conditions; Art. 42 guarantee the right to equal pay for work of equal value, Art. 47 - The right to social welfare in old age. Art.49 - the right to education.

2. Laws, codes and legal standards designed to ensure the involvement of women in the socio-political life of the country, increasing their level of education.

There are no documents specifically regulating gender equality in science in Belarus. Therefore, the main document regulating the status of women in the professional field, like any other, is the Labour Code.

Actual Labour Code has adopted a series of progressive principles, such as additional guarantees for fathers, guardians, other relatives of the child, including leave to care for a child up to three years (Article 271). Nevertheless, the most frequent violations of labour law against women are connected with the factor of their reproductive function. In this vulnerable position of women in the labour market is compounded by the prevailing gender stereotypes in the society, defining the role of women primarily as mothers and housewives.

Gender bias is reinforced by the dominant protective ideology of the Belarusian labour legislation in-

herited from the Soviet system - paternalistic concept of “ethics of care” towards women (Par. 2 Part. 3 Art. 14 of Labour Code). In the conditions of modern market economy provision of a wide range of benefits to woman makes her unprofitable employee. It has been found out most often women are denied because of the age. Employer chooses not to hire young women, as in the long term they can take advantage of maternity leave, or women of age 50 - 54 years as they have the right to retire 5 years earlier than men (according to Art. 11, the Law on pensions, 17.04.1992 N 1596-XII) [29]. In practice, the very common discriminatory cause of refusal to woman is the presence of young children [15]. As the result the size of the retirement pension for women is by 10-25% lower than men’s. Differentiated retirement for men and women can be considered as discrimination. [16]

Feminist-oriented part of the women’s movement calls for the abolition of statutory employment benefits for women, believing that the ideology of help if it is not considered as a system of provisional measures will not lead to tackle inequality and reproduce it on a new level. However, society today is not quite ready to say goodbye to these benefits. This is evidenced by the fact that despite the legislative consolidation of equal opportunity for men and women to have a leave to care for a child under three years, only a few representatives of «stronger sex” (usually with a law degree) have used it. The existing stereotype of distribution of social roles with the function of raising children fixed solely on woman comes into play. [3]

The principle of gender equality is being carried out into practice by a range of existing laws, such as the laws “On Employment of the Republic of Belarus”, “On Education”, “On Higher Education”, “On the basis of service in the state apparatus”. [6] However, the draft law “On gender equality” as a stand-alone document still has not been included for consideration by the Belarusian parliament.

In general, rules of the Belarusian legislation may be regarded as gender neutral, do not contain apparently discriminatory provisions against women and their labour rights.

Nevertheless, in some cases, in national legislation andocentric language of their texts can be seen. For example, the Constitution says “women are guaranteed equal opportunities in education and vocational training, in work and promotion (work) in the socio-political, cultural and other spheres of activity” (Article 32, Part 5) emphasizing the recognition of the state of men as “normal” and the need for women to fit to this “norm.” Gender asymmetry encoded in the texts of legislative acts is also evident in the preemptive use of the male gender. This could be found in the Law “On Scientific Activity” (Appendix 4). Thus, there is a “crowding out of the female to the periphery language functioning, and, consequently, the linguistic consciousness” [13], which could potentially contribute to the perception of female identity by society as a minor, having no independent value.

In general, the practice of gender-neutral legislation in other countries has shown that it is not an effective tool in protecting the rights and does not automatically provide equal opportunities for women. [18] It is also noted by the experts that there is conservation and even growth of problems of women in the labour market, such as the feminization of unpromising, not prestigious and low-paid areas of activity, exclusion of women from managerial positions, downgrade of working conditions for women.

2.2 Governmental level

2.2.1. Legal framework

Belarus has ratified a number of international documents [20] with respect to gender equality and overcoming gender discrimination (UN Convention on the Elimination of All Forms of Discrimination against Women (1979) - ratified by Belarus in 1980), the Declaration and the Platform for Action of the World Conference on Women (Beijing, 1995) since 1995, the Millennium Declaration). To fulfill these international obligations several pieces of legislation were adopted in Belarus, the most important of which - Paragraph 4 of the National Plan of Action on Gender Equality which was the basis for drafting of the Law "On gender equality." Third National Plan of Action on Gender Equality has been already implemented (2008-2010), approved by the Decree of the Government of Belarus. The Fourth National Plan on Gender Equality for 2011-2015 was adopted in 2010 [2, 19]. The main tasks of this document – promotion of equal representation of men and women at all levels of management, the introduction of gender awareness in the education system, formation in the public mind the necessity of social equality between men and women in all spheres of public life, preserving and strengthening of reproductive health of men, women and teenagers to ensure the normal reproduction of the population and improvement of the quality of life.

2.2.2. Institutional framework

Currently in Belarus there are no effective legal and institutional mechanisms aimed at establishing gender equality and women's rights.

In 2000, a National Council on Gender Policy at the Council of Ministers [19] was founded. The Members of the National Council were representatives of various ministries and departments, as well as representatives of the three women's public associations. But the work of the National Council was not regular, and especially in the period from late 2004 until January 2009, when the Council was almost idle. Reasons for omission of the National Council - low priority gender policy for government institutions and the constant rearrangement of leaders in government structures.

Belarus has not created special units on gender in the executive and legislative branches. There are no special commissions or departments possessing adequate tools, human and financial resources to provide the appropriate influence at all levels of decision-making, which could raise the question of the structural nature of inequality between the sexes. Coordinating Councils of Women, Family and Children, which are set up in the executive government in some regions of Belarus (for example, the city of Minsk) exist only formally.

After completion of the second national action plan, a gap can be observed in the national gender policy: in the period from late 2005 to late 2008 the National Council was inactive and a national plan for the next period was not adopted. Under pressure from the public in September 2008, the government finally adopted a National Plan of Action. As with the previous plan, it was not confirmed by a share in the national budget. Monitoring of the implementation of latter National Plan showed that there is not enough understanding at the Governmental level that gender equality has political, economic and social foundations and requires adequate resources.

In January 2011 at the 48th session of CEDAW (Committee on the Elimination of Discrimination Against Women) once again the government of Belarus reported about the implementation of the Convention on the Elimination of All Forms of Discrimination against Women for the period of 2003-2010. In addition to the official report presented to the CEDAW Committee, an alternative report was prepared by NGO «Women's Independent Democratic Movement». In that alternative report the most acute problems of Belarusian women were designated and recommendations and corrective measures were identified. Within the session, the CEDAW Committee has developed its final recommendations to the Government of Belarus, taking into account the information provided in the Alternative report. However, the recommendations of the 48th session so far are not the subject of discussion in the public media and guidance to government officials. [20]

2.2. Scientific research level

General characteristics of entire system

Currently Belarusian science is concentrated at universities (45 public and 9 private) and research institutes (69) of the National Academy of Sciences. But total number of organizations involved in research and innovation is much bigger (550). In many of these organizations, along with laboratories and departments of conforming profile there are such traditional academic departments, as scientific and technical councils, councils on theses, expert committees and associations of young scientists.

State management in the field of scientific activity is performed by the President of the Republic of Belarus, the Council of Ministers of the Republic of Belarus, the State Committee on Science and Technology of the Republic of Belarus, the Higher Attestation Commission of the Republic of Belarus, and the National Academy of Sciences of Belarus. Existing regulatory documents on scientific activity (<http://nasb.gov.by/rus/about/legislationr.php>) contain no explanations about gender issues and in general, are neutral in terms of gender (Appendix 4).

Science funding comes from the state budget (mainly through the Republican Foundation for Fundamental Research), as well as funds from international and foreign organizations whose activities are allowed on the territory of Belarus.

In 1990, spending on science in Belarus amounted 2-3% of GDP, which indicates that it was one of the priorities of the economic policy of the country. From 1990 to 1994 spending on science decreased almost 3 times, and in 2001 budget appropriations for science amounted to 0.4 % of GDP, while total spending on research and development from all sources of funding were 0.82 % of GDP. The share of expenditure is altering up to the present time, indicating fluctuations rather than active growth [Chapter 1, 11]. The maximum level of the unit cost of research and development in Belarus in 2005-2010 was reached in 2007, when their share to GDP was 0.97 %. In other years this figure ranged from 0.65 to 0.75% [Chapter 1, 19]. In 2011 the figure was 0.76 %. According to a report of the State Committee on Science and Technology of the Republic of Belarus in 2012, research intensity in 2012 reached 0.9-1.1 % of GDP compared with planned amount of 1.0% [Chapter 1, 21]. Ratio of the recurrent and threshold values of the costs of research and development in Belarus as a percentage of GDP is 0.4 %.

[Chapter 1, 11].

Table 2.4.1. Changes in the share of the gross domestic product spending on research and development in 1990 - 2012

Year	GDP total, rubles *	Share of GDP spending on science
1990	43 bln	2-3 %
2001	17'173 bln	0,4 %
2005	65'067 bln	0,65 %
2007	97'165 bln	0,97 %
2010	164'476 bln	0,75 %
2011	297'158 bln	0,76 %
2012	527'385 bln	0,9 -1,1 %

* - at current prices

To receive funding from the state budget one must apply for a grant, including the following documents: project description, description of the group of performers, the biography of the project supervisor and his scientific rating, facts about government awards, a list of printed publications, and a schedule of anticipated expenditures. In addition, a petition on behalf of scientific and technical councils of applying organization must be enclosed. Submitted applications are reviewed by expert committees (mostly in Republican Foundation for Fundamental Research). Ratings of those projects that have not received funding are normally not disclosed. Traditionally, projects submitted by young scientists under the age of 35 years are considered in a separate competition.

2.3. Non-governmental, public level

Women's public organizations have played a large role in the promotion and implementation of gender equality policy in Belarus. Activities of women's organizations include monitoring and research on problems of female social group, various educational programs and counselling services for women in crisis. However, the last decade has witnessed a serious decline in the influence of society on development processes and decision making. In recent years the women's movement in Belarus has decreased in size and has faced significant problems in its institutional development. Harassment of some NGOs, including women, lack of transparency and civil dialogue affected the state of women's issues and discrimination of women as social group in the labour market.

Currently there are more than 30 Belarusian NGOs dealing with women's issues. The most massive is Belarusian Women's Union (<http://oobsg.by>). The Union includes 183,000 people and has more than 4,000 primary organizations throughout the country. Among the statutory goals of the organization the following can be found "raising the status of women in society, their role in all areas of life of the country, the elimination of all forms of violence and discrimination, and to promote the protection and improvement of women's health, protection of the rights of women, children, strengthening the family". [15]

The other women's NGOs in Belarus are [26]:

Related to gender equality issue:

1. Public Association "Belarusian Research Centre of gender". Their aims are improvement, development and promotion of gender methodology and theory, gender education, culture and the implementation of the results of gender studies in the educational process and practice of management and control, protection of rights and interests of its members.
2. Public Association "Belarusian Female Center for Information and Coordination." Their goals are consolidation of women associations of Belarus, information support, and coordination the actions aimed to improve the women's position in Belarus and enhance their role in society.
3. Public Association "Women's Liberal Association." Association of Women for the protection of their economic, social and cultural rights.
4. Public Association "Belorussian Women's League" – union of women supporters of social democracy for protection of their legitimate social, social and cultural interests.
5. Republican Public Association "Women's Response." Promoting a free implementation of their civil, social, economic and cultural rights, creating of a harmonious society in which women possess equal rights with men and implementation of the rights guaranteed by the Law.
6. Republican Public Association "Association of women of Belorussian State University" (<http://womenbsu.iatp.by>). The union of the BSU women's was founded for social support of women and the impact on the processes of social reform in the direction of consolidation, humanity, tolerance.
7. International women's NGO "Global Partnership". Promoting women's participation in the processes of democratization, formation and development of civil society.
8. International Public Association "Family trinity." Harmonization of relations in the family, the community, improving the status of women in socio-economic, family and domestic spheres, enhancing of their citizen position.
9. Public association "Women's Independent Democratic Movement". Protecting the rights of women, their families and children, changing the status of women in society through the change of its identity and proactive behaviour.
10. Public association "International Women's Foundation of St. Euphrosynya of Polotsk". Goals: promoting national culture, science, education for the spiritual revival of the Belarusian in the world, preservation and enrichment of the spiritual values, the protection of social rights for all women.

Related to women's professional issues, including science:

1. Belarusian Association "Women's Alliance." Combining the efforts of women to protect their social, cultural and economic rights and interests, enhance their professional skills, satisfaction of social needs, as well as assisting members of the association and their families (bwalliance@yandex.ru).
2. Belarusian Association "League of midwives." Promoting the professional level of its members and improve the social status and prestige of professional midwives, their social security, the embedding of domestic and foreign techniques and technologies in the field of women's reproductive health and midwifery.
3. Public Association "Belarusian Association of Women Lawyers." Support of legal science and improve the professional level of its members.
4. Public Association "Belarusian Association of Young Christian Women." Protection of the rights and legitimate interests of young women, and promotion of the disclosure of personal potential of young women in society. <http://www.genderywca.by>
5. Public Association "Belarusian Organization of Working Women." Association of Women for the protection of civil, social, economic, labor and other legitimate rights and interests of women, families and children.
6. Public association "Socio-educational center for women "Nadejda". Providing voluntary assistance to women in addressing their socio-economic and professional status in the country.
7. Public Association "Belarusian women's movement "Revival of the Fatherland". Their goals are promotion of free realization of women's potential, protection of their civil, social, economic and cultural rights guaranteed by the Constitution of the Republic of Belarus and the main international documents for the welfare and progress of society, as well as national and cultural revival of Belarus.

Others:

1. Belarusian Association of Women "Uliana." Addressing women's and their families interests in the sphere of culture, education, protection of the legitimate rights; as well as the identification of areas of social tension and discrimination against women.
2. Children NGO "Association of Belarusian Guides." Promoting of the spiritual, intellectual, physical development, improvement of character, social adaptation of girls and young women in a changing world.
3. International public voluntary organization "Yes to life." Promoting respect for human life at the time of conception, the provision of material, moral, and other assistance to women in the Republic of Belarus to prevent abortion.
4. International Public Association "Rays of Hope". Assistance in carrying out preventive work to reduce the incidence of breast cancer, providing a voluntary, social and other assistance to women suffering from breast disease.
5. International Association of Women "Interforum." Increase of spiritual and intellectual level of the society on the formation on friendly international relations with the Republic of Belarus, its people, culture and history (interforum@mail.ru).
6. Public organization "Belarusian branch of expeditionary sports club "Snowstorm". Organization and implementation of expeditions to remote areas of the Earth, involving in complex research, promotion of physical culture and sports among women and their families.
7. Public association "Collaboration of business and creative women." Promoting disclosure of personal potential of women through the establishment and development of their business and creative abilities. <http://sunlight.iatp.by>
8. Public Association "International Women's Union "the Unity". Association of women for active implementation of high social values and moral principles in the society that contribute to the renewal ties between the peoples of the former Soviet Union and support of initiatives for their unification.
9. Republic Youth Public Association "YANA". Promoting social advancement and improvement of the status of young women in the society.
10. Republic Public Association "Belarusian women's organization "Social Initiative". Coordination efforts of women to protect their legitimate rights and interests, as well as the rights of their families; educational program to assist unemployed women, training women's movement activists, development projects aimed at addressing women's and social issues, the creation of a database on the situation of low-income families, single mothers, children, the organization of summer holidays and recreation for children abroad.
11. Republican Public Association "Woman and Family." Improving the quality of life and health of women and their families through increased cultural and social level; bring together women to protect their social, cultural and economic rights and legitimate interests, improve the professional level of satisfaction of social needs, and assist members of the organization and their families.
12. Republican Public Association "Mothers Against Drugs". The main goal is to unite the efforts of mothers and parents community aimed at preventing the spread of drug addiction. Association seeks to promote personal potential of women, often burdened with the most mundane problems of survival, maintenance and education of the family.

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