From Norm and Theory to Practice: a Tailor-made GEP for the Institut de Ciències del Mar

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Abstract: The European Commission is fully committed to promoting gender equality in research and innovation. It is a priority for the European Research Area (ERA) and a cross-cutting principle under Horizon Europe. Gender equality plans (GEPs) have been established as the primary instrument for implementing institutional changes in Research Performing Organizations (RPOs) to address structural barriers to gender equality in research and innovation. Within this framework, specific objectives are defined, and thematic areas for intervention are recommended. In this regard, the formulation of a GEP for the Institut de Ciències del Mar (ICM), implied a broader challenge as it had to comply with diverse national regulatory frameworks. Nevertheless, the variety of reference frameworks, instruments and approaches did not condition the aspiration to design a GEP that fully responded to the specific context of the ICM. Thus, the GEP became the roadmap to generating an organisation cultural change that allows the effective integration of gender equality across all its areas and actions. Drawing from ICM’s experiences, we aim to share the path undertaken by ICM and shed light on the multifaceted challenges encountered during the GEP’s design and successful implementation. There is a pressing need to transition from mere adherence to the normative framework to achieving genuine gender equality in practice. Transforming normative principles into practice requires tailored and individualised strategies, feasible objectives with measurable results, appropriate measures to achieve them, and indicators to measure progress. This challenge involves effective institutional changes that remove obstacles to gender equality, both inherent in the research system and stemming from the institutional model of human resources management, funding, decision-making and research programs. The commitment to gender equality must transcend the field of research and research to encompass all staff and institutional practices. Successfully transitioning from theory to practice requires institutional commitment, data-driven decision-making, resource allocation, stakeholder engagement, internal collaboration, responsibility, leadership, and strong gender expertise. This paper stems from the European Horizon Project Leading Towards Sustainable Gender Equality Plans in RPOs (LeTSGEPs).

Keywords: Gender Equality Plan, Research Performing Organizations, Gender Equality, Gender Institutional Change

1. Introduction

Gender Equality Plans (GEPs) have become a key instrument in Research Performing Organizations (RPOs) to contribute to addressing the multiple gender biases and discriminations that not only hinder the advancement of women’s careers in multiple aspects but also undermine the overall quality of research.

At the Institut de Ciències del Mar (ICM), we wish to share our journey to go beyond mere compliance with the regulations and move towards the goal of real gender equality in the organisation. Our GEP, while considering the various regulatory frameworks and maximising the use of available tools and good practices, responds accurately to the specific reality of the ICM. The GEP, which integrates tailored strategies and measures that respond to the gender biases, inequalities and discriminations verified during an in-depth institutional gender diagnosis, is the result of evidence-based gender expertise and organisational-based knowledge, with the participation of various institutional actors. With the full commitment of the management team and adequate knowledge and resources, the GEP serves as a roadmap for the integration of gender equality principles throughout the ICM.

The paper is organized into five sections. Section 2 reviews the key elements of the normative framework for gender equality in RPOs within the EU and Spain. Section 3 discusses the tools and methodologies proposed by the EU Project LeTSGEPs for designing the GEP. Section 4 provides insights into ICM’s experience aligning the normative framework with practical implementation, following LeTSGEPs guidelines throughout the GEP cycle. Section 5 is dedicated to conclusions.

2. The Normative Framework for Gender Equality in RPOs

The European Commission is fully committed to promoting gender equality in research and innovation, aligning this goal with the European Research Area (ERA) and Horizon Europe. To address the structural challenges to gender equality in research and innovation, GEPs have been established as a highly effective instrument for driving institutional changes within RPOs.
This commitment positions gender equality at the centre of European research policy, emphasizing its priority for institutional and cultural change. The ERA has set key objectives: (1) achieving gender equality in scientific careers, (2) attaining gender balance in decision-making processes, and (3) integrating gender dimension into the content of research and innovation (R&I).

Consequently, EU countries have been asked to develop national action plans for gender equality, leading to positive impacts within numerous research organisations and acting as a catalyst for transformation. RPOs, along with funding bodies, are encouraged to implement institutional changes, particularly through the adoption and implementation of GEPs.

Since the inception of the last Research and Innovation Framework Programmes, the European Commission has fostered the implementation of GEPs, with dedicated calls to support their design and implementation in the research and innovation ecosystem. From 2021 and in alignment with the Gender Equality Strategy 2020-2025 of the European Commission, which sets out gender equality as a cross-cutting priority, there is a proposal to develop inclusive GEPs within Member States and stakeholders to promote gender equality and inclusion. Among the several measures to address this challenging task, GEPs have been established as an eligibility criterion for participation in the Horizon Europe Framework Programme for Research and Innovation for the period 2021-2027.

In Spain, the Organic Law 3/2007, of 22 March, for the effective equality of women and men (from now on Equality Law), establishes the regulatory, institutional, and public policy framework to guarantee the right to equality between women and men. This law has a cross-cutting nature, which should imply that the prevention of direct or indirect discriminatory conduct based on sex and actions to make the principle of equality effective are projected onto different areas of the social, economic, cultural, and political reality. The framework established by the Equality Law is fully integrated into sector-specific regulations, ensuring its broad application.

Under the Equality Law, a GEP constitutes an ordered set of evaluable measures, adopted after a diagnosis of the situation, and aimed at removing the obstacles that prevent or hinder the effective equality of women and men. The GEP establish the specific equality objectives and results to be achieved and the strategies and measures to be adopted for their attainment. It must also establish an effective system for monitoring and evaluating the objectives and results set, based on the definition of sex-disaggregated and gender-sensitive indicators.

Since the adoption of Equality Law (and the subsequent regulations that have allowed its development), GEPs have become essential for advancing the institutionalization of the principles of equal treatment and opportunities in the workplace. With the approval of Law 14/2011 for Science, Technology, and Innovation (reformulated in 2022), not only are GEPs further impulse in research centres, but also the need to promote the inclusion of the gender perspective as a cross-cutting category in science, technology and innovation, as well as a balanced presence of women and men in all areas of the Spanish Science, Technology and Innovation System.

3. The Theory: Tools and Methodologies for Gender Equality

The LeTSGEPs European project (2020-2023) pursued the design and implementation of measures that would lead to systemic institutional change and address gender bias in the consortium’s implementing partners. This initiative has been articulated in GEPs which serve as a crucial instrument for enacting the necessary deep structural transformations towards gender equality in RPOs.

To guide the development of these GEPs, LeTSGEPs proposed the articulated use of two tools: the Gender Equality in Academia and Research (GEAR Tool), developed by the European Institute for Gender Equality (EIGE, 2016, updated 2022), alongside Gender Budgeting (GB).

EIGE adheres to the EU definition of a GEP “a set of commitments and actions that aim to promote gender equality in an organization through a process of structural change” (European Commission, 2021b). This policy instrument aims to sustainably transform organisational processes, cultures, and structures within the field of Research and Innovation (R&I) to combat and reduce gender imbalances and inequalities.

The GEAR Tool is a guiding instrument for the formulation of GEPs, understanding this change as a strategy aimed at removing the obstacles to gender equality that are inherent in the research system itself, and adapting institutional practices related to human resource management, funding, decision-making and research programmes. The GEP process is structured into four key phases:
• Analysis phase, in which sex-disaggregated data are collected, and procedures, processes and practices are critically evaluated to detect gender inequalities and gender bias.
• Planning phase, in which objectives are defined, outcomes are established, actions and measures are designed to correct identified problems, resources and responsibilities are allocated, and timelines are agreed upon.
• Implementation phase, where measures are implemented, and outreach efforts are undertaken to gradually expand the network of stakeholders.
• Monitoring and evaluation phase, in which the process and progress are regularly monitored and evaluated. The results of the monitoring allow for adjustment and improvement of the measures, optimising the overall impact of the GEP.

Under the Horizon 2020 Program, GEPs must include, among other strategies, Gender Budgeting (GB) as a lever means to drive institutional systemic change to promote gender equality. GB entails the application of gender mainstreaming in the budgetary process. It involves assessing gender-based assessment of budgets at all stages of the budgetary process, restructuring revenues and expenditures to promote gender equality (Council of Europe, 2009).

There are various methodologies to implement gender budgeting, including integrating gender into performance-based and programme budgeting, categorising budget programmes and gender analysis requirements, linking gender budgeting and participatory budgeting, tracking financial allocations to promote women’s rights and gender equality, linking budgeting to gender wellbeing, or combining gender budgeting with impact assessments; but they all share common elements: the integration of the gender perspective throughout the budget cycle, the articulation of the budget with the objectives of gender equality set out in the political and operational instruments (plans), participation and transparency in the budget process, and the monitoring and subsequent evaluation of budget execution (EIGE, 2022b).

Within the framework of LeTSGEPs, GB was based on the human capabilities approach that broadens its focus from being solely centred on monetary income and assets to the impact of policies on well-being in its multidimensionality and complexity. So, as budgets reflect the political commitments of institutions, “following the money” helps to reveal the factors that cause gender inequality to persist within institutions. GB’s efforts were directed at achieving transparency in interpreting gender issues within financial statements. Since budgets are not gender-neutral, it was essential to design gender-sensitive strategies that would contribute to a more equitable, transparent, and efficient distribution of resources (Addabbo, T., et alia, 2020; Addabbo, T. et alia, 2023).

4. From Norm and Theory to Practice: the ICM’s GEP

Driven by its participation in two projects in the framework of the EU Horizon2020 Program, Leading Towards Sustainable Gender Equality Plans in Research Performing Organizations (LeTSGEPs) and Responsible Research and Innovation grounding practices in BIOSciences (ResBIOS), the Institut de Ciències del Mar (ICM) designed its first Gender Equality Plan (2021-2024). The plan was fully aligned with European regulations referred to above.

The formulation of ICM’s GEP also implied a broader challenge as it had to adjust to a regulatory framework that finds its axis in Organic Law 3/2007, for effective equality between women and men (hereinafter, Equality Law). Furthermore, coordination was required with the II GEP of the Spanish National Research Council (CSIC), the institution to which the ICM belongs. This GEP serves as an umbrella for its member centres, including the ICM.

In this context, the key to the success of our GEP lies in the fact that, while complying with the regulatory frameworks, applying any of the available methodologies and considering existing good practices, it responds appropriately to the particularities of our organisation.

ICM’s GEP phase-by-phase

The ICM has strategically integrated the normative framework into its operations by using the tools and methodologies recommended by LeTSGEPs (GEAR Tool and Gender Budgeting) but also has taken into account other tools generated in the framework of other projects funded by the EU through Horizon 2020 (see Horizon2020 Sister projects). The figure below presents the key elements ICM has considered in the different phases of the GEP cycle.
4.1 Analysis Phase

During this phase, an in-depth institutional gender diagnosis was conducted, utilizing data from 2019 to achieve four main objectives: a) to establish the specific reality among women and men in the ICM concerning equal treatment and opportunities, b) to identify possible gender bias, inequalities and discriminations, c) to determine the factors or conditions that favour them, and d) to assess the suitability of internal regulations and processes to comply with the provisions of the legal framework on gender equality. This diagnosis effort encompassed eight main areas: 1) Institutional Culture, 2) Gender Balance in the organisation, 3) Human Resources management: selection and recruitment, training, promotion and career progression and development; 4) remuneration policy, 5) Work-life Balance, 6) Sexual and Gender-based harassment, sexist attitudes, and perception of discrimination, 7) Inclusive and non-sexist communication and 8) Gender dimension in research.

The diagnosis was based on qualitative and quantitative gender-sensitive indicators, specifically elaborated ad-hoc according to the ICM characteristics and context. The choice of suitable indicators was done with due regard to the availability of robust and representative data from reliable sources, as well as the possibility for reassessment over time. Such a methodology enables the tracking of evolution and changes or improvements resulting from the implementation of the GEP.

The findings from the ICM shed light on significant gender disparities within the institution, particularly in the progression of scientific careers. The data reveals a clear pattern of vertical segregation, particularly as they advance in their scientific careers. While gender balance is maintained at the pre-doctoral and post-doctoral stages, there is a substantial and progressive decrease in the representation of women as they move up the career ladder, resulting in a leaky pipeline. The result is the “scissors effect” where the higher the career category, the lower the participation of women. The Glass Ceiling Index (GCI) at the ICM is significantly high: 3.14 underlying gender disparities in career progression.
Vertical segregation also impacts the representation of women in research leadership positions. Of the centre’s 14 research groups, only 3 were led by women (21.4%). Leadership is influenced by the internal dynamics of the research groups and the barriers and misconceptions about women’s careers. As a result of this gender disparity in leadership positions, there exists gender bias in research fundraisings. The application for funding projects involves a principal investigator (PI) leading a team. In the same research group, there may be different projects, whose applications may be led by different members. With marked differences in the number of women and men leading projects and applying for funding, there is a big gap in terms of funds raised by women and men. The funds obtained by female researchers represented 19.8% of the total (2019). Although fundraising has an important cyclical dimension and many variables affect the leverage of funds, there is sustained evidence over time that there exists gender bias in access to research funds (EIGE, 2022c).

There also exists an important feminization of academic housekeeping, a concept that refers to the management support tasks within the organisation, which are indispensable for its functioning but remain largely invisible. These roles are typically voluntary, and predominantly carried out by women (Kalm, 2019). In 2019, the ICM established four Task Forces and three Committees to address different institutional tasks. Notably, all these groups were feminised in absolute and relative terms, except for the Scientific Strategy group, one of the executive committees. This feminisation, with 70% of members being women, is accompanied by a hierarchy based on the nature of activities and individuals performing them. Paradoxically, despite their greater commitment to the "community" tasks, women do not experience improvement in their position, neither academically nor strategically. On the contrary, they spend more time on these tasks compared to male researchers adversely affecting their career progression and salary prospects, perpetuating further gender inequalities.

Another verified evidence is the feminised use of work-life balance measures. The need to reconcile work and family hinders the possibilities for the development of their professional careers and has a direct impact on the wages women receive since they are the ones who most often work part-time, with temporary or interim contracts, and who usually take childcare leaves. In a recent perception survey on gender equality among ICM staff, 43.4% of women in front of 28% of men considered that there are obvious differences in the use that women and men make of work-life balance measures. Furthermore, 68.4% of women and 58% of men recognized that maternity/paternity leave adversely affects one’s research career. Consequently, the use of...
balance measures penalizes women as they “miss the competitiveness train” and contributes, in some cases, women to exiting research careers.

The diagnosis raised awareness of situations of gender-based inequalities and provided an understanding of the factors that contribute to or favour these disparities. While systemic barriers may be common to other RPOs, internal barriers - institutional and individual - are always nuanced: institutional gender biases affecting human resource management, funding, decision-making, scientific leadership and other procedures and practices; Individual gender biases, misconceptions about women’s careers; individual resistances and ineffective engagement. Although certain findings, horizontal and vertical segregation, lack of recognition of female researchers and technicians, feminisation of work-life balance, academic housekeeping, etc., may not differ from situations found in other RPOs, the factors leading to them, and the corrective measures are specific.

How structural, organisational and individual barriers within the ICM are interconnected determines the areas requiring intervention and guides the selection of appropriate strategies and measures to address these issues.

4.2 Design and Planning Phase

The results of the institutional gender diagnosis performed were the basis for the development of our tailor-made GEP. The results made it possible to become aware of situations of gender bias and inequality and to identify the factors that produce or favour them. Consequently, these findings allowed informed decisions to be made to reverse these situations, prioritising areas of intervention and guiding the design of specific measures to address the causes of the problems identified.

The GEP is both holistic and comprehensive, adapted to institutional and cultural settings, addressing the whole organisation, and engaging all relevant stakeholders. Since its establishment, the GEP has become the ICM framework for action and roadmap to generate a structural change that will allow the effective mainstreaming of gender equality across all areas and activities of the organization. The GEP also reflects the result of an articulated work and consensus among multiple actors in the organization and materializes the ICM commitment to equality.

Table 1: Logical framework of the ICM’s GEP

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<td>GEP Implementation</td>
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The GEP commits efforts in eight fields of action, including the five fields recommended by Horizon Europe. For each field, specific objectives and results have been established, underpinning a set of fourteen measures to be implemented in four years (2021 to 2024). These measures aim to achieve the overall objective of the GEP. To this end, the GEP comprises cross-cutting measures that need to be anchored in institutional policies and practices - such as gender budgeting - and positive action measures aimed at correcting clear situations of inequality - such as interventions that seek to reduce horizontal and vertical segregation (the so-called glass
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ceiling). All the measures are mutually articulated and build on each other. The logical framework planning tool was used to define the intervention logic of the GEP.

Each measure identifies the institutional key site(s) of inequality to be addressed, the target groups, the involved actors and the responsible for the implementation, the measure’s importance for the institution, the expected (measurable through indicators) outputs (short-term effects) and outcomes (mid-term effects) of the measure, the execution calendar and the resources assigned to its implementation (funds).

Thus, by way of example, measure 1.3. Integration of gender aspects in internal funds responded to the gender bias identified in grant allocation and the need to guarantee equal opportunities in access to funds. Given the obvious limits of influencing external processes, the measure is established concerning internal funds (see Figure 4). This measure is at the core of GB.

![Diagram: 1.3. Integration of gender aspects in internal funds]

**Figure 4:** Example of a complete cycle of a measure (diagnostic results, corrective measure, output and outcome indicators and achievements).

Importantly, the ICM’s GEP is designed as a living document, being adaptable and responsive to new challenges and changing contexts in the organization. This flexibility allows ICM can continually assess the effectiveness of its measures, make necessary adjustments, and stay aligned with evolving goals and priorities in the pursuit of gender equality.

### 4.3 Implementation Phase

The implementation phase focuses on the execution of the measures which involves testing the adequacy of actions designed, the allocation of responsibilities and resources, the mechanisms for articulation of the parties involved, and the implementation schedule. In parallel, to promote an environment conducive to implementation, and in addition to keeping management abreast of all initiatives, training and awareness-raising of the team is necessary. Ongoing monitoring of the process through data collection, and progress, including risks to the implementation of the GEP, is also required. The implementation of the GEP is not free of complexities and challenges necessitating a proactive and flexible approach to ensure the successful realization of gender equality objectives.

### 4.4 Monitoring and Evaluation Phase

The GEP also integrates a Monitoring and Evaluation Framework (M&E).

The M&E is designed to be an ongoing process that monitors the achievement of the GEP’s objectives and results ensuring quality, and facilitates adjustments to the implementation process, as regards decision-making,
obligations, and requirements in the implementation process. This approach is permanent, crosscutting to the entire GEP and involves all actors participating in the GEP implementation. The M&E incorporates articulation mechanisms with all GEP actors to ensure excellent use of data collection tools, systematization, and reporting. The results will be used at various times, with different regularity, different resource needs and for different purposes.

The M&E at ICM includes indicators following EU standards shared among LeTSGEPs RPOs (EIGE, 2021a), facilitating a comparative analysis across institutions. However, although common indicators may permit comparison, they remain insufficient for capturing the reality and specific characteristics of ICM. Thus, the M&E system is based on a wider set of indicators comprising 80 output indicators and 57 outcome indicators. Some indicators make it possible to measure the change, for example, the “increase (%) in the presence of women in decision-making positions”, considering a baseline input value of 21.6% of women in the Governing Board. Other indicators guide the achievements to be reached, so “at least 50% of the participants - in any action or process - must be women”. Additionally, some indicators assess the results of the implemented measures (“success rate of women and men in the different competitive calls to access to internal funds”). Indicators allow for tracking of changes and verify the level of achievement of the expected results.

Revisiting the example of measure 1.3, the output indicators determine the expected products, and the outcome indicators guide and establish the expected scope of the measure. Its achievement is the result of the proper implementation of all actions foreseen in the measure (see Figure 3).

Furthermore, the M&E framework also provides a valuable opportunity to learn from the implementation process. One of the significant benefits of ongoing monitoring is not only the ability to assess the effectiveness and immediate results of specific actions but also to gauge the long-term sustainability of these initiatives. These aspects are presented as part of the conclusions in the next section.

5. Conclusions: GEP Cycle Considerations

In concluding our experience with the GEP, we have identified some limiting and success factors for the GEP implementation. As success and enabling factors, we underline:

- **Institutional compromise**: It is essential to have the direct involvement of the management team throughout the entire process. Bottom-up initiatives need to find an echo in management, emphasizing the need for GEP appropriation across all staff levels.
- **Institutionalization of the GEP** as a roadmap for the integration of gender equality principles throughout the ICM.
- **Gender expertise** is an essential asset that highly contributes to accelerating the progress towards gender equality and inclusion. This expertise should be accompanied by a mechanism in the organization that is responsible for promoting the GEP.
- The **active participation of all internal stakeholders** in the implementation of the GEP is essential. This must be accompanied by the development of gender competencies and capacities and maintaining effective coordination mechanisms across the institution.
- As limiting factors, we appoint to:
  - A high dependence on the **voluntary contribution** of the Equality Task Force (ETF) members can limit the GEP’s effectiveness and sustainability.
  - Encountering difficulties in accessing or obtaining meaningful data for gender analysis presents a significant barrier to informed decision-making and strategy development.
  - The scope of action for implementing certain aspects of the GEP may be restricted by the overarching jurisdiction of the CSIC, particularly concerning hiring, promotions, and salary adjustments.
  - **Resistances to change** in specific groups within the institution to embrace changes advocated by the GEP.

6. Considering de GEP Cycle

**Institutional gender diagnosis** is the key step to establish the specific reality among women and men in the RPO. A wide set of indicators should be considered using both qualitative and quantitative data. It should be represented in a clear and comprehensible way and made available so that the impact of policies can be tested...
in a dynamic setting. Benchmarks against national averages and similar institutions can enhance understanding of organisational gender equality status.

**GEP design.** The design and scope of a GEP should be tailored to the specific needs of the organization, considering factors like organizational type, context, disciplines, and identified gender biases and inequalities. GEPs must be flexible and customized, acknowledging that the same issue can have different causes in different contexts. The GEP should establish clear responsibilities for the different activities and leadership to steer its implementation and for the progress and results. It should also consider the necessary resources for its proper implementation.

**Gender budgeting.** Integrating gender budgeting into the GEP is beneficial for both feasibility and sustainability. It involves incorporating a gender perspective throughout the budget cycle, ensuring participation and transparency, and linking the budget to gender equality objectives.

**GEP monitoring and evaluation.** Developing a set of indicators is a fundamental part of the GEP. **Sustainability.** Sustainability implies that the initiatives and changes implemented under a GEP are sustained over time. This involves integrating gender equality into the core values and operations of the organization, ensuring that it remains a priority even as personnel or leadership changes. Sustainable GEP is adaptable to changing circumstances, including new research, evolving societal norms, and internal organizational shifts. It should be flexible enough to accommodate new insights. Ensuring the sustainability of a GEP also involves the allocation of sufficient resources—both financial and human.

**Networking and knowledge sharing.** To advance the quality of GEPs, it is key to continue sharing good practices among RPOs, seek alliances and promote networks in which to share and generate knowledge. Building alliances and fostering communities of practice not only enriches the GEP process but also accelerates the collective journey towards gender equality.

Finally, it is worth noting that the institutionalisation of gender equality in our RPO has been demonstrated to generate numerous indirect impacts, such as the improvement of performance, productivity, and competitiveness; the improvement of corporate image, the working environment, and staff motivation; the attraction and loyalty of qualified human capital and the reduction of turnover; the promotion of corporate social responsibility. Despite the actions undertaken, there is still a long road ahead.

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