

Collection of Success Stories and SSP revised

Deliverable 6.1



Deliverable description

The purpose of Deliverable 6.1, "Collection of success stories and SSP revised", is to provide a description of 23 ResBios success stories about RRI institutional change and present the Support and Sustainability Plans related to the RRI Grounding Actions promoted by four implementing partners.

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Summary

This deliverable has two main focuses: it describes through 23 Success Stories (SSs) some of the main institutional changes produced by the implementation of Grounding Actions (Gas) within the framework of ResBios, in four research organisations in the field of biosciences; it presents the Support and Sustainability Plans (SSPs) defined by the four research organisations aimed at ensuring that the changes promoted through the GAs are maintained over the future and further changes are also promoted. The deliverable also contains a description of the activities carried out to define the SSPs as well as the approach followed during ResBios to promote institutional change.

Acronyms

Acronyms	Definition
ResBios	ResBios Project: R esponsible research and innovation grounding practices in B iosciences
RRI	Responsible Research and Innovation
EC	European Commission
H2020	Horizon 2020 funding programme
CSA	Coordination and Supporting Action
UNITOV	University of Rome Tor Vergata (IT)
UG	University of Gdansk (PL)
IFNUL	Ivan Franko National University of Lviv (UA)
EUSEA	European Science Engagement Association (AT)
K&I	Knowledge and Innovation Srls (IT)
AU	Aarhus University (DK)
UBREMEN	University of Bremen (DE)
DUTH	Democritus University of Thrace (GR)
ICM-CSIC	Institute of Marine Sciences of the Spanish National Research Council (ES)
UNIZG-FAZ	University of Zagreb, Faculty of Agriculture (HR)
UP	University of Primorska (SL)
ABI	AgroBioInstitute (BG)

Introduction

This deliverable provides a series of information on the main institutional changes produced, within the framework of ResBios, in four research organisations in the field of biosciences, through some Grounding Actions (GAs). These organisations are: Consejo Superior de Investigaciones Científicas – Spain (ICM), Democritus University of Thrace, Department of Molecular Biology and Genetics – Greece (DUTH), University of Lviv, Department of Biochemistry – Ukraine (IFNUL), Zagreb University, Faculty of Agriculture – Croatia (UNIZG-FAZ).

This deliverable, in particular, contains 23 Success Stories of institutional change, linked to the activities of the GAs, and the 4 Sustainability and Support Plans that the implementing partners have prepared, to ensure greater rooting and sustainability for the changes promoted.

This document was edited by UNITOV (Daniele Mezzana) and by K&I (Andrea Declich, Luciano d’Andrea and Maresa Berliri), with the collaboration – for drafting of its main parts – of the implementing organisations, in particular: for ICM-CSIC Janire Salazar and Josep-Maria Gili; for DUTH Aglaia Pappa and Alexis Galanis; for IFNUL Natalia Sybirna, Olena Stasyk, Marija Nagalievskaja and Mariya Sabadashka; for UNIZG-FAZ Andrea Rezić, Nikica Sprem and Toni Safner.

We are grateful to the academic authorities and the heads of the scientific organisations involved, for their support and for their contribution to the success of the activities and to the creation of a favourable environment for their sustainability.

1. The activities carried out

The Grounding Actions (GAs) implemented¹ were related to RRI keys (Public Engagement, Gender, Education, Open Access, and Ethics, taking into account that a further key – “Governance” – has a transverse character) and have taken into consideration the MoRRI indicators while being aligned with the Sustainable Development Goals. More, in the ResBios’ approach, the four RRI dimensions (Anticipation, Reflexivity, Inclusiveness, and Responsiveness) were both a tool to support and frame the GAs and tools for governing the changing science /society relationship, at least at the level of implementing organisations.

As illustrated in the previous ResBios deliverables (in particular D2.1, D3.1, D3.2, D4.1, D4.2, D5.1, D5.2) the GAs have had as their objects: experimenting and establishing informal education activities; promoting LifeLong Learning programmes; capacity building on RRI for university students and researchers; establishing cooperation and networks with schools; setting up a system of support for ethical principles in the biological investigation; developing open access and open innovation policies; setting up a system for fighting plagiarism and promoting ethical publishing behaviours; redefining research ethics, procedures and codes on

¹ The complete list of Grounding Actions (GAs) is available in Annex 1.

biosciences emerging needs; assessing the current situation about gender at the university level; enhancing gender equality commitment within the research organisation; promoting citizens engagement programs and citizen's empowerment in neighbourhoods.

The GAs were implemented through a process that envisaged, first of all, an initial phase of co-design with the internal and external stakeholders involved, followed by an implementation phase. After the design phase (WP2) and implementation phase (WPs 3, 4, and 5), with the ResBios Work Package 6 "Supporting Institutional Change", a phase of consolidation was started, with a view to institutional change.

Throughout this process, the actions were supported by an evaluation (WP7 – Aarhus University, Denmark) and communication (WP8 – EUSEA) activity, as well as a series of support activities provided for by WP6 (University of Rome – Tor Vergata, and K&I Srls – Italy).

The general framework of these activities was characterised by a mutual learning approach (WP7), which provided for its own specific exchange, reflection, and support actions for the four implementing partners, exercised by some mentors who had already had RRI implementation experiences, in particular: Agrobiointitute (Bulgaria), University of Bremen (Germany), Univerza na Primorsken – University of the Coast (Slovenia), University of Gdansk (Poland), University of Rome – Tor Vergata (Italy).

This document is, in fact, the result of some activities carried out in the framework of WP6, and in particular in Tasks 6.1, 6.2 and 6.3, respectively relating to:

- a. The drafting of a first version, by each of the four implementing partners, of a Sustainability and Support Plan (SSP)
- b. The implementation of these Plans
- c. The realisation of a series of final actions towards sustainability. These activities were carried out by the implementing partners with the support of UNITOV and K&I.

As regards point a., relating to activities carried out in the period between June and November 2021, the objectives were:

- To identify a set of emerging opportunities for institutional change
- To design a Plan for supporting the achievement of such changes (Sustainability and Support Plan – SSP).

To implement these goals, each Implementing Organisation has carried out several activities:

- An in-depth interview at a distance with K&I team for scanning potential institutional change
- The organisation of an on-site co-design meetings with K&I and the GA team
- The delivery of a first version of the Sustainability and Support Plan – SSP.

K&I has prepared a first information grid, to facilitate the drafting of the Plans.

Each plan contains: the list of achievable institutional change, articulating them in short term (by the end of the project) and long term (beyond the end of the project); a list of support actions to be delivered in time, including a list of the involved partners and resources to be committed.

These activities were carried out in collaboration with the Evaluation team. The four SSPs, in their first versions, have been presented during the Second Mutual Learning Workshop, held in Barcelona in November 2021.

As regards point b., relating to activities carried out between December 2021 and October 2022, the plans were implemented and developed by the four implementing partners, also thanks to a series of support actions by K&I and UNITOV, in particular:

- Monitoring (keeping track of the deadlines and anticipating possible problems or obstacles)
- Supporting the negotiation activities with the managers and academic leaders, to create a favourable environment for the Plans
- Providing insights on emerging opportunities (e.g., available funding schemes, conferences, etc.)
- Advising and technical assistance on how to face some organisational issues related to RRI institutional change, how to approach different stakeholders and key players, how to get lessons and tools from other experiences and best practices, etc.
- Other on demand activities.

As regards point c., in the period between June and October 2022, the following activities were carried out:

- The drafting of a set of Success Stories to give visibility to the institutional changes achieved in each institution
- A revised version of SSP, aiming at ensuring a proper maintenance of the institutional spaces already developed in the lifespan of the project and planning the activities for pursuing the institutional changes that could not be reached by the end of the project, but that can be achieved in the subsequent period (medium or long term)
- A final assembly in each implementing RPOs, with the participation of representatives of RPO and of the territorial stakeholders, to present the SSP revised and the results of the GAs.

As already mentioned, this document contains the results of some of these conclusive activities, in particular:

- a. A series of *Success Stories of institutional changes (SSs)*, selected from all the results of the activities carried out by the four implementing partners for the implementation of their Grounding Actions

- b. The *Sustainability and Support Plans (SSPs)* developed by the four implementing partners based on the results produced and a strategic reflection on the future and on the “legacy” of the acquisitions of the GAs.

2. Elements of approach: RRI Grounding actions and sustainable institutional change

A ResBios starting point is that Responsible Research & Innovation (as well as similar approaches, e.g., Open science), in aiming for a new and closer integration between R&I and society, seems particularly relevant for the Biosciences. Directly or indirectly, *biosciences* play a decisive role in many of the challenges facing contemporary societies (health, climate change, food, etc.), and have become a field characterised by hyper-competition, with strong epistemic, organisational, and social consequences, and, at the same time, the field where, more than anywhere else, the question of *responsible science* has arisen and new approaches, practices and solutions have been developed, in terms of ethical issues and societal acceptance of scientific approaches and products.

- For individual organisations in the biosciences is therefore important to be able to face the current challenges. Particularly, the adoption of RRI, does not propose additional constraints to the development of research, formalises activities and attitudes often already existing but not explicit and supported, and offers new development opportunities, also considering that the ways in which research is organised have been changing profoundly in the last years and require new models of management. All of this, of course, is not a linear process without conflict and tension.
- In this framework, ResBios tried to enhance the ability of research organisations to face societal challenges through the practice of RRI and the related institutional changes aimed at making such changes permanent and stable; in other words, at “grounding RRI” in the organisations.

ResBios moves from the idea that the problematic relations between R&I and the whole society (its low degree of “socialisation”) is primarily caused by the lack of effective institutional spaces (a set of shared rules, interpretations and means of interaction) for exchanges between scientific institutions and other societal actors, that are bi-lateral and not one-way. These institutional spaces, promoted by the involved actors, are therefore intended as structural in nature.

Accordingly, the GAs have been focused on the *development of permanent institutional spaces* for making the research organisations more porous to the input of society. The institutional change promoted by ResBios GAs was therefore oriented to the creation of spaces of different types.

Physical or virtual space: the opening of permanent spaces for short terms interactions with society (example: blogs, surveys, and other two-way feedback collection mechanisms, conferences, workshops, training courses, etc.)

Examples: IFNUL has created a YouTube channel with videos on biochemistry and molecular biology. DUTH has promoted activities of citizens engagement on biosciences through seminars with students and citizens. ICM-CSIC has promoted citizen's empowerment for ocean responsibility, through specific public initiatives, involving particularly neighbourhood associations. UNIZG-FAZ has promoted new Lifelong Learning activities for professionals not trained in environmental-related disciplines.

Social space: characterised by the establishment of long-term relationship among different actors (establishment of partnerships, medium- and long-term collaborations, networks) or by the establishment of specific offices inside the RPOs

Examples: ICM-CSIC established a network of marine schools and twinning initiative with similar networks. Network creation is being pursued by ICM-CSIC also on gender issues. All the other implementing partners both for designing or for implementing their GAs have created and/or maintained stable relations with other actors within and outside their organisations (DUTH, for example, has established an agreement with the local Prefecture).

Normative space: the establishment of new rules, norms, and obligation that inserts societal aspects in the daily life of the organisation and research activities.

Examples: DUTH, UNIZG-FAZ and IFNUL are committed to redefine research ethics, procedure, and codes on Biosciences emerging needs. The Academic authorities of IFNUL recognised formally the establishment of an Open Day Committee at the Faculty of Biology, to regularly promote events for school children and students, teachers and community members. DUTH and UNIZG-FAZ have also promoted an Open Access and/or Open Innovation policy at Faculty level.

Symbolic space: the establishment of new visions, symbols, mission statements, and shared interpretations about the relationship between science and society and related to open science.

Examples: ICM-CSIC implemented activities aimed, e.g., at enhancing gender equality commitment in the Institute or providing a broader awareness of Oceans for the Earth life. DUTH has promoted an assessment of the current situation about gender in bioscience at the faculty level to share the results and discuss this issue. In general, all the GAs implemented will contain "symbolic" elements, since shared visions, as well as information and communication campaigns are needed for involving different actors and people in the activities.

In this context, promoting the sustainability of the institutional changes achieved is important to support the evolutionary process that has been activated, to establish the spaces of connection between R&I and society, to support over time the promoters of the actions and of all actors who have mobilised around the vision of responsible R&I.

As the experience of ResBios and other similar experiences shows, sustainability has various aspects: the legitimacy of the actors involved and the activities carried out; the formalisation of changes in the form of rules and standards; the diffusion of new interpretations of the relationship between science and society; the possibility of accessing opportunities for updating, support, advising; the mobilisation of resources, which are not only economic, but also cultural, organisational, managerial.

In the context of ResBios, in addition to what has been promoted within individual research organisations, an important element of sustainability is represented by the creation of an International Network for Responsible Biosciences (INRB), which has among its objectives: collecting and disseminating the knowledge of ResBios and European Swafs projects on responsible biosciences after the end of the project; providing an international backing to the institutional changes promoted during ResBios beyond the end of the project; promoting international and transdisciplinary scientific collaboration; connecting the European institutes engaged in responsible biosciences with the ones engaged in the same issues in North and South America, Africa and Asia; connecting the action carried out to the broader framework of European Union policies.

It should be emphasised that in designing and implementing the GAs, and leading them to forms of sustainable institutional change, the four implementing partners, and reciprocally the other ResBios partners, benefited from a mutual learning activity, primarily based on the interaction between the implementing partners, and five other partners, so-called “RRI mentors” (already mentioned in the point 1), each focused on one RRI key.

The mentors have organised periodic working group meetings with the implementing GAs partners relating to certain RRI keys and have managed, together with UNITOV, the implementations of annual Mutual learning workshops. The RRI mentors provided the implementing organisations with advice, indications, and suggestions for action, throughout the lifespan of the project. The mentoring activity also made it possible to interpret specific RRI actions in a broader framework, from the point of view of strategies and policies at the European level and existing approaches for a new relationship between science and society.

The GAs were sets of targeted actions, with their specific objectives and results. At the same time, GAs can be considered a triggering element, i.e., factors that, within a research organisation and / or a territory, can increase the chance that mechanisms of change will be activated in the relationship between science and society. In this sense, GAs can also be considered as real “anticipatory experiences” of a new “social contract” between science and society. Small experiences, therefore, but inserted in a broader vision. As such, they were among the sources of inspiration for the ResBios document called “RESPONSIBLE

BIOSCIENCES. A Manifesto for the Transformation of Science-Society Relations” (October 2022).

The Success Stories that are presented here, in the light of what has been said so far, are to be considered the result of a set of concurrent actions of various types, but in any case, they do not express the entire, broader, activity carried out for the implementation of the GAs.

These stories were identified and selected according to some criteria:

- They are relevant with respect to one or more RRI keys and / or dimensions
- They deal with critical aspects of the science / society relationship
- They deal with specific sustainability factors that have been identified
- They are the effective result of the application of the ResBios approach, as indicated above and as described in the previous deliverables of WP2, 3, 4, and 5
- Through each of the actions examined, at least one of the four types of “institutional spaces” mentioned above were activated and made tendentially permanent or lasting.

It should be emphasised that the Success Stories, as contextualised experiences, taken one by one, are not “immediately” replicable. However, they present some models or recurring “*modi operandi*”, which instead can be replicated in any context, for example concerning the constitution of RRI teams; the methods of co-design; the forms of involvement of local decision-makers; the activation of stakeholders within the research organisation and present in the area, etc.

The Success Stories presented here, therefore, have an inspirational value, in the sense that they can provide food for thought and operational suggestions to anyone who intends to undertake a path of this type in their organisation and in their territory.

3. The documentation we present here

In addition to this introduction, the Deliverable consists of two main parts.

In Part One, the 23 Success Stories selected are divided and presented for implementing partners. Each success story published here contains the following components or information. A title, which recalls the institutional change promoted, or already produced

A short description, which is articulated in:

- o The issue underlying the action carried out
- o The main actions promoted
- o The actors involved
- o The change (s) promoted.

The main features of the Success Stories, in particular:

- o The strategy pursued (explicit strategy or based on the interpretation of the success story)
- o The sustainability factors allowing the success story to develop over time.

A summary classification of the success story in relation to:

- o RRY key
- o RRI dimension
- o Type of institutional change (according to the four categories mentioned above).

Finally, three tables listing all 23 Success Stories by RRI keys, RRI dimensions, and of institutional change are presented.

Part Two contains the Sustainability and Support Plans of the four Implementing Organisations. These Plans are structured as follows:

1. The presentation of the current practice of RRI that has been carried out
2. Some hypothesis of sustainability
3. The identification of some specific sustainability factors
4. The presentation of a series of actions for promoting sustainability.

SSPs are also presented for implementing partners.

It is worth stressing that all the texts presented – although based on the same frames – are nevertheless not homogeneous. This is because they have been written by different authors and, especially in the case of the Sustainability and Support Plans, they reflect the visions of different groups of people acting in different national and institutional contexts. This could also imply that, in some cases, the terminology is used with slightly different meanings. Notwithstanding these cautions, the same frames used for the various texts allow easier reading and comprehension.

Part One

Success Stories of institutional change

SUCCESS STORIES AT DUTH

Success Story #1 (DUTH)

Intense cooperation with private and public actors to develop a citizen engagement programme on biosciences

Short description of the success story

The issue. The Department of Molecular Biology and Genetics at DUTH aimed to promote a citizen engagement initiative on biosciences addressing an audience as larger and differentiated as possible. This entailed the development of a programme including different initiatives tailored to a range of target audiences.

Main actions. The main actions promoted were: lectures on “Biosciences today” in the framework of the seminar series “Society and Well-being” of the Academy of Citizens (planned as a virtual events co-organised with the Prefecture of East Macedonia and Thrace); a set of science projects addressing ordinary citizens and high-school students presented at the end of the school year in the special event “Science Fair Day” (co-organised with the Office of Secondary Education of the Prefecture of Evros).

Actors involved. Three main entities have been then involved: the Prefecture of East Macedonia and Thrace (the LifeLong Learning structure of the Prefecture of East Macedonia and Thrace, the Office of Secondary Education of the Prefecture of Evros, the Department of Molecular Biology and Genetics of Democritus University of Thrace)

Changes. Remarkable results have been attained in terms of participation. With an approximate total of around 400 people attended the lectures on “Biosciences today” (250 citizens during the 1st year and 150 citizens during the 2nd year), and around 250 citizens participated in the science project including the high school students (50 during the 1st year and 200 during the 2nd year). The number of participants far exceeded the initial expectations. Moreover, the good level of cooperation is pushing DUTH and the other stakeholders to promote other initiatives and to define more stable forms of collaboration.

Main features of the success story

Strategy. Two elements can be highlighted. I) A key element was the high level of cooperation between the MGB-DUTH core team with external entities. This cooperation encompassed all the development phases of the initiatives, starting from their design phase. To reach a high level of coordination, several rounds of meetings were held, this allowed for a clear attribution of roles and responsibilities. II) It was also important to tailor the initiatives to the different audiences, and to leverage the expertise of the different stakeholders (e.g., in LifeLong Learning).

Sustainability factors. Two sustainability factors can be identified. I) The intention of the different actors involved in continuing their collaboration in the future, even in more stable forms, keeping common ownership of the initiatives. II) The use of a virtual platform to organise the initiatives, due to the COVID-19 pandemic, that facilitated participation and made the initiatives more sustainable, both economically and organisationally.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness		Responsiveness
Type of institutional change	Physical/Virtual		Social	Normative		Symbolic

Success Story #2 (DUTH)

Adoption of a multifaceted approach to promoting gender equality (GE)

Short description of the success story

The issue. The promotion of gender equality has continuously met obstacles in academia, due to a multitude of factors, including the heterogeneity of the different stakeholders, the lack of opportunities to reflect on the issues (e.g., because of the lack of time), and the complex nature of gender equality issues, which affect all the aspects of the life within the organisation, hence the difficulty of developing an effective and comprehensive approach to raising awareness and disseminating information on gender-related problems.

Main actions. To address this problem, a multifaceted approach was applied. It includes the implementation of an internal survey on GE, the draft of a plan to promote GE, the organisation of a seminar day held on an annual basis, focusing on women in biosciences, and participation in interdepartmental series of lectures (spring semester) titled "Special Topics in Gender Studies".

Actors involved. To successfully carry out these actions, the involvement of the key internal stakeholders (the Department of Molecular Biology and Genetics, the University Gender Equality Committee, the alumni association and other students' associations, the Rectorate Office, faculty members in the field of Biosciences with interest in promoting gender equality, the DUTH Office of Academic Affairs) was pivotal.

Changes. Overall, 104 people participated in the survey (questionnaire on Gender), 215 people (85 females and 30 males) attended the annual seminars "Women in Biosciences" (85 females and 30 males during the 1st annual event and 70 females and 30 males during the 2nd annual event), and 75 people attended the class on "The dimension of Gender in Biosciences". The capacity to reach so many people in a relatively short time is itself an impactful result. The initiatives carried out also made it possible to get key information on both the internal situation of gender equality (through the survey) and how gender equality is perceived in the organisation.

Main features of the success story

Strategy. Three aspects can be highlighted: I) the choice to diversify how the different audiences are reached; II) the choice to mobilise all the relevant stakeholders internal to the organisation (remarkable, under this angle, the involvement of the alumni association and other students' associations); III) the choice to consider from the beginning the peculiar aspects of gender equality in biosciences, including the gender and sex dimension in research content.

Sustainability factors. The establishment of strong cooperation in launching these initiatives among the internal stakeholders is the most relevant factor for sustainability, since it provided favourable conditions to effectively promote future planned actions on gender equality.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness	Responsiveness	
Type of institutional change	Physical/Virtual		Social	Normative	Symbolic	

Success Story #3 (DUTH)

Internal and external stakeholders mobilised on Open Access (OA) and Open innovation (OI) through a survey among faculty members and the discussion of its results

Short description of the success story

The issue. In order to promote OA and OI it was necessary to understand what the Department of Molecular Biology and Genetics staff thought about these issues and the related initiatives to take.

Main actions. To address this issue, a questionnaire was administered by email among the departmental faculty members, researchers at all levels, Masters/PhD students, and graduate students in biological sciences at DUTH. A total of 104 people participated in this questionnaire and the results were particularly interesting, as they highlighted that there is widespread interest among the staff about RRI in general, but in regard to OA, there was a lack of information concerning how to promote OA publishing or about European and national policies on OA. It emerged that most participants do not use the national or institutional repository for their research, but they do recognise the importance of OA publishing infrastructure and consider OA policy planning at Higher Education Institution level important. It also emerged that the main limiting factor that discourages authors from OA publishing is the high article processing fees, which are usually not covered by the university. The results of the survey have been presented to the DUTH Central Library Supervising Committee and the Vice Rector for Administrative Affairs (responsible for the library). Discussions were initiated on activating internal mechanisms to expand the institution's ability to support OA for its academic members and to prepare the field for the development of an OA and OI policy.

Actors involved. This activity was carried out by the ResBios team in the framework of the Grounding Action #10. A wide group of people has been involved, as demonstrated by the high level of participation in the survey. This activity has made it possible to contact actors, like the institutional librarians, and develop communications and the relations needed to begin to plan future actions. Furthermore, when given the opportunity to present the results of the survey, two external actors were contacted, the Hellenic Academic Libraries Association and the Library and Information Centre of the University of Patras, to assist in the co-organisation of educational events and workshops on OA, addressed to postgraduate students, researchers, and faculty members of the university.

Changes. The survey was the instrument used to initiate an activity aimed at promoting Open Access (OA) and Open Innovation (OI) within the Department of Molecular Biology and Genetics and DUTH in general. The changes that are being introduced concerning OA and OI policies became conceivable, also thanks to the knowledge gained through the survey. Furthermore, the action represented an awareness raising process that permitted the expansion of the network of stable contacts of the department with actors that had not been considered in the past. Finally, the survey highlighted the training needs that needed to be addressed, through the implementation of educational activities concerning OA and OI.

Main features of the success story

Strategy. The survey was aimed at collecting information over the understanding of OA and OI among the Academic staff and was designed as the necessary starting point for creating a shared vision on the matter. The visibility given through the survey was also important to give legitimisation to OA and OI.

Sustainability factors. The activity as such has been the basis of action toward the promotion of OA and OI that is well-grounded on the knowledge of the attitudes of the various actors. Consensus has also been constructed on the need to promote further actions and this should favour the sustainability of the overall effort toward OA and OI.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness	Responsiveness	
Type of institutional change	Physical/Virtual		Social	Normative	Symbolic	

Success Story #4 (DUTH)

Creation of a new internal body focused on Ethical issues at the Department of Molecular Biology and Genetics (MBG)

Short description of the success story

The issue. The objective of GA #11 was to train and educate young researchers at MBG (undergraduate students, MSc students, and PhD students) on ethics (privacy, consent issues, IPR, protection of researchers and research participants, responsibility, precautionary principle, etc.) and integrity in science (plagiarism, fraud, etc.). To implement these activities, the agreement and hence coordination between existing bodies which have a say on the internal regulations at different hierarchical levels was needed.

Main actions. In order to introduce new training activities for young researchers and students at MBG, an agreement had to be reached with the Departmental General Assembly about the need of establishing a new committee, the Integrity Review Group, with the objective of supervising MBG's activities (this is because training should be tailored for the specific needs of the MBG). The ResBios team took care that the decisions concerning such a new group, responsible for designing training activities. This was approved by the General Assembly following several rounds of discussions.

Actors involved. The ResBios team as well as the members of the General Assembly were involved.

Changes. The ResBios team managed to create a new body that can supervise the activities for promoting ethics.

Main features of the success story

Strategy. The strategy followed was aimed at negotiating with various actors in order to reach consensus about the new committee.

Sustainability factors. The practice of negotiation, as well as the consensus reached over the presence of a new lower (department) level committee allow to foresee that the new training practices will continue in the future. Also, the negotiation methods could be used for further similar situations.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity		Inclusiveness	Responsiveness
Type of institutional change	Physical/Virtual		Social		Normative	Symbolic

Success Story #5 (DUTH)

Establishment of bioscience education activities with and for secondary schools for promoting bioscience careers

Short description of the success story

The issue. The relative lack of awareness of the existence of an advanced molecular biology cluster at the University of DUTH (the only one in Greece that provides studies in specific areas of Molecular Biosciences in the heart of innovation such as Health, Food, Environment and Agricultural Development) limited the number of enrolments in the department's degree programmes from the local community. In this context, the Team has carried out activities, through the Prefecture of Evros, with secondary schools, with the aim of informing school students about this field of study and potentially attracting them to continue to study molecular biology at a higher level of education.

Main actions. Main actions include:

- Organisation of work and the creation of an annual ad hoc committee for activities with schools
- Organisation of training workshops for teachers and dialogue initiatives with teachers
- The creation of a network between teachers involved in education activities, for facilitating the exchange of information, materials, etc.
- Lectures, 6 workshops, 2 webinars on molecular biology and RRI for secondary school students both online and recently some also in physical presence (relatively)
- Science projects with groups of high school students (the students have been organised into small groups, working on specific biosciences issues)
- Organisation on an annual Open days and Fair days with the possibility for students to present their work
- Preparation of didactic material
- Involvement of Molecular Biology and Genetics Department students and their associations in physical presence and virtual training activities addressed to secondary (middle and high school) students
- Broadening the target by involving also students of the first grades of high school
- Publicising these activities with schools at national and international conferences.

One of the main challenges that DUTH now currently faces, is how to maintain these activities through in-person and online initiatives.

Actors involved. Activities with schools benefit from a collaborative relationship with the Office of Secondary Education of the Prefecture of Evros. The other actors involved are:

- Internal stakeholders of DUTH University, including Department and University leadership
- School Units Administration (supporting educational activities)
- Undergraduate and Postgraduate student associations (supporting educational activities)
- Members of the Department of Molecular Biology and Genetics (implementing the GA).

Changes. Changes and impacts include:

- Support of the Department and of DUTH University on science education activities with schools implemented by the Team
- Definition of a method/approach to work with schools and the production of outreach material
- The establishment of a community of teachers and of schools for sharing knowledge and experiences
- Implementation of forms of collaboration with students and student associations
- Involvement of 631 students (539 second grade and 92 third grade high school students) during the academic year 2020-2021 and 1025 students (200 middle school students, 300 1st grade high school students, 425 2nd grade high school students and 95 3rd grade high school students) during the academic year 2021-2022. A total of 12 high schools and 9

middle schools of the Prefecture of Evros were involved including 42 (18 middle school and 24 high school) educators of Biology and Informatics.

- Increasing the number of students and schools involved, thanks to the fact that the virtual activities enabled the attendance of schools beyond those located in the district of Alexandroupolis and including schools located in remote areas of the Prefecture of Evros.
- Increasing the level of enrolment of students in the Department of Molecular Biology and Genetics
- Increasing the reputation of the Department of Molecular Biology and Genetics
- Increasing the number of professors, researchers and PhD students involved in science education.

Main features of the success story

Strategy. Elements of the strategy pursued:

- Support from the University and departmental leadership
- Active collaboration with the Prefecture of Evros
- Involvement of different types of stakeholders including schoolteachers and university students and their associations
- Diversification of initiatives
- Exploitation of the potential to implement online initiatives due to COVID-19 pandemic
- Dissemination of the Science Education Department's activities with schools.
- Organisation of an internal committee to monitor school activities.

Sustainability factors. The sustainability factors include:

- Support of the leadership
- The positive effects achieved so far in terms of increasing university enrolments in degree courses run by the Department from the local community
- The network of schools and teachers participating in science education activities
- The Department's internal support and ability to involve researchers, students, and lecturers
- The structuring of the internal committee dealing with activities with schools
- The collaboration with the Office of Secondary Education of Evros
- The collaboration with the Prefecture of East Macedonia and Thrace.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness	Responsiveness	
Type of institutional change	Physical/Virtual		Social	Normative	Symbolic	

Success Story #6 (DUTH)

Structuration of internal committee for educational activities with schools

Short description of the success story

The issue. The rise in number of requests for educational activities in schools surprised the DUTH team to some extent. To carry out activities with schools in the best way with the available resources required (and partly requires) structuring the group of people who manage such activities. For this reason, the team, in agreement with the Department's leadership and based on its experience of working in progress on schools, initially involved various people in the Department, and then set up an annual committee and worked on structuring it.

Main actions. In order to organise activities with schools in the best possible way and to manage the requests that come in, the team, through discussion with the faculty members has:

- Established a committee to work on activities with high schools formed in rotation by different faculty members (the committee should expand to include school visit activities)
- Involved actively student associations and individual students and researchers in carrying out activities with schools
- Recognised the voluntary activity provided by students, PhDs, and researchers on RRI and in particular in activities with schools through the definition of a certificate of participation whose details can be included in the CV of the individual researcher/student
- In the near future, the realisation of regular team/committee meetings with the people involved monitoring the activities carried out.

Actors involved.

- The team that worked with the schools
- Departmental leadership
- Faculty Leadership
- University Leadership (Vice-Rector)
- Faculty professors and researchers
- Students, PhDs, and researchers and their associations

Changes. A committee was created for secondary schools with rotating members; next year a general committee could be created for activities with all schools. In both cases, the committee will hold meetings and start monitoring science education activities in schools in the near future.

Main features of the success story

Strategy. The elements of the pursued strategy were:

- The team gathered around its human resources, to which it sought to give recognition
- Recognition by the leadership
- Formalisation of the committee
- Involvement of the various stakeholders.

Sustainability factors.

- Leadership support
- The existence of a departmental committee for educational activities with members rotating annually, supported by an extended team consisting of MBG members who had been involved in similar activities in the past on a voluntary basis.
- The impact and benefits of activities with schools on enrolment and the prestige they bring to the University
- The network of stakeholders involved internally and externally, first and foremost the schools
- The relationship with the Prefecture of Evros – Office of Secondary Education

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness	Responsiveness	
Type of institutional change	Physical/Virtual		Social	Normative	Symbolic	

Success Story #7 (DUTH)

Establishment of a partnership with the Evros Prefecture on science education

Short description of the success story

The issue. Activities in schools by Greek universities must be mediated through the Offices of Education of Prefectures. This bureaucratic obligation could initially have been an obstacle. The team worked to turn this procedure into an asset.

Main actions. The DUTH team turned this bureaucratic procedure into an active collaboration, through a Cooperation Agreement with the Office of Secondary Education of the Prefecture of Evros that allowed DUTH to carry out activities with schools and for the Prefecture to be able to involve schools located in remote or difficult to reach areas. The memorandum of understanding is the result of meetings and sharing of objectives, and strategies between the team and the Prefecture.

Actors involved.

- The Office of Secondary Education of the Prefecture of Evros
- The Core ResBios Team
- The Leadership of the Department

Changes. The Cooperation Agreement is operational and has brought important results, such as:

- An increased number of schools involved
- Increased enrolment in the department's degree programmes
- Increase in student interest in STEM
- An increased and effective cooperation with the office manager of educational activities.

Main features of the success story

The strategy.

- Getting to know each other, information about ResBios project, sharing objectives
- Optimisation of the need to use online modes to implement educational activities with schools
- The willingness of the Team and the University to work together
- Need for the Prefecture to involve the University in activities with schools

Sustainability factors.

- The existence of an already operational protocol
- The results achieved so far through the protocol
- The willingness of the team and the University to continue the collaboration among the actors who took part in the activities

Next year the head of the Prefecture's secondary school activities manager will retire. The Prefecture is also generally interested in continuing the collaboration.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness	Responsiveness	
Type of institutional change	Physical/Virtual		Social	Normative	Symbolic	

Success Story #8 (DUTH & ICM-CSIC)

Use of online tools to increase the outreach of activities with schools in Alexandroupolis (DUTH) and Barcelona (ICM-CSIC)

Short description of the success story

The issue. The COVID pandemic created many difficulties in reaching schools as foreseen through GA #6, GA #12, and GA #5. Initially, these activities were thought for being implemented in presence, however due to COVID-19 public health safeguards, many of these activities had to be moved to an online platform.

Main actions. The activities of teaching in schools and reaching out to young people in public engagement initiatives have been reframed to be implemented in an online format. This gave the possibility to include wider audiences compared to what was initially scheduled, facilitated by lower costs of participation, in terms of less need for transportation and time for attendance.

Actors involved. The two ResBios teams in Greece (Alexandroupolis) and Spain (Barcelona), school managers, school children, and managers of public school administrative structures (in Greece).

Changes. The audience for educational and public engagement activities has increased, and so has the connections with civil societies and other external actors. This has created, in both countries, the need to develop the capacity to meet these new expectations. So far, both organisations have managed to respond to the new demand. It is also important to mention that this approach facilitated the participation and involvement of different researchers within these institutions in the activities. In this sense, more perspectives and topics can be covered, as well as allowing more researchers to participate and appreciate the value of RRI.

Main features of the success story

Strategy. The capacity to organise online activities was used to reach external actors and not just internal ones (i.e., students). This migration to online formats was exploited as an opportunity.

Sustainability factors. There are new connections with several external actors. Serving the enlarged audiences is in line with the mandate and mission of both research organisations. So far, the challenge has been addressed and it can be expected that the activities will be continued, since they are seen as responding to the two organisations' duties. Reaching out to a wider audience than in the past could be considered the new standard of educational and public engagement activities.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness		Responsiveness
Type of institutional change	Physical/Virtual		Social	Normative		Symbolic

SUCCESS STORIES AT ICM-CSIC

Success Story #9 (ICM-CSIC)

Definition and implementation of coordinated actions to favour public engagement on ocean responsibility

Short description of the success story

The issue. ICM-CSIC has a quite consolidated tradition in public engagement activities. However, the core team noticed that the lack of strategies in working with local associations in the past resulted in some of these key local actors no longer participating. Thus, it was decided to launch a new wave of Public Engagement activities mainly focused on the local community of associations.

Main actions. To address this problem, a coordinated set of actions has been developed, including a set of activities and procedures to be exchanged amongst social actors, the organisation of a public event prepared through an open call for participation, the launch of a survey for collecting data for the organisation of an awareness campaign on ocean perception, an initiative on the job of an oceanographer, the organisation of a workshop on “Ocean cities”, the management of petitions asking the ICM-CSIC to organise specific public engagement and educational activities.

Actors involved. Cooperation relationships have been established with different actors, such as the Catalan Federation of Subaquatic Activities, the Barcelona City Hall, the “Biennial of Barcelona, the Espai Mediterrani”, organisations of the third sector, the EU4Ocean Platform, and the ICM-CSIC Marine Science Literacy Committee.

Changes. Apart from the direct impact of these initiatives in terms of participants in public engagement and educational activities (for example, the awareness campaign on ocean perception collected almost 1,600 answers from citizens), these actions introduced novelties in the approach of ICM-CSIC to public engagement, especially for what concerns the capacity to strategically coordinate a plurality of activities.

Main features of the success story

Strategy. The main feature of this success story is that activities have been based on a clear vision of objectives, methods, and expected outcomes. In particular, the following aspects deserve to be highlighted:

- The adoption of a clear conceptual frame (Ocean responsibility, Ocean Literacy)
- The connection with a global frame (the Decade of the Ocean started in 2021)
- The connection with a local frame (the Biennial of Barcelona)
- The intention to give continuity to the public engagement actions (a “chronological axis” was produced in collaboration with the Marine Science Literacy Committee – now Task Force – of the ICM-CSIC, summarising the main efforts of the ICM-CSIC compared to the main global efforts of Ocean Literacy)
- The strong connection with local actors (including a plurality of preparatory meetings and visits of representatives of the Barcelona City Hall to ICM-CSIC)
- The practice of a bottom-up approach (a consultation of citizens has been also organised to better shape the initiatives)

- The involvement of a “champion” (Federico Mayor Zaragoza, former member of the European Parliament, and ex-director-general of UNESCO was involved in the GA as a champion for Ocean protection).

Sustainability factors. Sustainability is evidently not ensured. However, the creation of a cooperation network and the establishment of the set of elements mentioned above strongly increase the possibility for the initiatives of public engagement to continue. One example of this local interest is the plan for giving new spaces to the ICM-CSIC in Barcelona for developing Ocean Literacy activities and promoting ocean responsibility with citizenship.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity		Inclusiveness	Responsiveness
Type of institutional change	Physical/Virtual		Social		Normative	Symbolic

Success Story #10 (ICM-CSIC)

Internal cooperation and synergies to implement gender equality-oriented actions

Short description of the success story

The issue. To launch gender equality-oriented actions, a visible and enhanced commitment of the organisation and a high level of involvement of its key units is needed.

Main actions. To promote the institutional commitment of ICM-CSIC, communication, networking, and mentoring activities have been conducted.

Actors involved. All the activities have been conducted in connection with the EC-funded LetsGEPs Project, aimed at developing Gender Equality Plans (GEPs) in RFPOs, including ICM-CSIC. Communication activities have been developed together with the Outreach and Communication Office. Networking activities have been carried out in cooperation with the EC-funded ACT project, focusing on the establishment of communities of practices on gender equality. The MARINA mentoring programme has been developed with the Research Support Office and prepared involving experts of the LetsGEPs Project. Other internal units involved are the Marine Science Literacy Committee (now Task Force, see below Success Story #12), the Research Support Office, the Equality Task Force, the Director, and the directorate team.

Changes. These actions enhanced the visibility of gender equality within the ICM-CSIC but also in other institutions the ICM-CSIC cooperates with (for example, other local, national, and similar research centres and high schools).

Main features of the success story

Strategy. This success story is strongly based on the close cooperation among the many units and individual officers of the organisation directly or indirectly involved with the implementation of gender equality-oriented actions as well as the synergies between the ResBios core team and the team in charge of the LetsGEPs project.

Sustainability factors. Practices of internal cooperation are expected to lead to long-term and more institutionalised procedures.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity		Inclusiveness	Responsiveness
Type of institutional change	Physical/Virtual		Social		Normative	Symbolic

Success Story #11 (ICM-CSIC)

Development of public engagement initiatives on demand of high schools

Short description of the success story

The issue. Through their educational and public engagement activities, ICM-CSIC established stable relationships, especially with local high schools. At the beginning of the 2021-2022 scholastic year, the ICM-CSIC received a petition from one of the high schools that participated in the network of marine schools' formative action to organise classes on Ocean-related issues.

Main actions. To match the petition from the high schools, information on public engagement initiatives with schools was spread among the staff of the institute. This allowed for the identification of three women researchers interested in cooperating. Since the classes were particularly effective, two more women researchers were successively involved in the organisation of classes for students.

Actors involved. The internal research staff.

Changes. A new possible procedure (on-demand) was *de facto* successfully tested in the domain of public engagement.

Main features of the success story

Strategy. This success story is strongly based on the capacity of ICM-CSIC to promptly react to external inputs and the availability of researchers to voluntarily cooperated.

Sustainability factors. This success story seems to indicate, as an important sustainability factor, the establishment of a collaborative working climate which represents an enabling environment for public engagement initiatives.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness	Responsiveness	
Type of institutional change	Physical/Virtual		Social	Normative	Symbolic	

Success Story #12 (ICM-CSIC)

Structuration of the Marine Literacy Committee/Marine Literacy Task force and acquisition of responsibility of the implementation of RRI

Short description of the success story

The issue. ResBios activities at ICM covered a wide array of issues (gender, education, and public engagement) and their implementation has been carried out by complying with the governance structure implied by the European projects' regulations. Therefore, ResBios has been implemented by a special team through the involvement and cooperation with the existing bodies. It is necessary that, once the ResBios project is concluded, the continuation of the activities carried out under ResBios is taken up by a dedicated organisational body. The existing Marine Science Literacy Committee (MSLC) is currently charged with implementing activities connected to science/society relations. This body, in its turn, is being changed by the new ICM leadership in its mandate (and becoming Task force).

Main actions. The ResBios team is participating in this change process through the definition of a document summarising the MSLC mandate and that will include a reference to the orientation toward RRI and the current practice.

Further activities aimed at giving a new structure to the MSLC are being implemented through negotiations with ICM-CSIC leadership:

- Coordination of the ongoing activities (related to different projects) science/society issues
- The creation of a website for connecting practitioners in Ocean Literacy with an educational perspective
- Involvement of different departments of ICM-CSIC and researchers
- Definition and implementation, in agreement with the ICM-CSIC director, of a specific yearly budget for Ocean Literacy and rewards for researchers involved on a voluntary basis in science education and outreach activities.

Actors involved. Currently the MSLC members consists of, the ICM leadership (the old and the new ones), and the teams implementing gender, and other science/society-related projects, the Research Support Office.

Changes. A new organisational body is taking up the management of RRI-related issues.

Main features of the success story

Strategy. Cooperating with all the actors implementing RRI-related activities within ICM.

Sustainability factors. The practice of RRI will not be related to just the ResBios team but will be embedded in official bodies of ICM.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness	Responsiveness	
Type of institutional change	Physical/Virtual		Social	Normative	Symbolic	

Success Story #13 (ICM-CSIC)

Creation of the Network of Marine schools as a community of practice and care for the sea and coasts

Short description of the success story

The issue. The promotion of Ocean Literacy is for the ICM-CSIC a central element of its identity and mission. Ocean Literacy is about knowledge of the sea (biology, marine environment, etc), its mutual relations and impacts on communities (culture, economy, society, etc.), and its protection. This is why it is of great importance to carry out science education activities with schools. In the past, the ICM-CSIC had experienced difficulties in responding efficiently to the high interest of local schools. RRI provided a framework for structuring and expanding the work with schools and network building, where knowledge, practices and experiences of field research could be shared.

Main actions. The ICM-CSIC has promoted through GA6 the establishment of a network of marine science high schools to promote Ocean Literacy, by implementing the following activities:

- Teacher training workshops
 - Intensive dialogue and consultation with schools and teachers
 - Preparation of teaching materials
 - Preparation of a guide for researchers to adapt their language to educational activities
 - on site, field, and coastal experimentation activities with classes of the schools involved on the various themes of Ocean Literacy.
 - Involvement of ICM-CSIC researchers
 - A dedicated website on the ICM-CSIC webpage
 - The creation of a dedicated e-mail address
 - The promotion of activities with schools in important science education events and initiatives
 - Networking and collaboration with other European and national marine school networks.
- In activities with schools, the role and presence of women researchers are also highlighted.

Actors involved.

- ICM-CSIC stakeholders: Director of the Institute, Deputy Director on Communication and Outreach, Office of Support Research, members of the Marine Science Literacy Committee (which has become the new Task Force)
- Schools: 9 High-schools in Barcelona, and high schools from other locations
- Local authorities: Department of Education of the Generalitat (Catalonia Government), Barcelona administration
- Civil society associations: neighbourhood associations, Reeducamar (Spanish initiative about marine education)
- Research organisation: IFNUL, DUTH, UBREMEN
- National and international networks: Blue Schools Erasmus+ project, Network of European Blue Schools.

Changes. The effects of these initiatives have been:

- An increase in the interest of schools in Ocean Literacy
- An improvement of the way how the existing interest is addressed, and in the willingness to participate in the network
- A greater rooting and presence of ICM-CSIC in Barcelona and an increase in its reputation,

- The creation of a *de facto* network of schools sharing a common vision on the importance of the sea on the life of communities as an asset to be protected and known, where to exchange knowledge and share experiences and activities
- Greater involvement of schools in citizen science initiatives on the protection of the sea. The initiation of a dialogue with schools promoted a petition of schools to ask for more activities on the coasts.

Main features of the success story

Strategy. The strategy pursued is based on:

- The strong involvement of the leadership and the ICM-CSIC
- The intensive communication activities
- The use of various tools and the implementation of different types of activities
- The active involvement of teachers and students
- The inclusion of this activity in national and international networks.

Sustainability factors. Sustainability factors include:

- The rooting of this activity with the schools within the ICM-CSIC, thanks to the involvement and support of the leadership and in general the researchers
- The interest of the schools
- The recognition and visibility that these activities produce both nationally and internationally for the ICM-CSIC.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness	Responsiveness	
Type of institutional change	Physical/Virtual		Social	Normative	Symbolic	

SUCCESS STORIES AT UNIZG-FAZ

Success Story #14 (UNIZG-FAZ)

Approval of a policy document on Open Access (OA) and launch of OA teaching

Short description of the success story

The issue. The practice of OA is important for complying with EU and national policies for promoting the communication of the results of scientific activities. The problem is connected to the cost of publishing in this way. Furthermore, doubts on how to reach this hoped objective were raised, since the quality of OA publishing cannot be taken for granted.

Main actions. A review of the practice of OA, mainly connected to the quality of the journal has been implemented and concluded in April 2022. Previously, the faculty officially had decided to support OA publishing with additional funds as proposed by ResBios team. On the basis of such an orientation of the faculty leadership and this new knowledge of the current practice, activities aimed at teaching students and young researchers how to publish using OA opportunities and according to high-level standards of scientific writing have been carried out.

Actors involved. The actors involved have been the ResBios Team, the faculty leadership, researchers, and students.

Changes. The main changes are represented by the official position taken by the faculty to support the practice of OA and the teaching activities.

Main features of the success story

Strategy. The strategy followed was based on the identification, through an analysis of the state of the art of OA in the faculty, of the actual problems being met by researchers in publishing in OA. On this basis, it was possible to calibrate the actions that needed to be well-targeted to obtain support from the faculty leadership.

Sustainability factors. The two changes impact the “structure” of FAZ: on the one hand, an official decision on OA has been officially taken by the faculty leadership; on the other hand, the new orientation has become a teaching practice – i.e., it impacted one of the fundamental and structural activities of the faculty.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness	Responsiveness	
Type of institutional change	Physical/Virtual		Social	Normative	Symbolic	

Success Story #15 (UNIZG-FAZ)

Provision of support to a group of faculty members charged with defining a Gender Plan

Short description of the success story

The issue. Gender is emerging as an outstanding issue in the scientific system, and this is reflected by the fact that scientific organisations are being requested to define their own gender equality plans (GEPs), which are a precondition for successfully applying for (at least European) research funds. FAZ did not have its own GEP yet at the end of year 2021 and requested the ResBios team to help to define it.

Main actions. ResBios team did not foresee implementing RRI Grounding Actions related to gender. Nevertheless, the connections created thanks to the project enabled the ResBios team to support the people who have been appointed by the faculty leadership to define a GEP. One of the members of the team became a member of the committee charged with defining the faculty's GEP and helped in its creation. The GEP was eventually approved and, afterward, a request for funding GEP-related activities has been submitted to the EC.

Actors involved. ResBios team members; faculty leadership.

Changes. A GEP has been approved and a first initiative to foster gender equality has been carried out through the definition of a project proposal to submit for funding. This means that there is a commitment within FAZ to work on this issue. The ResBios team demonstrated to be a reference point within the faculty for the promotion of RRI.

Main features of the success story

Strategy. Making the most of the relations (with experts and advisors) made available by the ResBios consortium for defining the GEP.

Sustainability factors. A new normative plan has been defined and a group of promoters of gender equality demonstrated to be active (by submitting a request of funds).

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity		Inclusiveness	Responsiveness
Type of institutional change	Physical/Virtual		Social		Normative	Symbolic

Success Story #16 (UNIZG-FAZ)

Mainstream of RRI in teaching and life-long learning in the Faculty of Agriculture

Short description of the success story

The issue. RRI and the skills to apply it are an important part of doing research today and should be included in the curriculum of researchers and students. For this reason, the UNIZG-FAZ team has been working on capacity building of students, and researchers for including skills and competencies on RRI. The aim was and continues to be to achieve better education in the Faculty of Agriculture by providing basic knowledge and capacities for students implementing RRI in their future professional life. Besides this, mainstreaming RRI activity served and still serves to solve two issues: the lack of participation in some LifeLong Learning issues; the lack of lecturers' time to participate and get involved in new activities.

Main actions. RRI mainstreaming activities concerned both some life-long learning programmes (on which the Faculty of Agriculture was finding it difficult to get off the ground) and the capacity-building activities of students and researchers. They consisted of:

- Inclusion of direct lectures on RRI principles and approach and/or some elements of RRI (ethics, open access, etc.) in degree and in PhD students' courses (such as Wildlife management, the Scientific research system, etc.), life-long learning programmes (Modern apiculture, Botanical and geographical origin of honey, Assessment of damage to agricultural crops caused by game, with the establishment of student's Wildlife group) and the training activities for hunter and gamekeepers for the Croatian Hunting Association
- Inclusion of RRI content in lessons related to activities with Croatia Hunting Association (and its new e-learning platform, <https://hls-edu.hr/>)
- Recognition of practices and lectures already conducted by other lectures and professors on RRI content (*de-facto* RRI)
- Visibility of the inclusion of RRI as a teaching topic on the Faculty of Agriculture website
- Inclusion of the RRI issues among the topics of Career Days, PhD Days, and Open-door days
- Preparation of specific teaching materials on RRI to be shared with lecturers.

Actors involved. The main actors involved are faculty representatives, professors and researchers from the Department of Fisheries, Apiculture, Wildlife Management and Special Zoology, scientific-teaching staff from other Departments, Quality Management, International Relations Office, the Croatian Hunting Association.

For the related the activities, the following actors were also involved: the University of Zagreb Faculty of Veterinary Medicine and the Faculty of the Agrobiotechnical Sciences Josip Juraj Strossmayer, University of Osijek.

Changes. The main changes achieved are:

- Changes in the content of some of the courses for PhD students
- Inclusion of RRI in the content of some LifeLong Learning programmes and establishment of a new programme "Assessment of damage to agricultural crops caused by game"
- Inclusion of RRI content in hunter and gamekeeper training for the Croatian Hunting Association
- Promotion of RRI knowledge among teachers and students of the Faculty of Agriculture
- Recognition and visibility of RRI-related activities in the Faculty of Agriculture and broadening of internal consensus
- Increase of the external reputation of the University
- Inclusion of the principles of RRI in some official Faculty documents, such as the Ethical Principles or the Mission statement.

Until the 22nd month, the following actors were involved: 26 PhD students, 14 graduate students, 29 participants (people of different age groups participated in a course for Hunters

and gamekeepers), 7 professors, 1 assistant – researcher, and 1 educator from the Croatian Hunting Association.

Main features of the success story

Strategy. The strategy pursued and activated is based on the following elements:

- Valorisation of the resources and initiatives already in place
- Promoting many micro-actions with a bottom-up approach
- Implementation of various and different integrated and coordinated activities
- Gradual involvement of the university leadership
- Internal and external dissemination of the activities carried out on RRI.

Sustainability factors.

- The adoption of a bottom-up approach
- The enhancement and promotion of '*de facto*' RRI in the faculty
- The involvement of the leadership of the Faculty of Agriculture
- The reputation that the implementation of RRI mainstreaming activities produces

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness	Responsiveness	
Type of institutional change	Physical/Virtual		Social	Normative	Symbolic	

Success Story #17 (UNIZG-FAZ)

Establishment of the Wildlife Group of students (Hunting Group) and renovation of LLL programmes

Short description of the success story

The issue. The LifeLong Learning (LLL) programmes of the Faculty of Zagreb attracted (and partly attracts) few participants. In order to promote a new approach to LLL, a new LLL programme dedicated to Wildlife management was activated, an initiative of informal education. Something needed to be changed to increase the level of student interest and participation in LLL programmes. To solve this problem, work was done on several levels:

- Choosing an appealing theme on which to start the LLL programme
- Inclusion of RRI content in the programme, including theoretical and practical activities.

The results of the experimentation carried out in 2020-2021 were used to launch the group in 2021-2022 and to design future LLL programmes.

Main actions. The following activities were carried out:

- Review of LLL programmes through consultation with colleagues and faculty leadership and consultation with the National Agency on LLL
- Promotion of LLL's wildlife programme at faculty events and international conferences
- Establishment of a programme on Wildlife management aimed at students with practical and theoretical activities through the establishment of a group for the year 2021-2022 in which 14 students participated
- Definition of the symbolic aspects (group name, T-shirt designs, etc.)
- Implementation of activities for one year and their evaluation
- Establishment of the Wildlife group for the year 2021-2022 and the start of activities.

The students who participated in the first-year group (14 students) proposed more information on LLL programmes, current faculty projects and job opportunities. They requested also more activities in the field and for several days and to open this programme to collaboration with other faculties both for access to lectures and for publishing.

Actors involved.

- Internal stakeholders: Dean and Vice Dean of the Faculty; International Relations Office; Head of the Department of Fisheries, Apiculture, Wildlife Management, and Special Zoology, as well as the Department scientific-teaching staff; persons responsible for the organisation of faculty events
- Graduate students of Fisheries and Wildlife Management studies
- External stakeholders: representatives of the Lifelong Learning Committee, Agency for Vocational Education and Training and Adult Education, and Croatian Hunting Association

Changes. Some important changes were achieved:

- Inclusion of RRI in the content of LLL programmes
- Initiation of a process to design and improve the faculty's LLL programmes
- Involvement in the establishment of the Centre for faculty LifeLong Learning programmes
- Design of new LLL programmes also aimed at untrained professionals (e.g., on human-wildlife relations – Department level on topics such as vine cultivation and wine – faculty level)
- Establishment of the Wildlife group of students each year to carry out practical and theoretical activities.

Main features of the success story

Strategy. The strategy pursued is based on participatory planning with internal and external stakeholders, the involvement of students, and the testing of an innovative approach between theoretical and practical activities.

Sustainability factors. The sustainability factors are:

- Student satisfaction and achievements in the previous year's group and the internal and external visibility of this programme
- The activation of reflection on the improvement of LLL programmes
- The adoption of a multi-stakeholder approach.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness		Responsiveness
Type of institutional change	Physical/Virtual		Social	Normative		Symbolic

Success Story #18 (UNIZA-FAZ)

Definition and implementation of new Lifelong Learning activities for professionals not trained in environmental-related disciplines

Short description of the success story

The issue. Many professionals are involved in activities that are related to hunting and nature conservation, but do not have specific training or academic background on these issues. The most important case is that of professionals working within the legal system (e.g., lawyers who have to deal with issues connected to damages produced by the interaction between wild animals and the built environment). Specialised training is needed.

Main actions. Specific training initiatives have been carried out for these types of professionals on an experimental basis, after the revision and approval by the Committee for LifeLong Learning programmes and by the Faculty Council. The next step is the approval by the national Agency for Science and Higher Education. The final step is the approval by the Ministry of Science and Education. This activity will be likely replicated in the coming years. In the training, lecturers coming from other faculties than that of Agriculture have been involved.

Actors involved. The ResBios team implemented the activities. Lecturers from other faculties participated. The Croatian Hunting Association (CHA) was a partner of the initiative. The Faculty of Agricultural Council and the Agency for science and higher education are involved too.

Changes. A new form of training initiative has been experimented and launched that involves actors external to the faculty.

Main features of the success story

Strategy. The strategy at the basis of this action is responding to the training needs that emerged during the project activities. Further contacts with other external stakeholders will be created in the future based on the experience developed so far.

Sustainability factors. The formal approval of new training modules by the relevant authorities is making this activity a structural part of the teaching offered by the FAZ.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness		Responsiveness
Type of institutional change	Physical/Virtual		Social	Normative		Symbolic

Success Story #19 (UNIZG-FAZ)

Optimisation of partnership with the Croatia Hunting Association

Short description of the success story

The issue. The Faculty of Agriculture of the University of Zagreb collaborates with the Croatian Hunting Association (CHA) on compulsory training for a hunter's license. The training covers both hunters and gamekeepers and is an ordinary activity of the Faculty of Agriculture. Problems related to the protection of the environment, animal welfare, and the management of human-wildlife relations called for more to be done. The FAZ team, on the basis of the reflection on RRI, has enhanced the collaboration with the CHA with the aim of improving the training of hunters and gamekeepers, and making them more responsible for the protection of the environment and human/wildlife management; promoting the implementation of multidisciplinary projects in which the faculty's skills and knowledge would be put to good use and providing training to professionals not trained in conservation and environmental biology in human/wildlife interaction; facilitating contacts of students with CHA.

Main actions. The actions implemented include:

- Collaboration and regular contacts with the CHA national leadership which allowed the possibility to share common concerns, interests, and aspirations regarding the protection of the environment and wild animals, and the need for adequate and widespread training
- Inclusion of RRI in the content of lessons for hunting and gamekeepers
- Collaboration on the design and implementation of an online platform for CHA training with the provision of content to be used in the theoretical training of hunting and gamekeepers
- Design and implementation of an experimental project with CHA and some local authorities on the training of professionals, hunters, gamekeepers, etc. on human-wildlife interaction
- Involvement of hunters and gamekeepers in science education projects on the protection of typical wild mammals in mountainous areas
- Opportunities for faculty students to participate in the practical activities provided for the mandatory training of hunters and gamekeepers.

Actors involved. The actors involved include:

- The national leadership of CHA
- The leadership of the Faculty of Agriculture
- The other faculty members involved in the training activities.

Changes. Some of the changes are already described in the activities:

- Improved training for hunters and gamekeepers also through collaboration on the content and online lessons of the CHA's e-learning platform
- Increased opportunities for students in the Faculty of Agriculture.

Main features of the success story

Strategy. The strategy used is based on a shared vision and awareness of the contribution each party can make to the management of complex problems relating to environmental protection and human-wildlife relations: the faculty, its knowledge, and the results of its research; the CHA, its institutional role, and its widespread presence on the ground. This basis made it possible to involve different types of stakeholders and to launch diversified activities.

Sustainability factors. The sustainability factors:

- The reputation of both the CHA and the Faculty of Agriculture
- The mutual benefits of collaboration
- The results achieved through the activities.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness	Responsiveness	
Type of institutional change	Physical/Virtual		Social	Normative	Symbolic	

SUCCESS STORIES AT IFNUL

Success Story #20 (IFNUL)

Rooting ethical publishing by spreading among stakeholders' basic legal knowledge and information

Short description of the success story

The issue. The necessary basis to support the definition of ethical publishing principles using the knowledge of the relevant legal sources valid for Ukraine. Mastery of such corpus of principles and regulations was needed.

Main actions. A review of the existing normative sources for the promotion of Ethical behaviours among scientists at IFNUL was carried out. The sources on academic integrity and bioethics were analysed, such as the various Laws of Ukraine on Education, higher education (and the related Articles on Academic Integrity), and on Protection of Animals from Cruelty; the relevant Regulations and code of conduct issued at the Faculty of Biology of IFNUL on Academic Honesty and the related documents such as the Declarations on Compliance. In this framework, a comparison was done with other similar documents issued in other European countries. A discussion with students of the results of this review was also carried out, aimed at raising awareness on ethical issues, and propaedeutic for defining a Code of Conduct and a Students' Declaration on Ethical research practices.

Actors involved. The activities were implemented using the internal and external connections of the ResBios team. Internal academic authorities have been involved as well as of the international partners of ResBios project, who provided examples of foreign laws and regulations concerning ethical behaviour among scientists. Scientific Centre for Medical and Biotechnical Research of the National Academy of Sciences of Ukraine provided series of consultation on bioethical principles of work with laboratory animals and other living objects. Students have also been involved in the discussion.

Changes. The activities were propaedeutic for the attainment of the ultimate goal of Grounding Action #7 and for setting up a Code of conduct at IFNUL of ethical behaviour in research and publishing. Apart from this, knowledge and awareness about ethical publishing were created and diffused among various actors. This fact not only helped reach the objective of the GA #7, but also created a basis for the continuation of these activities in the future, including the implementation of ethical principles. Another change is connected to the demonstration to the students of the relevance of ethical issues within IFNUL.

Main features of the success story

Strategy. Creating and implementing a policy on ethical issues needed the creation of a friendly environment based on appropriate knowledge.

Sustainability factors. The activities implemented are inherently aimed at promoting sustainability, since they have to do with the culture of the actors within IFNUL, particularly the fact that they correctly appreciate the importance of the ethical practices within scientific research (particularly, the concept and observance of academic integrity by participants of the educational process; bioethical principles of work with laboratory animals and other living objects).

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness		Responsiveness
Type of institutional change	Physical/Virtual		Social	Normative		Symbolic

Success Story #21 (IFNUL)

Establishment of the Summer School on Nutrition as an annual initiative

Short description of the success story

The issue. The IFNUL team set up a Summer School on Nutrition for students, PhDs, and researchers in the context of the ResBios project. The Department of Biochemistry (and the Faculty of Biology) of IFNUL needed to experiment and harmonise informal education activities to promote biology awareness culture in society, so as to be able to respond to individual and organisation needs and to facilitate the access of young researchers to biology professions. In this context, the Summer School on Nutrition was designed and implemented to contribute to the further training, professionalisation, and capacity building of the Ukrainian students and researchers to the new demands of bioscience research.

Main actions. The Summer School was designed in agreement with the Department and faculty leadership and then implemented. The Summer School was the subject of an information campaign aimed at students, researchers, and stakeholders with whom the Department is in contact in Ukraine and abroad. Summer School for students and PhD Students “Functional foods – new challenges for balanced nutrition and the treatment of metabolic disorders” was held online (lectures) due to COVID-19 pandemic and offline (practical trainings) from 28 June till 02 July 2021 in Lviv, Ukraine. Students, Student’s association, PhD students, lecturers, researchers, and local industry representatives participated. The Summer School included lectures, working groups, and practical activities.

The team had begun planning the second Summer School, to be held online, with the involvement of scholars and professors not only from Ukraine, but also from other countries (USA and Poland, among others). The plan was also to inform other quadruple helix actors about this important initiative. At the same time, work began to search for funds for the third Summer School. The ongoing war has stopped the Summer School’s organisational activities temporarily, but a new edition of the School has been planned and an ad hoc Committee for fund raising activities for the Summer School has been set up.

Actors involved. For the implementation of Summer School, the following actors have been involved. Internal stakeholders at the University, Faculty, and Departmental level; Professors, scholars from different disciplines, and Universities were involved in the First Summer School: the Ivan Franko National University of Lviv; Odesa National Academy of Food Technology; University of Rzeszow, Halychpharm Corporation Arterium; Institute of Cell Biology of NAS of Ukraine; Research Station of Medicinal Plants of Institute of Agroecology and Environmental Management of National Academy of Agrarian Sciences of Ukraine.

Changes. The Summer School is intended to be a recurrent and institutionalised event. The first Summer School received praise, positive feedback, and continued interest from participants.

Main features of the success story

Strategy. The strategy pursued is based on:

- Enhancing and involving relations with researchers and lecturers working on the topic of nutrition in Ukraine and abroad, as well as the creation of new relationships
- Support from the leadership
- Choice of a topic – that of nutrition – that is particularly relevant both from the point of view of bioscience research and from the social point of view.

Sustainability factors. Elements of sustainability are:

- The team’s determination to continue in this activity
- The consensus of the leadership
- The success of the first Summer School

- The opportunities that organising the Summer School provide in terms of developing international relations and networking with the other research organisations.
Of course, sustainability is greatly affected by the ongoing war and what will happen when it is over. It is worth stressing that, notwithstanding the difficulties caused by the war, the efforts made to organise the Summer School proved to be an invaluable tool for maintaining the connections of IFNUL, its students and academic personnel with colleagues all around the country and abroad.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness		Responsiveness
Type of institutional change	Physical/Virtual		Social	Normative		Symbolic

Success Story #22 (IFNUL)

Creation and management of a YouTube channel with videos on biochemistry and molecular biology to raise awareness of biosciences

Short description of the success story

The issue. Two issues are at the center of the IFNUL team's work: the lack of a basic knowledge of biology in society, which is also necessary for everyday life, and the need to strengthen IFNUL's formal and informal education programmes on biology – to improve the training of young researchers.

To cope with these issues, the IFNUL team created a series of videos on specific bioscience topics and launched a YouTube channel for the Department of Biochemistry, where these materials were uploaded. Videos and the YouTube channel are one of the tools used in science education activities in schools, student lectures, and public engagement.

Main actions. The following activities have been done during the ResBios project:

- Video blog on "Basic Techniques in Biochemistry and Molecular Biology"
- Presentations on "Biology of viruses. Our friends or enemies." and "Viruses and the immune system of a multicellular organism"
- Launch of the YouTube channel "Кафедра біохімії ЛНУ імені Івана Франка / The Department of Biochemistry IFNUL". 4 videos have been filmed on "Basic Techniques in Biochemistry and Molecular Biology" (Qualitative and quantitative methods for determining carbohydrates, Qualitative and quantitative methods for determining lipids, Qualitative and quantitative methods for determining proteins and amino acids, and Determination of enzyme activities)
- The videos were publicised (via the website and social media) and used in science education initiatives (seminars, Summer School, meeting with secondary high schools of Lviv, etc.) and stakeholder meetings
- In addition, the team is preparing other bioscience education videos to be used for educational activities with schools and university students that take place online due to the COVID-19 pandemic and now the war.

Actors involved. The main actors involved are:

- Scientific society of students, graduate students, doctoral students, and young scientists
- Professors and researchers of the Department of Biochemistry
- The IFNUL Vice-Rector for Research, Teaching, and IT-Development
- Lviv Regional Junior Academy of Science.

Changes.

- The creation of a channel and the production of videos on biosciences that is easy to use and understandable by students, junior researchers, and schools as well as useful for improving science-society relations
- Increased visibility and public awareness of the research and dissemination activities of the Department of Biochemistry of IFNUL

Main features of the success story

Strategy. Among the elements of the strategy pursued:

- A multi-stakeholder approach, including students
- The support of the university leadership
- The choice of relevant and topical issues
- An intensive communication and accompanying video dissemination activity.

Sustainability factors. Among the elements of sustainability:

- The wide dissemination of videos
- The support of the leadership of the University to this activity
- The network of actors who uses video in science education activities

- The strength and willpower of the team who implements this activity.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness	Responsiveness	
Type of institutional change	Physical/Virtual		Social	Normative	Symbolic	

Success Story #23 (IFNUL)

Establishment of Open Day Activity Committee at the Faculty of Biology and approval of it by the Academic Senate

Short description of the success story

The issue. The IFNUL team promoted the establishment of the Open Day Activity Committee at the Faculty of Biology, in the context of the ResBios project. Every year, the Faculty of Biology of IFNUL holds Open Day for school children, teachers, and community members. On a yearly basis, employees of the Department of Biochemistry organised and took part in different events for these Open Days. The establishment of a permanent committee allows continuity in organising these initiatives as well as its better integration into the university's strategies. The Open Day Activity Committee at the Faculty of Biology also has the mission to further promote the popularisation of biosciences in society and to attract young people to study at the Faculty of Biology of IFNUL.

Main actions. The following actions have been implemented:

- Establishment of the Committee for the organisation of the Open Days activities at the Faculty of Biology. The Committee is composed of the ResBios Core Team members and some outstanding members of the faculty that are already cooperating with ResBios
- Definition and implementation of a networking and communication plan
- Elaboration of a database of the stakeholder contacts.

The Open Day Activity Committee at the Faculty of Biology will:

- Implementation of exchanges with various external networks, public bodies, associations, and other organisations which have extended contacts with citizens and civil society, the private sectors and the scientific community (e.g., schools, schoolteachers and the related associations), the City Council, the Regional educational authority, associations of entrepreneurs, firms, National Academy of Science of Ukraine, the Junior Academy of Science
- Communication with various structures within IFNUL, i.e., the Botanical Garden, the Zoology Museum, the Department of Biochemistry, the Research and Development Department, Development and Fundraising Department, International Office, the administrative structure, and the faculty leaderships. The Committee will also maintain contacts with internal stakeholders such as the academic staff (lecturers, researchers), groups of students and the Scientific society of PhD students
- Definition of various possible rewards for the participants in Open Days activities and organisers of events (e.g., certification, letter of endorsement, awards, etc.)
- Organisation of different activities in the frame of the Open Days at the Faculty of Biology.

Actors involved. The main actors involved in the Committee are:

- Professors, Associate Professors, and researchers of the Faculty of Biology
- Head of the Department of Biochemistry
- Vice-dean of the Faculty of Biology for Research
- Vice-dean of the Faculty of Biology for Educational and Methodological Work
- Associate Professor of the Department of Microbiology
- Director of the Zoological Museum
- Dean of the Faculty of Biology Khamar.

Changes.

- Official approval of the Open Day Activity Committee at the Faculty of Biology by Academic Senate
- Improvement in logistics and internal communication between those wishing to participate in the organisation of activities within the Open Day Activity at the Faculty of Biology
- Improvement of the communication and advertising of the Open Days for target groups.

Main features of the success story

Strategy. Among the elements of the strategy pursued:

- Enhance relation between scientists and society
- Involvement of internal and external stakeholders
- Strengthening the organisational setting of Open Days at the Faculty of Biology and city levels
- Promotion of the incorporation of RRI grounding practice in society.

Sustainability factors. The elements of sustainability are:

- The experience and knowledge gained by IFNUL team through the participation in ResBios project improved the capacity to communicate and keep relations with diverse types of actors using different tools
- Approval of the Open Day Activity Committee by the Academic Senate of the Faculty of Biology
- The consolidation of a tradition of Open Days at the Faculty of Biology
- The existence of a database of stakeholders with the indication of communication channels with them.
- Increasing in the level of participation in the Open days.

Additional information						
RRI Key(s)	Public Eng.	Gender	Education	Open Acc.	Ethics	Governance
RRI dimension(s)	Anticipation		Reflexivity	Inclusiveness	Responsiveness	
Type of institutional change	Physical/Virtual		Social	Normative	Symbolic	

TABLE 1 – LIST OF SUCCESS STORIES BY RRI KEYS

EDUCATION	
#3 DUTH	Internal and external stakeholders mobilised on Open Access (OA) and Open innovation (OI) through a survey among faculty members and the discussion of its results
#4 DUTH	Creation of a new internal body focused on Ethical issues at the Department of Molecular Biology and Genetics (MBG)
#5 DUTH	Establishment of bioscience education activities with and for secondary schools for promoting bioscience careers
#6 DUTH	Structuration of internal committee for educational activities with schools
#7 DUTH	Establishment of a partnership with the Evros Prefecture on science education
#8 DUTH ICM-CSIC	Use of online tools to increase the outreach of activities with schools in Alexandroupolis (DUTH) and Barcelona (ICM-CSIC)
#12 ICM-CSIC	Structuration of the Marine Literacy Committee/Marine Literacy Task force and acquisition of responsibility of the implementation of RRI
#13 ICM-CSIC	Creation of the Network of Marine schools as a community of practice and care for the sea and coasts
#14 UNIZG-FAZ	Approval of a policy document on Open Access (OA) and launch of OA teaching
#16 UNIZG-FAZ	Mainstream of RRI in teaching and life-long learning in the Faculty of Agriculture
#17 UNIZG-FAZ	Establishment of the Wildlife Group of students (Hunting Group) and renovation of LLL programmes
#18 UNIZG-FAZ	Definition and implementation of new Lifelong Learning activities for professionals not trained in environmental-related disciplines
#19 UNIZG-FAZ	Optimisation of partnership with the Croatia Hunting Association
#20 IFNUL	Rooting ethical publishing by spreading among stakeholders' basic legal knowledge and information
#21 IFNUL	Establishment of the Summer School on Nutrition as an annual initiative
#22 IFNUL	Creation and management of a YouTube channel with videos on biochemistry and molecular biology to raise awareness of biosciences
#23 IFNUL	establishment of Open Day Activity Committee at the Faculty of Biology and approval of it by the Academic Senate
GENDER	
#2 DUTH	Adoption of a multifaceted approach to promoting gender equality (GE)
#9 ICM-CSIC	Definition and implementation of coordinated actions to favour public engagement on ocean responsibility
#10 ICM-CSIC	Internal cooperation and synergies to implement gender equality-oriented actions
#13 ICM-CSIC	Creation of the Network of Marine schools as a community of practice and care for the sea and coasts
#15 UNIZG-FAZ	Provision of support to a group of Faculty members charged with defining a Gender Plan

ETHICS	
#4 DUTH	Creation of a new internal body focused on Ethical issues at the Department of Molecular Biology and Genetics (MBG)
#16 UNIZG-FAZ	Mainstream of RRI in teaching and life-long learning in the Faculty of Agriculture
#20 IFNUL	Rooting ethical publishing by spreading among stakeholders' basic legal knowledge and information
CITIZEN ENGAGEMENT	
#1 DUTH	Intense cooperation with private and public actors to develop a citizen engagement programme on biosciences
#5 DUTH	Establishment of bioscience education activities with and for secondary schools for promoting bioscience careers
#7 DUTH	Establishment of a partnership with the Evros Prefecture on science education
#8 DUTH ICM-CSIC	Use of online tools to increase the outreach of activities with schools in Alexandroupolis (DUTH) and Barcelona (ICM-CSIC)
#11 ICM-CSIC	Development of public engagement initiatives on demand of high schools
#19 UNIZG-FAZ	Optimisation of partnership with the Croatia Hunting Association
#22 IFNUL	Creation and management of a YouTube channel with videos on biochemistry and molecular biology to raise awareness of biosciences
#23 IFNUL	establishment of Open Day Activity Committee at the Faculty of Biology and approval of it by the Academic Senate
OPEN ACCESS	
#3 DUTH	Internal and external stakeholders mobilised on Open Access (OA) and Open innovation (OI) through a survey among faculty members and the discussion of its results
#14 UNIZG-FAZ	Approval of a policy document on Open Access (OA) and launch of OA teaching
#16 UNIZG-FAZ	Mainstream of RRI in teaching and life-long learning in the Faculty of Agriculture
GOVERNANCE	
#12 ICM-CSIC	Structuration of the Marine Literacy Committee/Marine Literacy Task force and acquisition of responsibility of the implementation of RRI

TABLE 2 – LIST OF SUCCESS STORIES BY RRI DIMENSIONS

ANTICIPATION	
#5 DUTH	Establishment of bioscience education activities with and for secondary schools for promoting bioscience careers
#6 DUTH	Structuration of internal committee for educational activities with schools
#9 ICM-CSIC	Definition and implementation of coordinated actions to favour public engagement on ocean responsibility
#13 ICM-CSIC	Creation of the Network of Marine schools as a community of practice and care for the sea and coasts.
#16 UNIZG-FAZ	Mainstream of RRI in teaching and life-long learning in the Faculty of Agriculture
#21 IFNUL	Establishment of the Summer School on Nutrition as an annual initiative
INCLUSION	
#1 DUTH	Intense cooperation with private and public actors to develop a citizen engagement programme on biosciences
#2 DUTH	Adoption of a multifaceted approach to promoting gender equality (GE)
#3 DUTH	Internal and external stakeholders mobilised on Open Access (OA) and Open innovation (OI) through a survey among faculty members and the discussion of its results
#4 DUTH	Creation of a new internal body focused on Ethical issues at the Department of Molecular Biology and Genetics (MBG)
#5 DUTH	Establishment of bioscience education activities with and for secondary schools for promoting bioscience careers
#6 DUTH	Structuration of internal committee for educational activities with schools
#7 DUTH	Establishment of a partnership with the Evros Prefecture on science education
#9 ICM-CSIC	Definition and implementation of coordinated actions to favour public engagement on ocean responsibility
#10 ICM-CSIC	Internal cooperation and synergies to implement gender equality-oriented actions
#11 ICM-CSIC	Development of public engagement initiatives on demand of high schools
#12 ICM-CSIC	Structuration of the Marine Literacy Committee/Marine Literacy Task force and acquisition of responsibility of the implementation of RRI
#13 ICM-CSIC	Creation of the Network of Marine schools as a community of practice and care for the sea and coasts
#16 UNIZG-FAZ	Mainstream of RRI in teaching and life-long learning in the Faculty of Agriculture
#17 UNIZG-FAZ	Establishment of the Wildlife Group of students (Hunting Group) and renovation of LLL programmes
#19 UNIZG-FAZ	Optimisation of partnership with the Croatia Hunting Association
#21 IFNUL	Establishment of the Summer School on Nutrition as an annual initiative
#22 IFNUL	Creation and management of a YouTube channel with videos on biochemistry and molecular biology to raise awareness of biosciences

#23 IFNUL	Establishment of Open Day Activity Committee at the Faculty of Biology and approval of it by the Academic Senate
REFLEXIVITY	
#2 DUTH	Adoption of a multifaceted approach to promoting gender equality (GE)
#3 DUTH	Internal and external stakeholders mobilised on Open Access (OA) and Open innovation (OI) through a survey among faculty members and the discussion of its results
#5 DUTH	Establishment of bioscience education activities with and for secondary schools for promoting bioscience careers
#6 DUTH	Structuration of internal committee for educational activities with schools
#12 ICM-CSIC	Structuration of the Marine Literacy Committee/Marine Literacy Task force and acquisition of responsibility of the implementation of RRI
#13 ICM-CSIC	Creation of the Network of Marine schools as a community of practice and care for the sea and coasts
#16 UNIZG-FAZ	Mainstream of RRI in teaching and life-long learning in the Faculty of Agriculture
#17 UNIZG-FAZ	Establishment of the Wildlife Group of students (Hunting Group) and renovation of LLL programmes
#20 IFNUL	Rooting ethical publishing by spreading among stakeholders' basic legal knowledge and information
#21 IFNUL	Establishment of the Summer School on Nutrition as an annual initiative
#23 IFNUL	establishment of Open Day Activity Committee at the Faculty of Biology and approval of it by the Academic Senate
RESPONSIVENESS	
#5 DUTH	Establishment of bioscience education activities with and for secondary schools for promoting bioscience careers
#6 DUTH	Structuration of internal committee for educational activities with schools
#8 DUTH ICM-CSIC	Use of online tools to increase the outreach of activities with schools in Alexandroupolis (DUTH) and Barcelona (ICM-CSIC)
#12 ICM-CSIC	Structuration of the Marine Literacy Committee/Marine Literacy Task force and acquisition of responsibility of the implementation of RRI
#14 UNIZG-FAZ	Approval of a policy document on Open Access (OA) and launch of OA teaching
#15 UNIZG-FAZ	Provision of support to a group of Faculty members charged with defining a Gender Plan
#18 UNIZG-FAZ	Definition and implementation of new Lifelong Learning activities for professionals not trained in environmental-related disciplines

TABLE 3 – LIST OF SUCCESS STORIES BY INSTITUTIONAL CHANGES TYPE

PHYSICAL/VIRTUAL SPACE	
#1 DUTH	Intense cooperation with private and public actors to develop a citizen engagement programme on biosciences
#2 DUTH	Adoption of a multifaceted approach to promoting gender equality (GE)
#5 DUTH	Establishment of bioscience education activities with and for secondary schools for promoting bioscience careers
#9 ICM-CSIC	Definition and implementation of coordinated actions to favour public engagement on ocean responsibility
#10 ICM-CSIC	Internal cooperation and synergies to implement gender equality-oriented actions
#11 ICM-CSIC	Development of public engagement initiatives on demand of high schools
#13 ICM-CSIC	Creation of the Network of Marine schools as a community of practice and care for the sea and coasts
#14 UNIZG-FAZ	Approval of a policy document on Open Access (OA) and launch of OA teaching
#16 UNIZG-FAZ	Mainstream of RRI in teaching and life-long learning in the Faculty of Agriculture
#17 UNIZG-FAZ	Establishment of the Wildlife Group of students (Hunting Group) and renovation of LLL programmes
#18 UNIZG-FAZ	Definition and implementation of new Lifelong Learning activities for professionals not trained in environmental-related disciplines
#19 UNIZG-FAZ	Optimisation of partnership with the Croatia Hunting Association
#21 IFNUL	Establishment of the Summer School on Nutrition as an annual initiative
#22 IFNUL	Creation and management of a YouTube channel with videos on biochemistry and molecular biology to raise awareness of biosciences
#23 IFNUL	Establishment of Open Day Activity Committee at the Faculty of Biology and approval of it by the Academic Senate
SOCIAL SPACE	
#1 DUTH	Intense cooperation with private and public actors to develop a citizen engagement programme on biosciences
#2 DUTH	Adoption of a multifaceted approach to promoting gender equality (GE)
#4 DUTH	Creation of a new internal body focused on Ethical issues at the Department of Molecular Biology and Genetics (MBG)
#5 DUTH	Establishment of bioscience education activities with and for secondary schools for promoting bioscience careers
#6 DUTH	Structuration of internal committee for educational activities with schools
#7 DUTH	Establishment of a partnership with the Evros Prefecture on science education
#8 DUTH ICM-CSIC	Use of online tools to increase the outreach of activities with schools in Alexandroupolis (DUTH) and Barcelona (ICM-CSIC)
#9 ICM-CSIC	Definition and implementation of coordinated actions to favour public engagement on ocean responsibility

#10 ICM-CSIC	Internal cooperation and synergies to implement gender equality-oriented actions
#12 ICM-CSIC	Structuration of the Marine Literacy Committee/Marine Literacy Task force and acquisition of responsibility of the implementation of RRI
#13 ICM-CSIC	Creation of the Network of Marine schools as a community of practice and care for the sea and coasts
#18 UNIZG-FAZ	Definition and implementation of new Lifelong Learning activities for professionals not trained in environmental-related disciplines
#19 UNIZG-FAZ	Optimisation of partnership with the Croatia Hunting Association
NORMATIVE SPACE	
#4 DUTH	Creation of a new internal body focused on Ethical issues at the Department of Molecular Biology and Genetics (MBG)
#6 DUTH	Structuration of internal committee for educational activities with schools
#7 DUTH	Establishment of a partnership with the Evros Prefecture on science education
#12 ICM-CSIC	Structuration of the Marine Literacy Committee/Marine Literacy Task force and acquisition of responsibility of the implementation of RRI
#14 UNIZG-FAZ	Approval of a policy document on Open Access (OA) and launch of OA teaching
#15 UNIZG-FAZ	Provision of support to a group of Faculty members charged with defining a Gender Plan
#16 UNIZG-FAZ	Mainstream of RRI in teaching and life-long learning in the Faculty of Agriculture
#20 IFNUL	Rooting ethical publishing by spreading among stakeholders' basic legal knowledge and information
#23 IFNUL	establishment of Open Day Activity Committee at the Faculty of Biology and approval of it by the Academic Senate
SYMBOLIC SPACE	
#3 DUTH	Internal and external stakeholders mobilised on Open Access (OA) and Open innovation (OI) through a survey among faculty members and the discussion of its results
#6 DUTH	Structuration of internal committee for educational activities with schools
#15 UNIZG-FAZ	Provision of support to a group of Faculty members charged with defining a Gender Plan
#16 UNIZG-FAZ	Mainstream of RRI in teaching and life-long learning in the Faculty of Agriculture
#20 IFNUL	Rooting ethical publishing by spreading among stakeholders' basic legal knowledge and information

Part Two

Sustainability and Support Plans – SSPs

SSP AT DUTH

1. THE CURRENT PRACTICE OF RRI

All activities of the grounding actions were originally designed in co-ordination with K&I by providing the appropriate tools and implemented under the supervision and the guidance of the mentoring teams of the consortium in the framework of the ResBios project. The resources used were provided by the project. Responsible for the implementation of the activities were the members of the core team consisting of the faculty members Aglaia Pappa, Alex Galanis, Katerina Chlichlia and Raphael Sandaltzopoulos and the PhD students Despoina Kiouisi and Ilias Tsochantaridis.

The Department of Molecular Biology and Genetics (MBG) of the Democritus University Thrace (DUTH) has been implementing the following five Grounding Actions (GAs).

GA#5: Establishing cooperation with schools on the forefront issues of Molecular Biology and Biosciences; the relevant RRI key is Education; the GA includes activities for promoting science in schools and the establishment of a departmental scientific committee to supervise and implement such activities. The progress of the scheduled activities is satisfactory and close to being accomplished according to the initial plan. Some of these activities based on the outcome of the first year of implementation were further expanded resulting in greater participation than initially expected.

GA#10: Developing an open access and open innovation policy; the relevant RRI key is Open Access. The GA involves teaching and other exchange activities aimed at drafting a plan of Open Access in collaboration with the University Authorities. The progress of the scheduled activities is satisfactory and close to get accomplished according to the initial plan.

GA#11: Redefining research ethics, procedures, and codes on Biosciences emerging needs; the relevant RRI key is Ethics; the activities were aimed at introducing ethical issues in teaching activities and in connecting the general policies of DUTH with ethical issues that are relevant for the research implemented at the Department. All scheduled activities have been successfully implemented.

GA#12: Developing citizen engagement program, the relevant RRI key is Citizen engagement; the activities included the establishment of a partnership with the local prefecture and the implementation of seminars with the public and fair days. The scheduled activities were performed either virtually or in physical presence outreaching the anticipated number of participants.

GA#13: Assessing the current situation about gender in biosciences at the university level; the activities were aimed at producing a report on gender equality in the Department, promoting a debate on gender issues and drafting a plan in cooperation with the relevant University Authorities. All scheduled activities have been successfully implemented.

2. HYPOTHESIS OF SUSTAINABILITY

As for sustainability, the following aspects can be highlighted.

The implementation of the GAs at MBG-DUTH proceeded satisfactorily and has given good results. In general, it can be noted that:

- The COVID pandemic initial practical obstacles were overcome by the employment of virtual and distance learning tools without jeopardising the implementation of the scheduled activities. Furthermore, these tools proved to be essential to reach out distant target groups and decided to use them in combination with activities in physical presence, even when the COVID safeguarding measures started to be withdrawn.
- The actors and stakeholders involved in the implementation of the activities appreciated them.
- The implementation of the activities required a stronger effort than expected. The core team has been able to involve internal actors (also on a voluntary basis) so far but, in the long run, the issue emerged of mobilising more human and financial resources for scaling up and maintaining the RRI practices. In this context, members of the core team are in the process of identifying new financial mechanisms (national or European funds) to support the continuation of the activities in the long run. In parallel, discussions and negotiations with the University management are in progress to seek further funding.

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During the implementation of the GAs some issues emerged that are relevant for reflection:

- It was good coincidence that national policies concerning one or more RRI keys (e.g., on Open Access and Gender equality) were launched with our activities and their impact on RRI implementation and outcome at the university level began to be felt. The Core team coordinated its activities with this external context. For example, the regulatory framework for Open Access Policy is under development by the University Authorities. In this context, the regulatory framework for Institutional Open Access Infrastructure Facilities has been completed and approved by the Senate in July 2022. Moreover, the activity of drafting a gender equality plan at institutional level has been greatly accelerated by the new eligibility criterion set by the European Commission that all organisations applying for Horizon Europe funds with submission deadlines in 2022 and beyond were required to have a gender equality plan (GEP) in place. The GEP of DUTH was finally approved by the Senate in December 2021.
- The implementation of some activities online made it possible to reach a wider public than expected. In particular, within the GA on education, high schools located in remote areas had the opportunity to participate; in GA on Open Access, the scheduled seminars were finally organised as webinars giving the chance of important stakeholders to participate as invited speakers (the Director of the Library and Information Center of the University of Patras and staff from DUTH Central library and the Hellenic Academic libraries); similarly the organised webinars in the GAs on Citizen Engagement and Gender Equality enabled distinguished scientists in the field at national level to participate as invited speakers, reaching a wider audience.

The ResBios project and its GAs have so far been an experiment on how RRI can be practiced, and the experience is the necessary basis for further promoting the orientation toward a Responsible and Open Science. In general, the continuation of the effort to promote RRI (and

replicate the GAs) is worthwhile and such an effort could become sustainable. In this framework, the strategy for embedding RRI at DUTH should be aimed at addressing the following challenges: to better structure the existing bodies (committees on gender or ethics, etc.) by providing them with basic operational resources; to create connections between the bodies/organisational units focused on RRI with others that are well structured (e.g., those for students placement); to define a new practical *modus operandi* (e.g., RRI will be rooted in the Departmental internal organisation) and an overall vision about the objectives to pursue. In this framework, it is also important to give visibility to the ResBios activities as well as to other *de facto* RRI practices that have emerged during the project implementation.

Towards this direction, several new committees addressing RRI keys have been established. In particular, in GA on Education a departmental scientific committee responsible for school educational activities in which members of the MBG DUTH Core Team participate was set up. In GA on Ethics, a new committee, the Integrity Review Group was established involving members of the MBG DUTH Extended Team. In GA of Gender, a member of the MBG DUTH Core Team participates in the Institutional Gender Equality Committee to promote gender equality issues in the field of Biosciences and contribute to the adoption of an Institutional Gender Equality Plan. Members of the Core Team also participate in the Departmental Research Committee and in collaboration with the University Authorities contribute to development of the regulatory framework for institutional Open Access infrastructure facilities. Pivotal collaboration agreements have been established including: i) the corporation agreement with the Office of Secondary Education of the Prefecture of Evros that allowed to carry out activities with schools and ii) the cooperation agreement with the Prefecture of East Macedonia and Thrace to promote a citizen engagement initiative on Biosciences. An informal collaboration has been initiated and will be continued with the Library and Information Center of the University of Patras and the Association of Hellenic Academic Libraries promoting Open Access Activities.

3. FACTORS OF SUSTAINABILITY

The implementation of the GAs is proceeding in a satisfactory way and caused emergence of various factors of sustainability (meant as conditions that favour the promotion of RRI). The main factor of sustainability is the presence of several actors, both internal and external to the University (including the leadership), that are interested in cooperating in the framework of RRI. Such factors have to be further exploited.

An important factor of sustainability is represented by the interest of the Core team members to keep on promoting their effort beyond the conclusion of ResBios, also thanks to their presence in various positions in the relevant bodies in the University and in the MBG Department. The experience gained by the Core team and the experiments represented by the GAs could be used as a blueprint for the continuation of the promotion of RRI in the future. Such experience has made it possible to single out some initiatives that could be undertaken in order to overcome them.

The main factors that do not favour the continuation of such efforts are the lack of resources (i.e., lack of appropriate well-equipped structures within the institution, the lack of specialised personnel and mainly permanent staff and lack dedicated financial resources that affect in general the University system) and the bureaucratic structure that is not ready for the practice of RRI. However, the “good will” of the stakeholders expressed in communication activities worked as a catalytic driving force for the implementation of DUTH plans.

The efforts and discussions towards negotiating new structures or strengthening the existing structures within the Institution (e.g., expansion of responsibilities) and exploring funding opportunities will continue in collaboration with the middle and top management. As a result of such efforts is the secure of institutional resources for the investment of modern educational tools based on 3-D technology and the equipment of a virtual reality educational room to upgrade students’ training activities within the Department and also used to promote educational activities with schools. This special equipment was for the first time used during the 2nd Bioscience Fair Day and greatly captivated and elevated students’ interest for biosciences.

The lack of human resources and specialised personnel is a major discrepancy but the strong collaborations that have been developed with the Students Association and the Students Alumni of MBG DUTH within the ResBios framework, greatly facilitated and increased the demand of personal involvement and volunteer work (with the help of the virtual tools) resulting in further expanding the activities in certain RRI key areas, such as education.

Most importantly, by getting closer to the implementation of the ResBios project, the MBG DUTH Core Team has gained valuable experience on RRI and every single fund-raising opportunity is being explored under the RRI perspective, either by exclusively searching funds to further support and strengthen RRI practices or enabling their enforcement by employing RRI aspects in the design of research proposals in the field of Biosciences. In almost all applying opportunities for research funds, activities connected to RRI are included. As examples of our efforts towards this direction include our participation in the COST action CA21123-Cancer_understanding prevention in intellectual disabilities (CUPID) and participation in grant submissions in the Horizon Europe Calls, such as HORIZON-CL6-2022-CIRCBIO-02- 02 “Circular economy and bioeconomy sectors” and HORIZON-WIDERA-2022-ERA-01-81 “*Support to the implementation of inclusive gender equality plans*”. The latter effort was specifically focused with other members of the existing consortium to further support our activities towards promoting gender equality within the institution.

4. ACTIONS FOR PROMOTING SUSTAINABILITY

The strategy outlined above will be based on the implementation of a certain number of actions whose objectives are also specified below. In general, these actions, and the related practical activities, should be implemented by month 34 of the ResBios project.

4.1. Give a structure to the existing organisational units dedicated to ethical issues and gender

There are two Committees in the University established after the launch of national policies, one responsible for gender issues and the other responsible for ethical issues. It emerged from the discussion that they have to be structured better. The following actions were promoted and will continue to be promoted by the Core team.

1. Developing a dialogue with the current and the incoming top management of the University for better structuring these important institutional committees. Significant efforts have been made towards these directions and the committees have started being strengthened (e.g., acquisition of secretarial support).
2. Promoting the discussions for inserting changes in the Statute and the Internal Regulations of the Institution to particularly regulate issues of code of conduct, ethical issues in research or issues of promoting gender equality and combating discrimination that are in alliance with the national legislation and the national policies.
3. Pressuring the academic and the state authorities to allocate and secure funds relative to the implementation of the activities of the Committees of Ethics and Gender Equality by sending funding requests through collective consortia (e.g., the Network of Gender Equality Committees of Greek Universities).

4.2. Increase and systematise the involvement of new human resources for RRI

The Core team has involved students in the implementation of activities connected to education. In order to make such kind of involvement not sporadic, some forms of rewards for students and young researchers were considered.

1. The core team established the practice of issuing certificates of involvement in RRI educational activities for students and PhD students and suggested to the Academic authorities the issuance of similar rewards (prizes, special mention, release of reference letters, etc) to academic members involved in similar RRI activities.
2. Other forms of rewards should be devised aimed at recognising the effort spent by researchers and lecturers in the promotion of scientific education and other RRI related initiatives.
3. The involvement of representatives of PhD students and students within the Gender Equality Committee is highly encouraged and has already led to useful partnerships and successful co-organisations of events (e.g., the collaboration of the Gender Equality Committee with the student volunteer group SDG Hub DUTH).

4.3. Continue in the future GA#5 on Establishing cooperation with schools on the forefront issues of Molecular Biology and Biosciences

The activities carried out in the framework of GA#5 have generated good results. From the implementation experience it emerges that not only the continuation is advisable, but also that the outreach of the activities could be increased. In order to do that, the following activities will be implemented.

1. The leadership of the Department establishes that the GA#5 will be replicated after ResBios (A new committee responsible for the school activities has been set up. The committee will be renewed annually at the beginning of each academic year).
2. During the ResBios project educational activities were designed, addressed to final year high school students, which were later expanded to involve younger student group ages (1st and 2nd year high school students and middle school students). These activities have been successfully implemented in the framework of the project. Educational activities will be continued and will be planned at the beginning of each academic year involving different school group ages in collaboration with the departmental school committee responsible for the school activities, the school educators and the Secondary Office of Education, of the Prefecture of Evros. Educational material that was prepared during the ResBios project and tools created will become available.
3. Presenting the educational activities to other colleagues within the Faculty (All educational activities and the new opportunities that have created under the ResBios project will be presented at the Final Assembly of the ResBios project (October 2022).
4. Reports on the educational activities carried out under the ResBios project for the academic years 2020-2021 and 2021-2022 were prepared and distributed to the school educators and shared with the Secondary Office of Education. We are planning to keep this on annual basis for the activities that will take place each year.
5. Establish a Fair Day for the Department that is open to all the students and prepare a specific online program for students in the remote areas (annually, during May-June). A commemorative album with the activities of the school projects carried out during the school year 2021-2022 and presented at the 2nd Bioscience Fair Day Event is currently under preparation.
6. Apply for funding opportunities (University, Prefecture or Governmental funds) to support educational activities and, particularly, for the participation of students to the Fair Day (annually, between February – March, two months in advance from the event).
7. Continuous exploitation of funding opportunities of European Calls aiming at the interaction of academics/researchers with teachers, pupils and students and their engagement in STEM fields of research activities.
8. Strengthening and establishing a collaboration with academic members with expertise on the didactics of Biosciences (Through requests of advice; these people ideally could become the core of a support group to RRI at the Department).

4.4. Promote the mentality of putting intellectual product in Open Access. Continuation of GA#10 on Developing an open access (OA) and open innovation policy

In order to make the results of the GA#10 sustainable and to promote the publishing within the Department and the University in OA the following activities will be implemented.

1. The department will continue to promote OA by informing students and departments members about the opportunity for practicing it (and about the novelties concerning

the OA practices and opportunities, such as repositories, new policies, etc.). (Beginning of each academic year Sept-Oct, freshmen reception).

2. Teaching students OA principles (Annually, spring semester).
3. Inform students and academics about the advantages of publishing in OA and the use of the repository for publication. (Annually spring semester, organisation of informative event).
4. Inform students and academics about the existing opportunities (e.g., funds made available by national or other authorities) (Annually spring semester, organisation of informative event).
5. Lectures held in the University by distinguished speakers will be available in OA. (All year round through promotion on the Department's webpage).
6. In collaboration with the Hellenic Association of Academic Libraries relative information material on OA will be prepared and distributed amongst the academic members on regular basis.

4.5. Follow up of GA#11 on ethics

GA#11 foresees activities that are being implemented in a satisfactory way. The activities to be carried out for supporting sustainability will be:

1. Continuation of the cooperation between the Integrity Review Group (IRG) of the MBG-Department with the University Ethical Committee. Seminars and workshops will be organised on a recurrent basis in order to monitor emerging ethical and integrity in science issues and assess and improve training (all year round through promotion on the Department's webpage)
2. Endorsement of the MBG Department to the continuation of the teaching activities on Ethics experimented during ResBios; In general, the proper teaching of ethical and integrity in science issues at the Department will be under the collaborative framework of IRG and the Undergraduate and Postgraduate Study Program Committees (teaching courses in spring semester, organisation of an informative event on an annual basis, late spring).

4.6. Continuation of GA#12 Developing citizen engagement program (CE)

GA#12 is being implemented and is reaching the expected results. The orientation is to replicate and upscale it. In order to do this, the following activities of the Department are foreseen to be:

1. Inform the internal stakeholders about the activities carried out with the Prefecture under the GA#12 for replication (update at the beginning of each semester, planning for the next actions).
2. Define and create a routine for networking with the quadruple Helix actors (e.g., organisation of festive events on the occasion of the Open days or other occasions; public presentations at the Fair Days; presentation of the research activities of the Department through specific public initiatives, etc.) (end of the program, after evaluating all activities)

3. Approach the Career Development office who is used to regularly maintain connections with the enterprises' system in the region and in the country in order to define possible common initiatives (bimonthly meetings)
4. Develop a database of the Department connections with the private sector (and other stakeholders) (we have started working on its development by gathering all the required information with the plan to be renewed annually)
5. The PhD students' association and the Students Alumni inform and advertise through the social media about the RRI activities to the public (creation of presentation, circulation of the materials produced, etc.) (bimonthly meetings with the students)
6. Development of cooperation with the European Information Center Europe Direct – hosted by the Democritus University of Thrace (<https://europedirect.duth.gr/>). One of the main goals of this structure is to promote the participatory exercise of citizenship through various communication tools (website, social media, radio broadcasts, publications, etc.) (bimonthly meetings).

4.7 Implementation of GEP at the Department – continuation of GA#13 Assessing the current situation about gender in biosciences at the University level (GEN)

The Core team is carrying out the activities included in GA#13 and, in particular, is cooperating on the definition of the Gender Equality Plan (GEP) of the University. Sustainability activities will be the following:

1. Implementation of the University GEP in the MBG Department through an interpretation of the GEP in light of the specific needs (Institutional GEP is already in place since December 2021 covering the period 2022-2025)
2. Continuation of the annual organisation event of “Women in Biosciences” at the Department level and organisation of a dedicated seminar, of gender in science issues, in collaboration with the Gender Equality Committee
3. Communication of gender-related initiatives in local newspapers and on social media (at the end of each organised event focusing on school activities and citizens engagement activities – on an annual basis)
4. Exploring EC funding opportunities to further support GEP-related activities in the field of Biosciences to further support our activities towards promoting gender equality within the institution (e.g., we recently participated in the Horizon Europe call HORIZON-WIDERA-2022-ERA-01-81 “Support to the implementation of inclusive gender equality plans”).

SSP AT ICM-CSIC

1. THE CURRENT PRACTICE OF RESPONSIBLE RESEARCH AND INNOVATION (RRI)

In the framework of ResBios project, the Institut de Ciències del Mar (ICM) of the Consejo Superior de Investigaciones Científicas (CSIC) has implemented three Grounding Actions (GAs).

GA#6: Establishing a network of marine schools; the relevant RRI key was Education; schoolteachers have been trained and a set of resources and education opportunities are being provided for strengthening the network of Marine schools.

GA#14: Promoting citizen's empowerment for Ocean responsibility in Barcelona Neighbourhoods, the relevant RRI key was Citizens Engagement; activities are being implemented for fostering citizens engagement and ocean literacy.

GA#15: Enhancing Gender Equality Commitment in the institute, the relevant RRI key was Gender; the project is contributing to the definition and implementation of a Gender Equality Plan through the promotion of visibility of gender issues, networking, and an initiative of mentoring.

The different GAs have been implemented at the ICM-CSIC with successful results, being some of the most relevant: A pilot formative action about Ocean Literacy was conducted and also regular training and support was offered to formal teachers and other practitioners. The results and feedback from both teachers and scientists were collected and so a new platform based also on the detected needs of the ICM-CSIC for promoting more scientific education was produced. A new Task Force for marine science literacy emerged and the ocean literacy was integrated at the different levels, from local to the European level. An agreement ensuring the commitment of the ICM-CSIC for Ocean Literacy was signed with the European Marine Science Educators Association; The 8th of June has been consolidated as a participatory Day at the ICM-CSIC in collaboration with neighbourhood associations for promoting a sustainable and responsible attitude towards the ocean, new promising projects emerged with participatory approaches (e.g., Projecte Gorgònia Barcelona) and the benefits of inclusive approaches in projects are every time more appreciated and integrated in the new projects; A new Gender Equality Plan developed with the LetsGEPs project and collaboration of ResBios for visibility, networking and mentoring was signed by the directorate of the ICM-CSIC. A new website for gender efforts emerged, a new regular mentoring program is already implemented and the ICM-CSIC participates in different networking activities and has improved the communication and engagement with the different stakeholders. The different actions scheduled have been implemented despite some difficulties encountered caused mainly from the COVID-19 crisis.

The different GAs have been implemented in the framework of the ResBios project, using the different resources and tools provided by the ResBios mentors, coordinators and evaluators involved in the project. Also, the GAs benefited from the participation of the members of the different core teams in different meetings and discussions foreseen in the project.

For conducting the activities, two different core teams emerged, one dedicated to ocean literacy efforts (including scientific education and citizen engagement) and the other

dedicated to gender efforts: The first core team was composed by practitioners in Ocean Literacy, also members of the Ocean Literacy Task Force at the ICM-CSIC. Also, one of the members was connected directly to the directorate in the regular weekly meetings. Regular meetings with the Marine Science Literacy Task Force, with representatives of different departments were also established every 15 days; The second core team was composed by 6 members of the two projects related with gender equality at the institute including also direct connection to the directorate in the regular weekly meetings. Also, monthly meetings were organised with the Equality Task Force, these would include representatives of the staff and the directorate. During the time of the project, the ICM-CSIC has incorporate new visions and procedures to conduct its activities, resulting in the actions of the institution being more aligned with societal needs. Some of the activities foreseen before the start of the project have been slightly modified, always maintaining the focus on the integration of RRI and its different key aspects at the institute in a sustainable way. For example, one of the actions foreseen was producing a book about women at the ICM-CSIC. During the implementation of gender equality actions and after discussions, the core team believed that this action didn't respond to the current needs and strategies of the institute for gender. Therefore, this action was modified to include the following outputs:

- A guide to promote non-sexist and inclusive communication at the Institute was produced to address the needs identified
- The production of a website with content on ICM's gender issues and also the participation in different chapters about RRI keys worked in ResBios, including gender equality in a Book produced by the whole ICM. This book is entitled "The ocean we want: inclusive and transformative ocean science".

2. HYPOTHESIS OF SUSTAINABILITY

The GAs are finishing and have been implemented in a context of overall consensus. Although during the beginning and mid-way through the project, with the institute did experience several difficulties, mainly connected to the COVID pandemic, that resulted in the Core Team being forced to postpone some activities (those initially foreseen in presence) or reworked as online activities. In general, these difficulties were handled satisfactorily and are now under control, and currently the institute is framed in the so-called new normality, with the most stringent safeguarding measures having been withdrawn. The directorate of the ICM-CSIC changed during the last period of ResBios project, also affecting the structure and organisational chart of the institute (Fig.1, previously Fig.2). Some changes have affected to the procedures and strategies followed, but not in a substantial way, due to the fact that the new directorate belonged to the Severo Ochoa Award strategical group. So, the goals and work in ResBios have been adapted to the new scenario, and although several meetings and discussions were needed to adjust the actions foreseen to this new management structure, these did not in any way affect the aims and goals of ResBios.

On the contrary, the new directorate has facilitated the implementation of SSP in an ordinary way. In addition, to sustain the RRI approach in the future, more staff will be involved in the

implementation and sustainability of RRI aspects, including staff related to the other RRI keys not previously involved directly in the ICM's GAs (Open-Access and Ethics). For this purpose, a number of meetings were organised, including with the directorate, with potential internal active actors, and then again with the directorate. New strategical documents will be produced in the near future about these aspects of further scope of the project ResBios and also the *state of the art* of these aspects will be properly compiled, made more accessible, and embedded institutionally. The Research Support Office (OSR) is doing an active search of opportunities related with RRI values for mobilising more resources and ensuring the sustainability and further work on these important aspects. Till now, it is important to highlight the new European project for Ocean Literacy awarded: the Mission Prep4Blue.

The GAs' implementation experience has provided some lessons that are useful for the promotion of sustainability. Within the ICM there is now a strong orientation towards "*de facto* RRI". Indeed, there are several core teams, task forces and committees implementing activities in this field and, in the past, even if not always systematically, there have been several initiatives for promoting public engagement and scientific education in the schools. There are also policies at the National level that are pushing from the top for implementing actions, such as, to promote gender equality. Another instance of this top-down implementation, there is an active Marine Science Literacy Task Force and an active Equality Task Force (see below the organisational chart), both of them with adjacent sub directorates that ensure the bilateral communication among the Task Forces and the directorate. Regarding gender equality, the new spaces and tools are used on a regular basis and the ICM's GEP represents a referent for other institutions, and so several institutes and organisations regularly make contact with ICM members asking for support and for solving doubts about their own problems regarding the development of a GEP. Also, the mentoring program will be celebrated yearly and the ICM will enhance its participation in the COP and similar spaces for promoting and share best practices on gender equality. Regarding scientific education, the platform for the Network of Marine Schools developed at the ICM-CSIC is presented to local, national and international audiences committed with Ocean Literacy and will include not only the ICM's own resources but also tools and resources from their network. In respect of the promotion of Ocean Literacy, the ICM-CSIC is collaborating regularly with the neighbourhood associations in promoting a sustainable attitude towards marine ecosystems, by celebrating each year the International Ocean Day with the public.

The strategy to promote sustainability at ICM is aimed, therefore, at:

- Management of the results of the Gas, including those not expected such as the increase of the number of schools reached by the educational activities due to the fact that they have been held at distance. Also, the adoption of online conferencing methods has made it easier to reach a higher level of participation and involvement of the different staff in the educational and RRI-related activities (normally on a voluntary basis), including scientists from different backgrounds and research groups, and thus making the activities are more diverse and of a higher quality. The new interactive platform (under construction, available before the end of the project) will provide a new space for practitioners in Ocean Literacy to meet and exchange best practices in the promotion of ocean literacy on scientific education
- Strengthening the internal structure (Fig.1) and actors (i.e., the task force responsible for marine science literacy and the task force for gender equality, see below) that are making possible the practice of RRI in various forms and will continue to do it in the future

- Exploiting the opportunities represented by the involvement of ICM in various networks and international programs, such as the Network of Severo Ochoa awarded organisations, the Life Science Community of practices held in the context of the ACT European project, the European Marine Science Educators Association, the REEDUCAMAR Spanish network for promoting Ocean Literacy at the national level, the LeTSGEPs European project and the Ocean Decade Program Ocean Cities Network of UNESCO involving several organisations in Europe and in other continents
- Handling some of the problems that emerged during the implementation of GAs and other RRI related initiatives, particularly the lack of adequate rewards or recognition for the people engaged in implementing such activities.

The SSP are therefore composed of actions that are focused on:

- Finalising the part of the GA#15 on gender equality connected to visibility measures
- Mainstreaming mentoring for women researchers (GA#15)
- Maximising the exploitation of networking opportunities arisen from the implementation of the GAs and other ICM initiatives (GA#6)
- Improving the structuring of the Marine Science Literacy Task Force (MSLTF) (GA#14)
- Increasing the scientific legitimization of the MSLTF (GA#14)
- Defining a strategic document/policy brief on RRI in Marine science (GA#14).

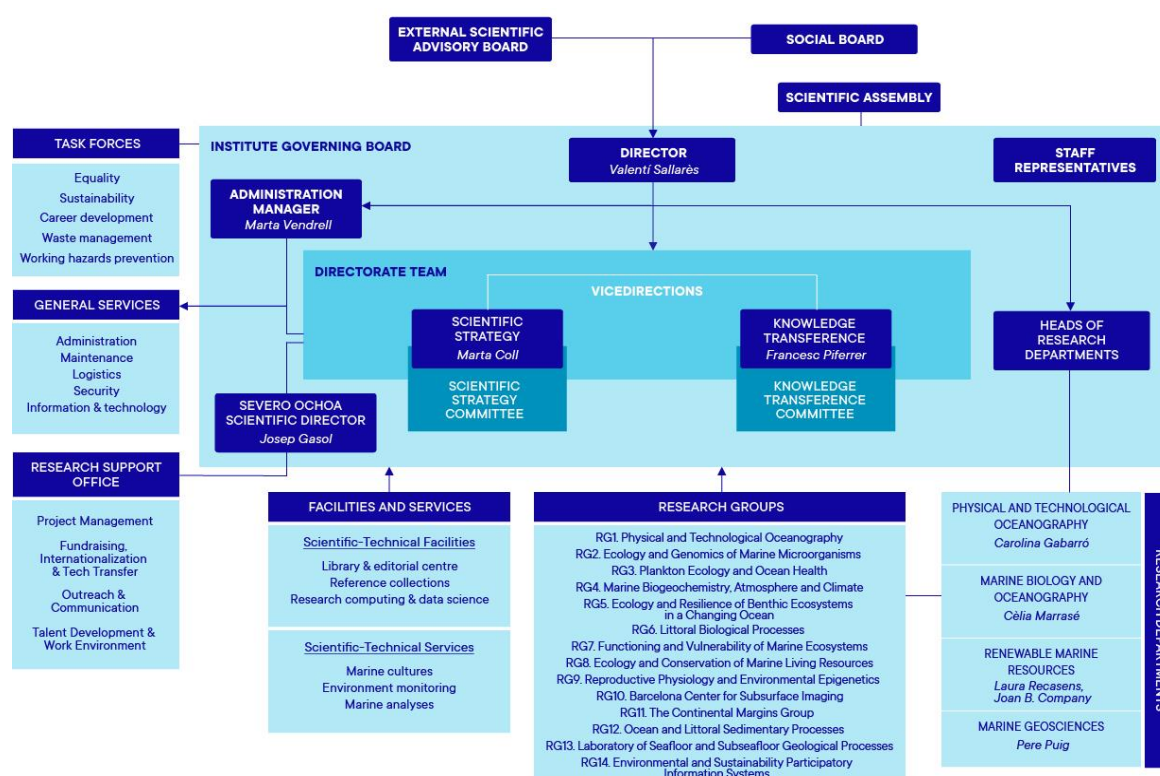


Figure 1: The ICM-CSIC's current Organisational Chart (after the recent incorporation of the new directorate, new Adjacent sub directorates are not included in this Organisational Chart but will soon be included. The new organisation will include the two Adjacent sub directorates for Marine Science Literacy and Equality, respectively)

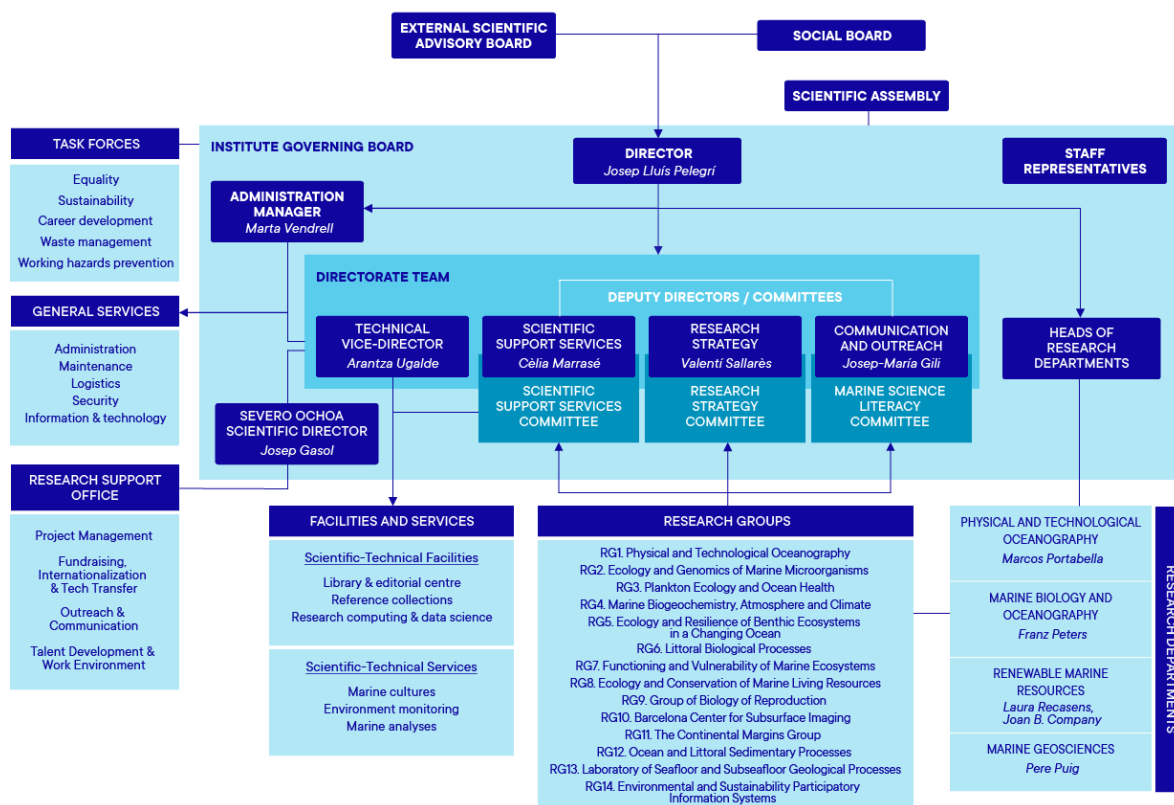


Figure 2: The ICM-CSIC's previous Organisational Chart (beginning and mid-term of the project). This obsolete chart is included just for avoiding misunderstandings in previous deliverables and other documents related to the project.

As mentioned before, it is important to highlight the commitment of the whole institute on the RRI issues, and specifically the directorate, the Outreach and Communication Office, the Research Support Office and both the Equality and Marine Science Literacy Task Forces and the respective Adjacent sub directorates.

3. FACTORS OF SUSTAINABILITY

The strategy outlined above is based on various factors of sustainability (meant as conditions that favour the promotion of RRI) and on the good results and consensus obtained by the GAs so far. The first, and most important, is that at ICM there are several internal actors who are practically operating for the promotion of the RRI Keys the GAs are focused on. In this framework, it should be highlighted the Task Forces and groups established within the ICM and reported in the structural chart of the organisation, i.e., the MSLTF and the Research Support Office (RSO). The MSLTF coordinates and supports, in general, public engagement and science education initiatives. In the 2022 EMSEA conference the ICM signed the Charter for Blue Education, being now one of the 12 current European blue and environmental educational initiatives and networks that signed it. With this commitment, the ICM-CSIC Network of Marine School ensures its sustainability and alignment with the European Network of Blue Schools. The RSO, funded with Severo Ochoa funding, has the responsibility, among others, of promoting fundraising for research and for RRI related activities. Its activities are

relevant for the ResBios because they entail networking. Furthermore, the active Core Team that appeared with members of ResBios and LetsGEPs and linked to the ICM Equality Task Force is contributing to implement the actions posed within the framework of the LetsGEPs project and promote gender equality actions through the design and implementation of the ICM Gender Equality Plan. The LetsGEPs project will continue one year more after the end of ResBios. The directorate is committed to facilitate the sustainability and continuation of the different activities related to both Ocean Literacy and Gender Equality. In this sense, new projects to promote ocean literacy have been granted approval and new submissions are regularly prepared. For Gender Equality, the Research Council has also a formal Equality Committee that helps its different research centres on gender issues. The regular mentoring program is now a task of the OSR and so will also be ensured in the future. The different Task Forces are consolidated with two different Adjacent directorates that ensure the constant communication with the directorate and ensure the strategic alignment. Regular yearly funds for the committees are ensured for facilitate the participation of sustainability in the future.

Among the factors of sustainability is the existence of external demand for the ICM to further develop its practice of RRI; this represents a real opportunity. Furthermore, ICM has received the Severo Ochoa Excellence Accreditation which directly implies resources for aspects such as outreach, scientific education, gender and ethics and the attainment of high standards in these fields. ICM is also involved in the Decade of Ocean Science for sustainable development of United Nations through a 10-year Programme and Collaborative Centre fostering Ocean Literacy between other goals; ICM is also a member of various international networks on the same matter. Another opportunity for promoting the sustainability of RRI at ICM level is the strong orientation of the local public authorities towards science education and civic engagement. It is expected (already formally planned and announced in media) that the Municipality will give ICM the responsibility of managing a public space in a central area of the city in order to use it for educational activities with the public in the near future.

In this framework, one of the challenges to address in making the practice of RRI sustainable is connected to the need for further structuring the internal bodies (i.e., the MSLTF, the bodies in charge of implementing the GEP), which are dealing with science-society issues so that they are able to cope with the increasing responsibilities towards external stakeholders and, in general, with the growing expectations produced by the practice of RRI. If the establishment of permanent bodies dealing with RRI-related issues is to be considered and they are important for sustainability, it is critical to stress that such bodies are relatively new and still have to develop routines and incorporate the lessons learned so far. In this regard, it is useful to reflect on the experience of the implementation of the GAs (and of the other *de facto* RRI activities) and, on this basis, the introduction of some institutional changes as the strategical document for the Marine Science Literacy Task Force and ensure the continuous implementation in the future of the ICM-CSIC's GEP.

Another challenge to address to favour RRI is the lack of significant rewards or recognition for those who practice it. The problem is general and is not typical only for ICM. Nevertheless, it is worth reflecting on this issue. At ICM, as in many other places, RRI is based on voluntary (and “shadow”) work and, in the long run, this fact creates some difficulties in terms of

sustainability. This aspect is also specially detected in women. Furthermore, ICM has particular difficulties in hiring people for permanent positions on RRI related functions (e.g., for science communicators) because currently, the legal framework in which it operates does not allow it (it cannot hire permanent staff that are neither researchers nor technicians). Such problems can be addressed only through actions that go beyond the outreach of an individual European Project. Nevertheless, they are considered also when trying to single out temporary solutions.

A factor that facilitates consolidation in time is that the MSLTF is connected to the Directorate team and this fact makes a difference with other Spanish marine centers that do not have a similar internal organisation. The ICM-CSIC is committed with a more inclusive and equalitarian representation of both women and men in the different activities and collects data for developing the best strategies and improve its procedures for ensuring not only equal representations in regard of men and women, but also from different career levels. On this sense, its activities and the GEP (that includes work to avoid both the over representation of the technical staff and temporary workers and the underrepresentation of the scientific staff and Department members in voluntary activities) are aligned. Also, certificates are provided to the participants of all the activities and rewards are provided when possible. Also, the ICM is equipped with rooms, materials, resources, and specific structural budget for both the Equality Task Force and the Marine Science Literacy Task Force for ensuring its sustainability in the future. For the specific activities (e.g., International Ocean Day, Gorgonia Barcelona Project) specific budget is requested to specific calls and also donations by companies have been collected for ensuring its continuity in the future. The marine network will also continue and sustained thanks to the staff involved in the MSLTF and the commitment of the directorate. New projects related to ocean education are already submitted and more will be submitted in the future for enlarge the resources available for the educational and citizen engagement projects, including more personnel and budget for ensuring the sustainability of the network. Also, the ICM-CSIC is working aligned with the local governments to ensure more resources. There is so no risk for the continuity of the actions.

4. ACTIONS FOR PROMOTING SUSTAINABILITY

The strategy aimed at promoting sustainability of RRI initiatives at ICM foresees the actions listed to be implemented by month 34 of the ResBios project and continue its implementation in the future for ensuring the effective development of the SSP.

4.1. Continuing the part of the GA#15 on gender equality connected to visibility measures

This action is aimed at making visible the activities carried out within ICM on gender issues. The actors that are involved, beyond the **Core Team**, are the **Equality Task Force** that is supervising the implementation of the recently defined GEP and the **Research Support Office (RSO)**, and specially the **Outreach and Communication Office**. Their involvement should focus not just communication, but also networking. Indeed, these implemented activities are aimed at finalising GA#15 in a way that maximises the exchanges with actors (of the quadruple helix) potentially interested in the practice of gender equality.

These activities are:

- Organisation of public talks on gender issues in research
- Involvement in the talks of representatives of local (e.g., other research organisations in the city and in Catalonia; the municipal authorities), national (e.g., the network of Ochoa accredited institutes) and international organisations (e.g., UNESCO)
- Publication of new materials related to gender issues on to the website
- Publishing related project materials on gender equality on the ICM Newsletter, including information regarding interventions to organised awareness events, best practices, etc.

4.2. Mainstreaming mentoring for women researchers (GA#15)

Mentoring for women in research and gender sensitive for men is one of the components of GA#15 on gender equality and is also an important area of intervention of the ICM's GEP. In order to implement this a benchmark must be adopted in the future, some guidelines are defined on how to implement mentoring for women and gender sensitive for men at ICM level. The planned activities are the following:

- Definition and implementation – based on the planned mentoring activities – of a systematic observation of the activities that are being carried out, particularly the monitoring of the main obstacles and facilitating factors to implementation. It has been done in the pilot phase and it is now a resource for the upcoming mentoring experiences
- Guidelines on gender-sensitive mentoring, based on exchanges between the Core Team members and the Task Force that is supervising the implementation of the recently defined GEP; the Guidelines are a text for guiding the implementation of mentoring, and therefore contains operational definitions (e.g. what is meant for mentoring at ICM), practical suggestions (e.g., how to genderise contents of mentoring activities) and, in general, operational tools (they do not deal with theoretical issues; they contain suggestions for reading)
- The guidelines have been presented and approved by the ICM Directorate Team and decision-making bodies.

The Guidelines are an operational tool that should be updated regularly and according to the experience that will be acquired whilst the mentoring programme is implemented at ICM. The first version, therefore, is not a comprehensive text but also contains indications of areas in which some changes will probably be needed in the future and a useful resource in order to provide better suggestions to those that are going to implement mentoring activities at ICM.

The actors that are involved in the sustainability is the LetsGEPs core team for the next year, the **Equality Task Force** that is supervising the implementation of the recently defined GEP, the **Research Support Office (RSO)**, and specially the **Talent Development and Work Environment Office** and the **Directorate team**.

4.3. Maximising the exploitation of networking opportunities arising from the implementation of the GAs and other ICM initiatives (GA#6)

The implementation of the GAs has demonstrated that ICM has a wide experience in mobilising various stakeholders for different specific purposes and, generally speaking, to make stronger science-society relations. It emerged that, in order to make such efforts more effective, networking opportunities emerging from GAs implementation is rationalised. The establishment of a Database helps the various internal actors to reach out to external stakeholders and involve them in various RRI related activities (e.g., for reaching those that will participate in the talks on gender and science, for sending the newsletter, etc.). Among the internal actors to be involved in this activity are the RSO and the MSLTF. The activities should be the following:

- Discussion with other actors within the ICM focusing on RRI related activities and on RRI keys, with the possibility to cooperate and share contacts, links, and networks in order to improve the effectiveness of the involvement of external actors (Quadruple helix, i.e., in sectors such as civil society, Academia and research, private sector)
- The already established database of the stakeholders involved in implementing the GAs activities; in this framework, not just the structure of the database is set but also agreement concerning the routines to populate it, keeping it updated and making it usable by the set of people allowed to access it); in the future, the other internal actors who could decide to join the effort, will provide their input
- Agreement with the ICM leadership will be made in the near future in order to approve the establishment of the database and negotiate the possible allocation of resources (both human and financial).

The actors that are involved are the **Marine Science Literacy Task Force**, the **Equality Task Force**, the **Research Support Office (RSO)** and the **Directorate team**.

4.4. Improving the structuration of the Marine Science Literacy Task Force (MSLTF) (GA#14)

One of the most important initiatives taken in the last years at ICM for the promotion of science/society relations is the establishment of the MSLTF. It is important to mention that after the recent incorporation of the new directorate there was a change on the structure of this group. During the first part of the implementation of ResBios, a Marine Science Literacy Committee emerged, with a vice director. With the incorporation of the new directorate, only two committees were allowed (Strategy and Transfer). The Marine Science Literacy Committee transitioned to the Marine Science Literacy Task Force (MSLTF), with an Adjacent Directorate that is the direct connection with the directorate including the two committees. This MSLTF and the Committee before is acting as a hub where inputs related to science communication and exchanges with civil society are received and processed to become actions that are implemented on behalf of ICM. It is widely recognised at ICM that the establishment of MSLTF has been an important innovation that served to improve and structure better strategies. With the strategical document, the Task Force has gained more reliability and is better understood by the ICM's staff. The promotion of science/society

relations traditionally suffered from some weaknesses, for example, the fact that the researchers were involved on a voluntary basis and there were very few rewards for this kind of extra-laboratory activities. Despite that, the MSLTF is still a “young” institution, a lot of lessons have been learned from the recent experience in order to better operate in the future. The MSLTF conducted a self-reflection effort aimed at better defining its *modus operandi*. Through the deployment of such efforts maintained in the future, it will be easier for the members of the committee to share a set of operational directions (thus, getting more in tune among themselves). Such an effort will be useful, especially for those who are going to join the task force in the future, in order to become acquainted with its routines and operational principles.

In order to do this, the MSLTF prepared a Strategic Document of the MSLTF. The action consisted in writing a document that is shared with the ICM directorate. The Strategic document contains directions about some crucial aspects of the activity of MSLTF, some objectives to pursue in the short and mid-term as well as some principles of action. The issues that have been covered by the Strategic document were decided and proposed by a group of people charged by the MSLTF to write the first draft. The Core Team of ResBios took care of this process and it will be promoted and supported by the MSLTF in the future. The Strategic document reflects over the following issues:

- Adequacy of composition and functioning of the MSLTF compared with the recent experiences in Education, Public Engagement and other science society relation issues
- Critical issues connected to the availability of resources for MSLTF activities
- Functions and limitations of the activities of the MSLTF (what it can do and cannot do; in general it can be assumed that it will coordinate Educational and public engagement activities carried out within the ICM; what is the message that the MSLTF conveys to the public; what are the services it provides, e.g. making available knowledge, advice and infrastructures for citizens, promoting dialogue on sciences and support the definition of the points of view of citizens about the sea, the environment, the activities to implement, etc.)
- The inclusion in the document of examples of Best Practices on how to implement RRI
- Informing ICM staff about the activities implemented to promote marine science literacy (and making available the materials and tools used)
- The possibility to undertake the evaluation of the impacts of the MSLTF sponsored activities (according to the forms that are considered appropriate)
- How to plan the activities that will be promoted by the MSLTF
- How to promote the involvement of ICM researchers in education activities
- Possible forms of rewarding and recognition of the personnel of the ICM (researchers, students, technicians) who are involved in education and public engagement activities; such rewards could be prizes, fellowships, allowances for field activities, etc.
- How to maintain and manage the network of schools that has been mobilised so far in education activities
- How to ensure the sustainability of the network of schools in the future and ensure the engagement with the schools

- Coordinate networking activities connected to the various projects that are being implemented by ICM and that are relevant for RRI, also managing the related databases and other facilities (such as social network accounts, newsletters, etc.).

The actors that have been and will be involved are the **Marine Science Literacy Task Force**, the **Research Support Office (RSO)** and the **Directorate team**.

4.5. Increasing the scientific legitimization of the MSLTF (GA#14)

The activities promoted by MSLTF received, in general, a wide recognition and positive appreciation. Nevertheless, MSLTF is a body within a research organisation and its main form of legitimization comes from the recognition by the scientific community. For this reason, the ResBios Core Team is promoting a reflection among the MSLTF members aimed at singling out the opportunities for publishing in scientific journals on its experience in promoting science education and public engagement.

The actors that are involved are members of the **Marine Science Literacy Task Force** specifically counting with the support of the **Research Support Office (RSO)**.

Some efforts on this sense are already taking place including preparation of manuscripts for Q1 journals and the development of 2 PhD thesis related to Ocean Literacy and citizen engagement issues.

4.6. Contribution in the framework of the Decade of Ocean Science for Sustainable Development of United Nations through the Ocean Cities programme: A roadmap for promoting marine scientific knowledge (GA#14)

The ICM-CSIC and the Marine Technology Unit (UTM-CSIC) lead the 10 years Programme Ocean Cities Network (Oc-Net), an international network to promote sustainable ocean cities. This network involves research centres, cities local councils and cities networks as well as public institutions reaching 24 organisations endorsed by UNESCO to promote sustainable coastal cities as a programme of the Ocean Decade.

In November 2021, the city of Santos in Brazil was the first city in the world enacting a legislation about the Ocean Literacy in the scholar programs, ensuring citizens have access to knowledge about the ocean. Taking an advantage from this action supported by UNESCO of the Santos city, ResBios wanted to investigate the process together with the Intergovernmental Oceanographic Commission of UNESCO (IOC) to standardise a protocol for the ocean literacy at school in cities council to put it in place in coastal cities under the Ocean Cities Network. As a pilot project, the steps for implementation and development of the ocean literacy into the scholar curricula are analysed in collaboration with the Barcelona local council. A study in depth in the context of a PhD thesis is currently being conducted about this topic and new recommendations that will serve to replicate it in the cities of the Oc-Net network for the promotion of the ocean literacy programme in schools.

In parallel work, members of the ICM-CSIC participated in regular meetings with different political stakeholders on the Barcelona level, the Catalonia level, and the Spanish level for implement the best educational strategy for Ocean Literacy. Regular meetings are ensured that will be celebrated with the stakeholders of the different levels.

The ICM-CSIC participated in the Barcelona's Congress of Science celebrated by the Pedagogical Resources Centres of Barcelona and with educators from 39 local schools. The present scholastic year is dedicated to the ocean and the ICM-CSIC is the institution of reference that will support it.

Also, the signature of the Charter with the European Network of Blue Schools ensures the commitment of the ICM-CSIC with ocean literacy and the alignment with the European level. The Charter also serves as an example for other institutional bodies.

To implement these activities, the procedure already followed for the (co-design) of the IMC-CSIC Grounding Actions is being followed (as described in the GAPI and GADD notes).

The actors that are involved, beyond the **Core Team**, will be the **Marine Science Literacy Task Force**, the **Research Support Office (RSO)**, the **IOC** and the **Ocean Cities consortium**.

4.7. Defining a strategic document/policy brief on RRI in Marine science (GA#14)

ICM has always been at the forefront of the efforts of the scientific community (in Barcelona and in Spain) for improving science-society relations. Nevertheless, not all the efforts have been systematic. Based on its experience, ResBios is helping to the actors engaged on these issues to reflect over RRI in general, not just from an operational point of view, but as a perspective concerning a different way to carry out scientific research. In order to do this, the Core Team proposed a document concerning the grand challenges being faced by marine sciences and has been addressed by ICM (e.g., the issues being dealt with for the Ocean Decade, such as the cities and the sea). The document has been discussed among the various departments; it will be presented at the final ResBios conference, where RRI at the ICM will be presented.

The actors that are involved are the **Marine Science Literacy Task Force**, the **Equality Task Force**, the **Research Support Office (RSO)**, the **Directorate team** and **ICM-CSIC's staff**.

SSP AT UNIZG-FAZ

1. THE CURRENT PRACTICE OF RRI

The Faculty of Agriculture (UNIZG-FAZ) have implemented four Grounding Actions (GAs) that considered three RRI key, (Education, Open Access, and Ethics). The GAs have been designed and implemented – with the aim to continue after the project lifespan – in the framework of the ResBios project and thanks to the resources provided by it. The GAs were the following.

GA#3: Promoting a LifeLong Learning (LLL) program on fisheries, apiculture, wildlife management and zoology; the relevant key was Education; this GA foresaw cooperation with one of the most important civil society organisations of Croatia, the Hunter Association (CHA). The object of cooperation was the provision of training to members and other stakeholders concerning wildlife management also in the framework of a cooperation agreement of CHA with local authorities.

GA#4: Capacity building on RRI for Faculty students and researchers; the relevant key was Education; the GA foresaw the provision to students (including PhD students) training on RRI principles and their involvement in informal education activities concerning wildlife, relevant for their possible future professional life.

GA#8: Developing an Open Access policy at the faculty level; the relevant key was Open Access; the state-of-the-art and the main obstacles met by faculty members in the practice of Open Access were analysed.

GA#9: Setting up a system for fighting plagiarism and promoting ethical publishing behaviours; the relevant key was Ethics. Students have been introduced to basic principles of ethical conduct in research.

2. HYPOTHESIS OF SUSTAINABILITY

As for sustainability, the following aspects can be highlighted.

The implementation of the GAs at UNIZG-FAZ proceeded satisfactorily and gave good results. The following observations could be made.

- The consensus among the concerned actors and stakeholders has been such that no major opposition has been raised so far.
- Nevertheless, there is clearly a need to continue to mobilise the faculty members that agreed with the activities but have not provided active support.
- In the first and second year of GAs implementation, planned activities were affected by the Covid pandemic and the earthquake. Now that the situation with Covid has changed and the most stringent measures have been withdrawn, the UNIZG-FAZ has faced a new challenge in implementing GAs in the academic year 2022/2023 due to the restoration of faculty buildings damaged by the earthquake in 2020. The lack of necessary space is a problem, and teaching activities have been mostly conducted online or in hybrid mode. This will affect the UNIZG-FAZ organisation of the planned events until the end of 2023 (and maybe beyond).

At the same time, two positive issues are to consider:

- During the implementation of the GAs, it has emerged that various members of the academic community do practice some form of RRI, for example by paying attention to Open Access initiatives, or keeping connections with civil society organisations (the so-called “*de facto* RRI”)
- National policies are under implementation concerning one or more RRI keys. For example, at the national level, there are initiatives aimed at supporting Open Access. The same is for Gender issues that are going to become the object of activities within the University, because of the specific policies launched at the national level for addressing the requirements of the European Union (e.g., the implementation of a Gender Equality Plan).

In this framework, it is important to consider the main institutional changes achieved through the implementation of the GAs and the other activities foreseen by the ResBios project:

1. Approval by the Faculty of a policy document on Open Access (OA) and introduction of OA courses
2. Development of a Gender Plan by a group of Faculty members also with the support of the ResBios core team
3. Incorporating RRI into teaching and LifeLong Learning at the Faculty of Agriculture
4. Establishment of student wildlife group (Hunting Group) and renovation of LLL programmes
5. Definition and implementation of new LifeLong Learning activities for professionals not trained in environment-related disciplines
6. Optimisation of the partnership with the Croatian Hunting Association.

Based on these observations, maintaining engagement on the issues dealt with through the GAs seems to be feasible. In general, the GAs can be replicated, and some incremental changes could be introduced to the initial blueprint.

In this framework, the orientation toward a Responsible science can be connected to the overall orientation of the academics who are willing to implement RRI and that practice it in some way. It could be assumed that responsible and open science becomes a source of inspiration that characterises the current and mainstream research and teaching work.

The strategy, therefore, is to continue the effort to make it increasingly systematic, i.e., become a permanent part of the current teaching and research activities. “Systematic” means that the continuous effort deployed implies a **reflexive activity** of the implementers aimed at assessing what is being done, its appropriateness and the need to update.

An important aspect of such a strategy is to provide visibility to the effort carried out so far for promoting RRI. Connected is the effort for acknowledging “*de facto* RRI” (the existing orientation toward RRI of the Academic staff) and for strengthening the connections among internal actors and with external actors.

The activities, so far, have been implemented by a core team of Faculty members, directly involved in the implementation of the ResBios project. This group of people, over time, has been joined by other Faculty members who voluntarily participated in some of the activities. The faculty leaders have demonstrated appreciation for the activities, particularly, the faculty Dean and Vice Deans, as well as the HR office which will ensure human and financial resources. The core team is planning to submit the project proposals to Croatian Science Foundation and other funding institutions in Croatia which will ensure the financial resources. The core team is working and will work on the establishment of a partnership with other Departments at the Faculty of Agriculture, other Faculties and Universities for joint cooperation to apply for EU funding programmes. These activities will be oriented also at promoting RRI within the faculty.

Based on the experience developed, cooperation and communication will be maintained with Faculty committees, councils, working groups etc. to maintain these activities. Also, successful cooperation with the Croatian Hunting Association will be maintained and new ones will be planned. Further opportunities for cooperation with other actors both within and outside the University will be searched, singled out and developed as long as they emerge during the continuation of the activities to promote RRI.

3. FACTORS OF SUSTAINABILITY

This strategy is based on various factors of sustainability (meant as conditions that favour the promotion of RRI). Such factors are represented mainly by the good results obtained so far through the implementation of the GAs. For example:

- Some official decisions have been adopted in connection with the GAs, concerning the practice of OA (a decision on OA has been taken by the faculty leadership), and this new orientation has become a teaching practice
- A multi-stakeholder approach has been adopted based on the recognition of the mutual benefits of collaboration of both the CHA and the Faculty of Agriculture
- Formal approval of new training modules by the faculty has made the activities connected to the cooperation with the CHA a structural part of FAZ's curriculum; the approval by the relevant National authorities makes it possible to obtain national funds
- A new normative plan has been defined concerning gender equality and the group of promoters is active in carrying out other relevant activities (e.g.: applying for funds).

Another factor to highlight is that the results obtained were based on the involvement of the leadership of the Faculty of Agriculture in the implementation of the GAs and the reputation generated by the implementation of RRI mainstreaming activities. The impact was not limited just to the management, since *de facto* RRI is enhanced and promoted in the faculty and students were satisfied with the RRI approach and actively participated, especially members of the Wildlife group.

Furthermore, it is to be stressed that there was a relevant mobilisation of internal human resources so that the Core Team was able to involve other people in the promotion of RRI.

Such involvement of other colleagues is likely to continue. The Core Team has been transformed into an Informal Working Group (WG) consisting of the members of TODO (Twinning Open Data Operational, funded within Horizon2020 Twinning programme) project, ResBios project and faculty leadership that will supervise and promote activities to be implemented in the future, to “recruit” colleagues and so on. It can be assumed that some colleagues could be involved in the future because they are, somehow, practicing RRI and demonstrate their interest in better structuring such activities. Those who, so far, have been tepid with – but not against – RRI could be progressively involved, especially if the positive impacts of the RRI activities become clearer.

At the moment, the issue of resources does not emerge as an impediment to the promotion of sustainability of RRI. Some of the resources are already insured, such as funding for Open Access and availability of internal human resources provided by the faculty leadership and HR office. Further resources that will be used for implementing RRI-related activities are:

- Internal infrastructures (e.g., classrooms, laboratories, experiment stations and equipment) will be used for implementing RRI activities in the future
- Voluntary work, to a certain degree, of some Department researchers or colleagues (students, researchers, professors, etc.) that work in other Departments and already practice *de facto* RRI. Voluntary work of students will be facilitated through the release of certificates of participation in extracurricular activities.

In this framework, it is important to stress that specific fundraising initiatives will be launched for finding the extra funds needed. For example, the core team is planning to submit the project proposals to Croatian Science Foundation and other funding institutions in Croatia which will ensure the financial resources. The core team is working and will work on the establishment of partnerships with other Departments at Faculty of Agriculture, other Faculties and Universities for joint cooperation to apply for EU funding programmes. These fundraising activities could be also focused on the practice of RRI (e.g., when applying for research funds, activities connected to RRI could be included).

4. ACTIONS FOR PROMOTING SUSTAINABILITY

The strategy of embedding the effort aimed at practicing RRI will be based on the implementation of a certain number of actions.

4.1. Continue the activities connected to GA#3 on Life-long Education with the Croatian Hunting Association (CHA) – Teaching support for the courses aimed at obtaining the hunting license

The collaboration with CHA, that was crucial during the implementation of GA#3 will continue after the project lifespan. Every year, people interested in getting hunting licenses or license for gamekeeper and trophy evaluator is increasing. CHA online platform for learning and exam writing became permanent (it was created during Covid-19 pandemic). The leader of the

Working Group, Assoc. prof. Nikica Šprem actively participates in the training by conducting online lectures and testing the participants. So far, 1,812 participants have registered. The online platform received positive comments from people who used it.

Resources for this action

These activities will be implemented by the professors from the UNIZG-FAZ, who will provide teaching support for the courses in collaboration with CHA employees.

As for technical resources, the CHA in collaboration with UNIZG-FAZ designed the online education platform for performing the courses, learning, and writing exams. This platform will be maintained and updated according to the needs. The fieldwork will be done in collaboration with hunting associations on their hunting ground. CHA will provide financial support for performing the courses.

4.2. Continue the activities connected to GA#3 on Life-Long Education with the CHA – Teaching support for training of professionals not trained in conservation and environmental biology on human/wildlife interactions (e.g., legal professions, medical professions)

The new LLL programme for training professionals not trained in conservation and environmental biology of human/wildlife interactions will begin with implementation in February 2023. Until now a total of 20 participants showed their interest in attending the course. The WG leader, Assoc. Prof. Nikica Šprem travelled to Slovenia where he gave a lecture to Slovenian hunters. RRI was presented as part of this course and the new LLL programme “Assessment of damage to agricultural crops caused by game species” is being promoted. A total of 50 participants attended this event. The program for members of emergency wild boar shooting teams, including last year, was attended by a total of 650 external participants.

It is expected that the LLL programmes will continue beyond the project lifespan because the field of Agriculture offers a lot of different professions that are adjusted to the diversified student population. Existing LLL programmes will be maintained, and new ones will also be established. In this framework, connections with professional associations and other types of organisations outside the University will be developed and searched in order to find opportunities for cooperation for various purposes (i.e., teaching and, when relevant, research).

Currently, the FAZ is in the process of founding the Centre for Lifelong Learning, which will include student obligations and awards for participation in such activities. So, all the accepted programs will follow the regulations of this Centre.

Resources for this action

As for human resources, UNIZG-FAZ will put at disposal its researchers and professors who will perform the new courses. The CHA will collaborate by performing the courses with their professionals. UNIZG-FAZ and CHA will ensure the classrooms or licenses for online courses (if needed), equipment (notebooks, monitors, video cameras), promotion materials for participants, etc. both UNIZG-FAZ and CHA will ensure the needed financial resources.

4.3 Continue the activities connected to GA#4 for informal education and training of students on wildlife and nature conservation (the so-called “Hunting Group”, to be renamed “Wildlife Group”?) according to the RRI principles

Extracurricular activities are carried out by the Wildlife Group, in which 14 students (in academic year 2021/2022) participated. Assessment of the training activities will be done by the WG and the Organisation, Funding, and Inventions Committee of FAZ at the end of the academic year. Based on the results, the WG in collaboration with the Committee, will decide whether it is necessary to modify the work plan. Each year the activities of this action are promoted to attract new students. The Extracurricular Activities Week will be organised each academic year to promote the work of the different student groups and extracurricular activities. This event is attended by leaders and members of extracurricular groups and students who were interested in these activities.

Resources for this action

Faculty leadership will ensure human and financial resources for extracurricular activities. The activities will be performed at the faculty facilities and experiment stations. Faculty will provide the accommodation and transport for students who will be part of the Wildlife group and who will perform their activities outside of the faculty. The Department professors will decide who will be in charge of leading the group and promoting this action. Applications for new national and international projects will be submitted to provide extra funds.

4.4. Continue the activities connected to GA#4 on Capacity building on RRI for Faculty students and researchers and increase the outreach through the involvement of new professors within the University

Through the activities that will be implemented at the UNIZG FAZ, such as the organisation of the different events, the WG will promote and increase awareness of RRI-related issues to faculty staff, PhD candidates, students, and employers, and all the stakeholders that will be present on the events.

Ethics policies are implemented in most of the regular lectures at the Department and one PhD course and will be held in the future and if necessary, it will only be upgraded. The WG will encourage Departments researchers to use the PlagScan software to check their research and thus create a habit that will be passed on to their colleagues and students to raise awareness of the problem of plagiarism. The doctoral, graduate, and undergraduate students had lectures which included RRI aspects. These lectures were introduced to a total of 51 PhD students and more than 200 graduate and undergraduate students.

The RRI concept will be promoted by the WG at the different events (congresses, symposiums, workshops, open-door days, etc.) organised by the Faculty of Agriculture or other institutions. In this framework, possible opportunities of cooperation with actors of various types, both inside and outside the University will be pursued. So far, in this kind of events, RRI has been presented to 302 participants.

The Faculty of Agriculture website, Faculty Facebook and Instagram profiles will be used to support and recognise the ongoing activities toward open and responsible science.

Furthermore, the promotion of RRI will be promoted within teaching. Adding RRI-related issues as a part of the lectures will enhance RRI knowledge in the education process at Faculty among teaching staff and students (undergraduate, graduate, and postgraduate students). These policies are and will be implemented in regular lectures that will be held in the future and if necessary, they will be upgraded. People that already practice the so-called *de facto* RRI will be asked also in the future to present parts of their lectures as RRI.

Repositories that include the material of RRI teaching not labelled as such are:

- The University of Zagreb Virtual collections (<https://unizg.eindigo.net/?pr=l&mr%5B-%5D%5B12573%5D=a>) and
- Repository Faculty of Agriculture University of Zagreb (<https://repozitorij.agr.unizg.hr/en>).

It should be stressed that in all preparations for the submission of the scientific projects and all networking activities, the practice of RRI is included. Some examples are: submission of the joint project on Gender with some other members of ResBios; submission of the bilateral project on the genetics of golden jackals with the University in Ljubljana; submission of scientific papers with the University of Primorska; the adoption of a GEP by the Faculty Council on 8/3/2022; new project on implementation of Gender plans in biosciences, prepared in collaboration with some ResBios partners was submitted to the EU in April 2022. The project proposal was rejected but the Gender working group will continue with its work.

Resources for this action

The action will be promoted and implemented by the **WG**. The new “*de facto* RRI practitioners” will be invited to join the effort with permission of the dean’s office. The WG will share the RRI material with all those who want to include it in their lectures and other activities.

Faculty leadership will ensure human and financial resources for activities of the WG and for the promotion of Open and Responsible Biosciences that is composed of the Core Team members and other RRI “supporters”.

Faculty leadership will ensure human and financial resources for social network channels (faculty website, Instagram account, Facebook, Twitter, etc.) to inform network and interested stakeholders of the activities being carried out.

The WGs members together with colleagues-from other Departments, will submit research proposals, include students and researchers from Faculty or researchers who are in visit, publish results of research as joint publications in OA journals.

The faculty leadership will ensure financial resources for PlagScan license and licenses for Zoom or other applications for online teaching.

Faculty leadership will give its support in organising workshops on scientific writing and publication funding for PhD and master students in collaboration with the core team.

The Gender working group at the Faculty of Agriculture will be in charge for promoting of the Gender Equality Plan (GEP), for introducing the plan to the Faculty of Agriculture leadership and for promoting Gender equality among the faculty employees. Also, the Gender working group will write and submit the project proposals the further promotion of gender equality.

4.5. Promote an Open Access (OA) Policy connected to GA#8

In the framework of ResBios, many activities were related to Open Access and Open data. Research group for Open data and faculty leadership have reassessed OA publishing at FAZ. In 2021, more than 60% of 250 scientific papers were published as Open Access. This informal group started a discussion on the validity of “quick publishing” in high-impact factor OA journals with very fast reviews and publishing (mostly published by MDPI) since there are some doubts in the quality of the reviews and publishing done at such fast rates. An OA policy has already been devised at the faculty level (since January 2022, Faculty officially implements additional financial support for OA publishing as proposed by ResBios team). The Informal Working Group (WG) will follow the implementation.

Resources for this action

Each academic year, the UNIZG-FAZ leadership will provide the financial resources for researchers who want to publish in OA journals. The fund is also ensured for PhD students who can publish as OA their first publications. The Core Team and the established Working Group will work on the promotion of the open access and open data policy.

SSP AT IFNUL

1. THE CURRENT PRACTICE OF RRI

The Department of Biochemistry of Ivan Franko National University of Lviv (IFNUL), in the framework of the ResBios project, has implemented the following three Grounding Actions (GAs).

GA#1: Experimenting with and establishing informal education activities at the Department of Biochemistry (the relevant key was Education); it includes informal education activities and the organisation of a Summer Schools on Nutrition; a “Practical seminar” and project groups for students and PhD students; a Workshop on planning research; a Short course for students about current opportunities and perspectives of bioinformatics as a science; and a Video Blog “Basic Techniques in Biochemistry and Molecular Biology”.

GA#2: Developing a Workshop on pharmaceutical and house chemicals for schools (the relevant key was Education) as well as workshops and practical training initiatives concerning the use of chemicals in daily life that have been implemented and targeted to schoolteachers and pupils.

GA#7: Setting up a system of support for ethical principles in the biological investigation (the relevant key was Ethics) it includes activities aimed at introducing students to ethical principles and antiplagiarism and the definition of a Code of Conduct.

In general, the activities foreseen by the GAs have been implemented. The implementation has been successful, especially if the huge obstacles due to the war waged by Russia against Ukraine are taken into account and notwithstanding that the COVID pandemic forced to organise online some activities that were initially foreseen in person. The first Summer School was organised and conducted according to the plan of activities, but the second Summer School which was planned on July 2022 was postponed to October due to the war in Ukraine. Also, the activities of GA#2 and #7 have been implemented and have obtained the results foreseen by the end of the project (including the definition of a Code of Conduct for students and PhD students).

2. HYPOTHESIS OF SUSTAINABILITY

The GAs have met the appreciation of the internal and external stakeholders and the orientation of the Core team is to replicate the GAs. The ongoing war caused by the invasion by Russia led to a reduction in the number of participants in the ResBios activities organised by the IFNUL Core Team. During air raids, it is necessary to interrupt the activities and go to the shelter in order not to expose the participants to danger. Despite the existing obstacles, the main tasks of the GAs and of the sustainability and support plan of IFNUL have not changed. In addition, the Open Days Activity Committee was created. It is important to stress that, notwithstanding the difficulties, the national and local context is also favourable to a growing orientation toward responsible and open science: not only IFNUL is oriented to have and maintain connections with schools and other local actors, but it is also pursuing its own policy on Ethics (an Ethical committee has been recently established). Furthermore, at the National Level, Ukraine became an associated country of the Horizon Europe Framework

Research Programme. This means that IFNUL must be more and more aligned with the policies and orientations underlying this programme, including those connected to Open and Responsible Science as well as Gender and Ethics. The granting of EU candidate status to Ukraine also opens new perspectives and opportunities for participation in the European projects directed at improving the quality of Higher Education in Ukraine and integrating this latter into the international educational space.

In this framework, it is reasonable to pursue the general objective of maintaining the practice of RRI and scale it up gradually within the Faculty and the University. In general, it is possible to think that there is no need to change the blueprint of the GAs, at least for the immediate period after the conclusion of ResBios. Rather, it could be assumed that, also thanks to the active support from the Academic leadership, in particular at the faculty level, and the results obtained during the project, continuation of the GAs is possible at the University level once the ResBios project is concluded.

In general, it could be stated that the objectives to pursue in practice are the following:

- Promote biology awareness culture in society, in line with what has been done in the framework of GA#2
- Facilitate the access of young researchers to biology professions (based on the experience of GA#1)
- Continuously update and disseminate scientific culture among academic staff for what concerns RRI-related issues.

Although the GAs have been positively appreciated, the main challenge for their continuation is to be able to continue the involvement of various actors and stakeholders in the future. Given the good relations that have been established with such actors so far, this practice should not become a problem. Nevertheless, a specific effort should be done so that the interaction among actors (internal and external) becomes a usual and continuing practice.

3. FACTORS OF SUSTAINABILITY

The continuation of the activities initiated during the implementation of ResBios will be an important element of the restoration of the educational and scientific spheres in Ukraine after the end of the war caused by the Russian invasion. Since the infrastructures of many educational institutions have been damaged, many students, researchers, and lecturers have been forced to leave Ukraine, and an imbalance of intellectual potential arose, which must be restored. In such a situation, the achievements attained under ResBios should play an essential role in restoring the Ukrainian educational and scientific sector and are therefore expected to be long-lasting and relevant in the coming years.

In general, practices aimed at involving more stakeholders of various types can be considered among the institutional changes that should be strongly sustained, and further pursued also

in the future. This holds also for the working groups/committees established to support specific RRI-related initiatives.

The implementation of RRI activities in the future will need both human and financial resources. While the activities in the frame of GA#1, GA#2, and GA#7 were performed with the support of the ResBios project, after the completion of the project the implementation RRI-related activities will be continued at the IFNUL on a volunteer basis. In general, the Academic staff could continue to provide its support, since many of the activities carried out so far can be easily understood as a way to implement the teaching and research mission of the University. The group of IFNUL's researchers and professors that implemented the ResBios project – mentioned here as the Core Team – will continue to promote the activities in the framework of their involvement in the Department of Biochemistry of IFNUL. A continuation of the involvement of Lviv University students is also part of the strategy to implement RRI beyond the duration of ResBios. Such involvement will become part of extra-curricular activities and be viewed as an occasion for training students to promote and practice exchanges with scientific and Quadruple helix actors and stakeholders.

Financial resources will be an important factor of sustainability. For this reason, the sustainability strategy implies efforts for raising funds for some of the RRI-related actions that should continue in the future. The development of a capability of this type could be considered a significant objective to be pursued in the time and beyond the duration of ResBios.

In summary, as long as resources are concerned, the following can be stated:

- Internal infrastructures of the Department of Biochemistry and the Faculty of Biology (lecturer rooms, laboratories, chemicals, laboratory equipment and computers) will be used for implementing RRI activities in the Ivan Franko National University of Lviv in the future
- Voluntary work will be provided by the members of the Department of Biochemistry and the Faculty of Biology
- Activities connected to the practice or RRI will be included in the work of the Research and Development Department, International Office, and the Department of Development and Fundraising
- The mentioned Internal structures of IFNUL are going to take part in providing extra effort, e.g., search for specific financial sources, and establishment of new stakeholder communication.

4. ACTIONS FOR PROMOTING SUSTAINABILITY

The strategy outlined above is the basis of a series of main actions.

4.1. *Promote biology culture in society*

This implies a set of activities aimed at strengthening the organisational setting to favour the replication of GA#2 (i.e., activities with school children and the involvement of schoolteachers) and take part in Open days at the University and city levels.

This action will be promoted by the Open Days Activity Committee that was created and approved at the Academic Council of the Ivan Franko National University of Lviv. Two members of the Committee – Dr Taras Peretiatko and Dr Mariya Sabadashka – took part in the Scientific Show “Dipping in the world of science” on 7th and 14th September 2022. In order to popularise scientific and research creativity, a scientific and educational event for school students was held, initiated and organised by the teachers of the Lviv Regional Junior Academy of Sciences with the support of the Department of Education and Science of the Lviv Region Government, the Department of Education of Lviv, Ivan Franko National University of Lviv, Lviv National Polytechnic University, Tech StartUp School.

More than 300 students and teachers from Lviv Oblast participated in the event, by took part in master classes on various thematic sites and try themselves in the role of researchers.

Among the activities organised by the Committee there is a short course for students about current opportunities and perspectives of bioinformatics as science that was launched on 29th April 2021 and another lecture on using ANOVA method in modern biosciences that has been held on 4th October 2022. In the future, the Committee will perform the functions described below:

- The Committee will maintain the exchanges with various external networks, public bodies, associations and other organisations who have extended contacts with citizens and civil society, the private sectors and the scientific community, e.g., schools, schoolteachers and the related associations, the city council, the Regional educational authority, associations of entrepreneurs, firms, National Academy of Science of Ukraine, the Junior Academy of Science
- The Committee will involve various structures of the University for its activities (e.g., the Botanical Garden and the Zoology Museum, the Department of Biochemistry, the Research and Development department) as well as the administrative structure and the faculty leadership. It will also maintain contacts with internal stakeholders such as the Academic staff (Lecturers, researchers), groups of students and the Scientific society of PhD students. These actors could provide their effort for the activities promoted by the initiative
- The Committee has set up a database of the main contact persons within the schools; the database will be used as a tool for facilitating its activities and will be kept updated

- The Committee will take the responsibility of the YouTube Channel and of promoting possible further contribution to it
- The Committee will promote the individuation of various possible rewards for the participants of these activities it organises (e.g., certification, letter of endorsement, awards, etc.).

4.2. Facilitate the access of young researchers to biology professions

The activities carried out in the framework of GA#1 aimed at promoting the access of young researchers to biology professions are going to be replicated within the framework of the usual functioning of the Department of Biochemistry, which will continue to organise them. One of the activities carried out is the Summer School. In order to continue this activity at a larger scale – thus exploiting the opportunity that emerged from the implementation – the need has been identified for finding further financial resources (for visiting professors, for scholarships, etc.).

In this framework, a **Working Group to explore funding opportunities** for the Summer School has been established in January 2022. The Working Group is composed of 4 persons and will create contacts within and outside the University. The internal actors to be involved in the search for funds are the Dean and the administrative management of the faculty, the Research and Development department, lecturers and researchers. External actors in the Academic environment will also be contacted in order to explore funding opportunities. They will be representatives of other universities and research institutions in Ukraine and abroad who could contribute to the Summer school with lessons and visits (e.g. Institute of Cell Biology of NAS of Ukraine, National Academy of Food Technology, West Ukrainian Research Center, some Universities in Poland, etc.). Furthermore, IFNUL Alumni Association, the Friends of IFNUL University and Ukrainians abroad will also be included. Organisations in other sectors will also be contacted, e.g., firms, associations of firms, local authorities. Students' associations (e.g., Scientific Society of students, PhD students and young scientists) could be involved as well in the search for additional resources.

The Working group will contribute to organise the Summer school after the conclusion of ResBios. It will help to define the dates on which the Summer School will be held, the scope of teaching activities, the participants to invite, and the resources needed (in cooperation with the Scientific Committee of the Summer School).

Since the war in Ukraine is ongoing, most businesses and corporations are financially supporting the provision of the Ukrainian army and rebuilding the destroyed infrastructure. So, it is difficult to find financial support for the Summer School. But the Working Group does not stop looking for potential sponsors and hopes to improve the situation next year.

4.3. Continuously update scientific culture among academic staff for what concerns RRI related issues

A continuous update of scientific culture based on RRI principles is an objective that should be pursued over time. By definition, it requires a form of self-reflection over the issues to be dealt with based on an assessment of the real need of the Academic community. Such an effort will be promoted by the Core team and other internal actors will be involved accordingly. The following activities are foreseen.

- As for what concerns the key “Ethics”, the Core team will take care that the Code of conduct developed under GA#7 is diffused and practiced, as well as the Declaration of the students of Biology faculty (and of the Department of Biochemistry) defined at the end of the project about ethical behaviour in research, particularly, on the use of animals in scientific work. (Another similar declaration already exists concerning Academic Honesty in general and concerns the entire University; it will be considered too). Such activities will be promoted and implemented by the Core Team together with the Leadership of the faculty and its administrative staff. The definition of the Declaration is the result of a discussion with the Faculty of Biology researchers and with the students’ associations, the Ethical committee of the University and of the faculty, with the President of the Ethical Committee of Ukraine. They will be involved in the diffusion of the Declaration. This activity is favoured by the fact that IFNUL is pursuing its own policies concerning the promotion of ethics in research.
- The Core team has organised a workshop on start-ups in the biosciences sector aimed at faculty students. Such an activity will be replicated in the future, with the objective of strengthening the connection between IFNUL, its students and industry.
- The publication of scientific articles about the practice of RRI at IFNUL will be promoted.
- Ukraine has recently become an associated country in the Horizon Europe Programme. The active participation of Ukrainian Universities is an important opportunity for the advancement of science in the country. Many issues related to RRI become relevant also for accessing this new stream of funds for research and for the cooperation between Ukrainian and other European research organisations. The Core team will organise activities such as workshops (that could foresee several sessions) and meetings aimed at studying the requirements for participating in European research activities, with a particular focus on those connected to the promotion of gender equality, public engagement, ethics, and open science. These activities will represent a way to keep on implementing RRI at IFNUL and to scale it up as well as to do the utmost of the experience gained through the ResBios project. They will be implemented including the Dean and the management of the Faculty of Biology, part of the Academic staff and the IFNUL Research and Development department. Such activities will also include the implementation of a Gender Equality Plan that has been recently finalised.

ANNEX 1 – LIST OF THE GROUNDING ACTIONS (GAS) BY CODE, TITLE, RRI KEYS AND IMPLEMENTING ORGANISATION

Code	TITLE	RRI Key	IOs
GA#1	Experimenting and establishing informal education activities at the Department of Biochemistry	EDU	IFNUL
GA#2	Developing a workshop on pharmaceutical and house chemicals for schools	EDU	IFNUL
GA#3	Promoting lifelong learning program on fisheries, apiculture, wildlife management and zoology	EDU	UNIZG-FAZ
GA#4	Capacity building on RRI for Faculty students and researchers	EDU	UNIZG-FAZ
GA#5	Establishing cooperation with schools on the forefront issues of Molecular Biology and Biosciences.	EDU	DUTH
GA#6	Establishing a network of marine schools	EDU	ICM-CSIC
GA#7	Setting up a system of support for ethical principles in biological investigation	ETH	IFNUL
GA#8	Developing an Open Access policy at Faculty level	OA	UNIZG-FAZ
GA#9	Setting up a system for fighting plagiarism and promoting ethical publishing behaviours	ETH	UNIZG-FAZ
GA#10	Developing an open access and open innovation policy	OA	DUTH
GA#11	Redefining research ethics, procedures and codes on Biosciences emerging needs	ETH	DUTH
GA#12	Developing citizen engagement program	CE	DUTH
GA#13	Assessing the current situation about gender in biosciences at the University level	GEN	DUTH
GA#14	Promoting citizen's empowerment for Ocean responsibility in Barcelona Neighbourhoods	CE	ICM-CSIC
GA#15	Enhancing Gender Equality Commitment in the institute	GEN	ICM-CSIC

Legend: EDU = Education; CE = Citizens Engagement; GEN = Gender; OA = Open Access; ETH = Ethics