United Nations
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Executive Board
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209 EX/5.I.E

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Item **5** of the provisional agenda

FOLLOW-UP TO DECISIONS AND RESOLUTIONS ADOPTED BY THE EXECUTIVE BOARD AND THE GENERAL CONFERENCE AT THEIR PREVIOUS SESSIONS

PART I

PROGRAMME ISSUES

SUMMARY

E. Nominations of new UNESCO Global Geoparks

In accordance with Section 5.5 of the Operational Guidelines for UNESCO Global Geoparks as approved by the 38th session of the General Conference (38 C/Resolution 23), the Director-General submits hereby the nominations of the fourth statutory meeting of the UNESCO Global Geoparks Council for the endorsement of the Executive Board for the period 2020-2023. These nominations are listed in paragraph 1 below and comprise 15 new UNESCO Global Geoparks and the extension of one existing UNESCO Global Geopark (more than 10% of the existing area).

Decision required: paragraph 3.

Job: 202000370

E. Nominations of new UNESCO Global Geoparks
(Follow-to 38 C/Resolution 23)

Introduction

1. The UNESCO Global Geoparks Council convened its fourth statutory meeting during the International Conference on UNESCO Global Geoparks, in Lombok, Indonesia, from 31 August to 2 September 2019. Following the examination of related documents and reports, the UNESCO Global Geoparks Council decided to nominate, as listed below, 15 new UNESCO Global Geoparks and the extension of one existing UNESCO Global Geopark (more than 10% of the existing area) for the period 2020-2023:

- Cliffs of Fundy, Canada
- Discovery, Canada
- Xiangxi, China
- Zhangye, China
- Lauhanvuori-Haemeenkangas, Finland
- Toba Caldera, Indonesia (deferred application from the third statutory meeting[1])
- Rio Coco, Nicaragua
- Estrela, Portugal (deferred application from the third statutory meeting[1])
- Hantangang, Republic of Korea
- Yangan Tau, Russian Federation (deferred application from the third statutory meeting[1])
- Djerdap, Serbia (deferred application from the second statutory meeting[1])
- Granada , Spain
- Maestrazgo, Spain
- Kula-Salihli , Turkey (an extension of an existing UNESCO Global Geopark[2]
- Black Country, United Kingdom of Great Britain and Northern Ireland (deferred application from the first statutory meeting[1])
- Dak Nong, Viet Nam

2. In accordance with Section 5.5 of the Operational Guidelines for UNESCO Global Geoparks as approved by the 38th session of the General Conference (38 C/Resolution 23), these nominations decided upon by the UNESCO[1] Global Geoparks Council are hereby submitted to the Executive Board for its endorsement. The details of the 16 nominations are contained in the information document 209 EX/5.I.E.INF.

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1 In accordance with Section 5.5 of the Operational Guidelines, the Council may recommend to defer an application for a maximum of two years to allow for improvements to be made to the quality of the application. In case of deferral, there is no need to repeat the field evaluation during this time.

2 In accordance with Section 5.6 (xii) of the Operational Guidelines should an existing UNESCO Global Geopark wish to change its size, but the proposed change amounts to more than 10% of the existing area, a new application must be made. Such applications are exempt from the restriction on the number of "active" applications per Member State at any one time.

Proposed draft decision

3. In the light of the above, the Executive Board may wish to adopt a decision along the following lines:

The Executive Board,

1. Recalling 38 C/Resolution 23,

2. Having examined documents 209 EX/5.I.E and 209 EX/5.I.E.INF,

3. Welcomes the important contribution of UNESCO Global Geoparks to the Organization's work with regard to conservation and protection of the geological heritage;

4. Endorses the nominations of the UNESCO Global Geoparks decided upon by the UNESCO Global Geoparks Council at its fourth statutory meeting held in Lombok, Indonesia, from 31 August to 2 September 2019.

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Item **9** of the provisional agenda

EVALUATION OF THE INTERNATIONAL GEOSCIENCE AND GEOPARKS PROGRAMME

SUMMARY

In accordance with 207 EX/Dec.5.II.A, this report provides a summary of a recently completed evaluation, namely:

Evaluation of the International Geoscience and Geoparks Programme (IGGP).

Decision required: paragraph 33.

Job: 202000444

INTRODUCTION

1. At its 207th session, the Executive Board requested the Director-General to continue to report periodically on completed evaluations in parallel to programme discussions (207 EX/Dec.5.II.A). This evaluation of the International Geoscience and Geoparks Programme (IGGP) was conducted by IOS at the request of the UNESCO Natural Science Sector. The most recent evaluation of the International Geoscience Programme (IGCP) had taken place in 2015 and the other pillar of the IGGP, i.e. the UNESCO Global Geoparks (UGGp), had never been evaluated before. This evaluation was included in the IOS Evaluation Office work-plan for the year 2019, as indicated in the IOS Annual Report for 2018 (206 EX/21, Annex III, p. 2). The detailed findings, conclusions and recommendations of this evaluation are presented in the full report, which is available along with the management response from the SC Sector on the IOS website.

Evaluation of the International Geoscience and Geoparks Programme (IGGP)

The UNESCO International Geoscience and Geoparks Programme

2. The International Geoscience and Geoparks Programme (IGGP) is part of the UNESCO portfolio of activities and programmes to support research and capacity development in the Earth Sciences in line with the 2030 Sustainable Development Agenda. The Programme consists of two sub-programmes (pillars): the International Geoscience Programme (IGCP) and the UNESCO Global Geoparks (UGGp). The IGCP has been a UNESCO programme since 1972, and the UGGp was formally incorporated as a UNESCO initiative in 2015.[1]

3. The IGCP supports the study of the Earth's geological process through mobilizing and facilitating scientific cooperation amongst a worldwide network of geoscientists. It offers grants to collaborative projects that prioritize capacity-building, benefit to society, cooperation between scientists and, in particular, international participation that includes scientists from developing countries.

4. The UGGp is a unique mechanism of international cooperation to conserve sites of international geological value by promoting scientific research, education and the engagement with local communities for the sustainable management of these sites and their geological heritage. The UGGp mainly provides certification to geoparks that meet specific requirements, including: possessing geological heritage of international significance; the existence of public facilities and service infrastructure; an offer of information, education and research activities; sustainable management practices; and geotourism activities.

5. A number of strategic partners collaborate in the management of the IGGP, namely: the Global Geoparks Network (GGN), the International Union for Conservation of Nature (IUCN) and the International Union of Geological Sciences (IUGS).

Objectives and methodology of the evaluation

6. This document contains the results of an independent evaluation of the IGGP that was conducted primarily with the aim of reporting on the results generated by the IGGP. Lessons resulting from the evaluation shall feed into the Programme's learning processes by identifying what works well, what doesn't and the enabling and hindering factors of success. The evaluation also aimed at providing recommendations in order to improve programme implementation and related processes in the future. The evaluation covers the entire IGGP, including the IGCP and UGGp sub-pillars, over the 2014-2019 period.

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1 36 C/Resolution 31 on cooperation between UNESCO and the Global Geoparks Network (GGN), 190 EX/Decision 5 (I), 191 EX/Decision 5 (III), 192 EX/Decision 9, 37 C/Resolution 26, 194 EX/Decision 5 (I, G), 195 EX/Decision 5 (I, A) and 196 EX/Decision 5 (I, C).

7. The evaluation was conducted between September 2019 and January 2020 with the support of an external team of both thematic experts and evaluation consultants. Data collection methods included: the development of a Theory of Change; an extensive literature review and desk research; attendance at the UGGp Council Meeting in Lombok, Indonesia; over 60 face-to-face and telephone interviews with programme managers and beneficiaries; and three country visits to Spain, Mexico and China. Quality assurance was provided by the IOS Evaluation Office with the support of a dedicated evaluation reference group, including representatives from the SC Sector, the Gender Equality Division, Programme governing bodies and strategic Programme partners (see para. 8, below).

8. Primary intended users of the evaluation are UNESCO senior management and programme staff of the SC and other sectors in Headquarters and field offices, UNESCO Member States and Programme governing bodies such as the IGCP Council and Bureau, the UNESCO Global Geoparks Council and Global Geoparks Bureau and the IGCP Scientific Board. Secondary users of the evaluation include UNESCO's strategic Programme partners such as the Global Geoparks Network (GGN), the International Union of Geological Sciences (IUGS), the International Union for Conservation of Nature (IUCN) and national/regional IGCP and geopark committees.

Findings

9. The evaluation findings are as follows:

Relevance of the IGGP

The IGGP is designed to fulfil goals and ambitions, which are fully in line with the needs and challenges faced by its target populations and compatible with the strategic goals of institutional sponsors.

10. IGCP Project Leaders confirm that the design of IGCP is relevant to meeting local, national and international scientific needs. Programme beneficiaries regard the Programme as unique in supporting research collaboration in geoscience at the global level. For stakeholders in developing countries, it is often the only way to engage in international research projects. As for the UGGp, its goals are relevant to addressing a range of needs and challenges faced by applying territories. Key drivers of participation in the UGGp include "improving the population's awareness of the geological heritage in the region", "gaining visibility nationally and internationally" and "stimulating local development and poverty reduction".

11. The current level of demand and interest in both pillars is very high and confirms the relevance of the Programme from a beneficiary perspective. The design of the Programme is flexible enough to cater to the needs of diverse populations and developmental contexts, including typically disadvantaged or underprivileged groups, women and girls.

12. The IGGP has been making a direct contribution to the expected results defined in UNESCO's 39 C/5 Programme and Budget for Major Programme II on the Natural Sciences and in particular its Main Line of Action 2: advancing science for sustainable management of natural resources. The IGGP also makes relevant contributions to UNESCO's global priorities on Africa and Gender Equality.

13. Geoscience and the increased understanding of geological structures and processes are relevant to several Sustainable Development Goals (SDGs), such as Goals 1, 4, 5, 6, 7, 8, 10, 11, 12, 13 and 17.[2] The thematic areas that they refer to play a direct role, for example, in the sustainable use of natural resources (oil, gas, minerals) and in the management of water resources and

[2] I.e.: No poverty; Quality education; Gender equality; Clean water and sanitation; Affordable and clean energy; Decent work and economic growth; Reduced inequalities; Sustainable cities and communities; Responsible consumption and production; Climate action; Partnerships for the Goals.

agricultural land. The IGGP is thus highly relevant to UNESCO's mandate and ambitions to contribute to the SDGs as defined in the 2030 Sustainable Development Agenda.

14. The design of the IGCP and the UGGp align with the strategic objectives of the Programmes' two key strategic partners: the Global Geopark Network for UGGp (GGN) and the International Union of Geological Sciences (IUGS). As such, there is an important symbiotic relationship between the IGGP, UNESCO and these partners, which manifests itself in the day-to-day implementation of the Programme.

There is a lack of internal coherence within the Programme, illustrated by the absence of more formal programmatic links between the IGCP and the UGGp.

15. The activities, outputs and medium-term outcomes of both IGGP pillars are quite distinct and, as a result, the governance and practical implementation of the sub-programmes under IGGP are largely separate. This separation is also due to the different histories of the two sub-programmes, with IGCP having been a UNESCO programme since its inception in 1972, while UGGp came into UNESCO in 2015 after a long history under the GGN. While the evaluation identified a meaningful potential for such closer collaboration, the current level of cross-pollination from a programmatic perspective is very limited. This appears to be a missed opportunity for generating synergies towards achieving more significant results at a larger scale with an equal amount of resources.

Efficiency of the IGGP

The expert-driven and international nature of the Programme is viewed as a key asset and continues to yield positive results

16. Stakeholders consider the expert-driven nature of the IGGP to be a significant asset, enhancing the technical quality and relevance of Programme activities. Key Programme decisions, such as final project selection, are mainly taken by scientists in accordance with merit-based criteria. While the IGGP may be less prone to political considerations than intergovernmental programmes, it nevertheless faces the challenge of navigating between the interests of Member States and a scientific expert-driven process.

17. Mechanisms exist for Member States to contribute to the decision-making procedures of the Programme. For instance, in the case of UGGp, new geopark applications must first be approved by national-level authorities before being submitted to the Programme Council. Member State representatives can also participate as observers during Council meetings. The long-term sustainability of this model, including continued buy-in from Member States that are the key UNESCO constituency, will only be guaranteed through the continued use of selection criteria that meet the highest standards of excellence and transparency.

18. The governance models of the Programme and both pillars are robust, and implementation is in line with the roles and responsibilities defined in the Programme guidelines. IGCP and UGGp National Committees are key to the delivery of the Programme and represent important local liaisons contributing to overall Programme awareness and visibility.

The IGGP Secretariat satisfactorily performs its coordination role, especially given its resource limitations.

19. Both Programme pillars share a common Secretariat hosted by UNESCO. Currently, this Secretariat is composed of three full-time equivalent staff members. The Secretariat is responsible for all management and administrative support to the IGGP Councils, enabling them to conduct the project and geopark evaluation process, and for liaising with National Committees and UNESCO National Commissions during this process. In addition, the Secretariat engages in technical work and capacity-building activities.

20. Programme stakeholders hold the Programme in high regard and perceive the performance of the IGGP Secretariat as very satisfactory, especially given strong resource constraints. In the last two years, the Secretariat embarked upon strengthening, clarifying and updating overarching processes to improve programme management. Resource limitations impact the Programme Secretariat's ability to generate solid monitoring and reporting data as well as effectively keep track of Programme beneficiaries and results. They also limit the Secretariat in their ability to engage in activities to further help the Programme grow, e.g. through resource mobilization.

21. The distribution of work among the UNESCO-hosted IGGP Secretariat and both partner organizations (i.e. GGN and IUGS) is well-balanced and contributes to an efficient implementation of shared responsibilities. The contributions made by both partners to Programme delivery are essential and heavily underpin Programme sustainability. This said, in the case of UGGp, the evaluation observed a lack of clarity within the geopark community with regard to the roles and responsibilities of the UGGp Secretariat as opposed to those of the GGN.

22. There is some level of involvement with both UNESCO Chairs and category 2 centres in the delivery of the IGCP. For example, the category 2 centre "International Research Centre on Karst (IRCK)" was, in part, created as a result of prior IGCP projects and continues to be a key participant in relevant projects. Involvement of UNESCO Chairs and category 2 centres in UGGp, on the other hand, is very limited. Given the high number of relevant category 2 centres and Chairs, there may be additional opportunities to increase or build links with IGGP.

Despite recent improvements in the selection procedures and criteria for geoparks and geopark evaluators, there is scope to enhance the quality and robustness of these under the UGGp.

23. The IGCP selection process, and the governance arrangements that underpin it, follow standard international best practice for managing research funding programmes. The evaluation revealed no major concerns with the project review or selection process. A great majority of Project Leaders who responded to the survey considered the process to be technically sound and transparent, expressing satisfaction with the clarity of information and the ease and timeliness of the process.

24. The UGGp selection processes and criteria for geoparks and geopark evaluators have undergone significant updates in recent years, but remain the subject of debate among some members of the UGGp community. Issues raised during the evaluation involved: (i) the interpretation of the significance of geological heritage of sites; (ii) the consistent application of geoparks selection and evaluation criteria; and (iii) the need to further formalize these criteria. As the selection of geopark evaluators is concerned, some stakeholders expressed the need to further specify the criteria used to identify evaluators as well as to publish the results of the selection process.

25. This said, three quarters of the online survey respondents considered the technical and scientific soundness of the geoparks evaluation and designation process (including evaluation missions) as excellent or good. In particular, respondents praised the geoparks evaluation process as very positive, perceiving it as a process of learning and knowledge exchange rather than a top-down approach. According to the geoparks, going through the evaluation process itself provided them with valuable lessons and insights on how to improve their project.

The quality of programme monitoring may be improved

26. The IGGP as a whole does currently not have an appropriate monitoring and evaluation system. The Programme lacks a theory of change, as well as an accompanying results framework, thus not allowing for measuring the extent to which the Programme generates results in line with its original ambitions. This represents an opportunity for improvement for the Programme, both in terms of accountability and learning, as well as in terms of effective steering and management.

Effectiveness and Impact of the IGGP

Given the lack of a formal results framework, the evaluation was unable to produce a solid quantitative assessment of Programme effectiveness, yet the Programme is yielding positive results in line with intended goals.

27. Through the IGCP, an average of seven to nine projects are funded each year. It reaches a wide community of scientists who actively engage in project activities in various ways, from conducting research and conducting field work to attending seminars, workshops, meetings and training courses. Only scientists from developing countries receive IGCP seed funding, which directly supports knowledge transfer and geoscience capacity building in these countries. Project Leaders report a range of actual or expected project outputs in the form of new networks, scientific publications, high quality geoscience knowledge and knowledge relevant to society and new geoscience skills. Other perceived benefits of the Programme include lasting international partnerships and cooperation on geoscience and increased involvement of female geoscientists.

28. The presence of UGGp is still mostly concentrated in Europe and Asia, but the Programme has gained significant importance in Latin America, in recent years. Expansion to sub-Saharan Africa and Arab States remains an important challenge, despite recent efforts to increase Programme presence and visibility in those regions. Evidence on the benefits generated by the access to the UGGp certification is abundant. UGGp outcomes include improved geopark management and planning systems, established links with geoparks from other countries, increased understanding of the importance of geological heritages and improving general culture and knowledge around them, more sustainable tourism and increased engagement on behalf of local/indigenous communities. The creation of employment and economic activity, potential reduction of migration, reducing territorial fragmentation/isolation as well as increased empowerment of women point to the likely broader socio-economic impacts.

Sustainability of the IGGP

Funding represents the most important limitation to Programme implementation and is a potential risk to Programme sustainability

29. All stakeholders reported funding as an issue for IGCP, both in terms of its effects on the limited amount of funding for individual projects[3] and the limitations in numbers of projects that can be supported at any one time. At present, demand outstrips supply by around 100%. Funding limitations faced by UGGp also represent a major bottleneck and will limit efforts to expand and improve the Programme. Financial sustainability of the Programme will also underpin the sustainability of the results generated.

For emerging geoparks, particularly in fragile contexts, ensuring sustainable sources of funding is a major hurdle and threat to survival

30. Securing long-term funding streams is a critical issue, especially for geoparks in developing countries, which tend to have limited access to sources of public funding. The example of the Mixteca Alta geopark in Mexico perfectly illustrates this challenge. The issue is likely to be significant in newly designated geoparks in sub-Saharan Africa as well.

Conclusions and the way forward

31. In moving forward with the implementation of the IGGP, the Programme should capitalize and further build on the very positive results achieved to date. At the same time, it should take advantage of the opportunity to introduce some adjustments, which have the potential of significantly boosting its impact and ensuring its long-term survival. These mainly relate to the need to ensure a stronger commitment and broader financial base for the Programme and the operations of its Secretariat, as

[3] Project seed funding ranges between $5,000 and $10,000 per year.

well as to the need to continue improving UGGp selection and evaluation procedures and criteria. Regarding the latter, while the UGGp should be looking to consolidate its expert-driven and international dimension, it should also ensure that the necessary conditions are established to generate full trust and confidence within the Member State community that decisions are taken on the basis of relevant criteria and transparent procedures, which are of the highest standards.

32. In the future, the IGGP – and particularly the UGGp pillar – should also seek to more explicitly ensure t a more targeted approach to providing support in sub-Saharan Africa, as well as other regions of the world, which are currently less represented within its realm of intervention, such as Arab States. The UGGp model and approach offer great opportunities to spur growth and social cohesion in isolated territories hosting fragile populations. This should be capitalised upon in the future, while relying on the wealth of knowledge and expertise generated in the geopark community in the more developed countries.

Proposed draft decision

33. In light of the above, the Executive Board may wish to adopt a decision along the following lines:

The Executive Board,

1. Having examined document 209 EX/9,

2. Welcomes the "Evaluation of the International Geoscience and Geoparks Programme (IGGP)" and takes note with interest of its findings and recommendations;

3. Also welcomes the corresponding management response as contained in Annex I to document 209 EX/9;

4. Calls on all Member States, partners and donors to increase their commitment, active participation and financial support for the implementation of the International Geoscience and Geoparks Programme (IGGP);

5. Calls on the Director-General to include the International Geoscience and Geoparks Programme (IGGP) as a priority area in the structured financing dialogue processes;

6. Invites the Director-General to enable adequate follow up to all the recommendations contained in document 209 EX/9.

ANNEX

MANAGEMENT RESPONSE

Overall Management Response	
The UNESCO Secretariat welcomes the findings and recommendations of this evaluation, covering important years since the merge of the UNESCO Global Geoparks with the long-standing and well-established International Geoscience Programme to form the International Geoscience and Geoparks Programme in 2015. In that sense, the Secretariat appreciates that most of the recommendations relate to the UNESCO Global Geoparks pillar of the Programme. The findings are very much in line with the Secretariat's own experience in the 4-year existence of the Programme and the recommendations are a welcome guideline to the improvement process that has been initiated over the last months. The Secretariat also welcomes the recognition of geosciences and IGGP for their role in the sustainable management of natural resources and UNESCO is pleased that the evaluation has confirmed the importance and relevance of the IGGP, as a unique instrument to support research collaboration in geoscience at a global level, and as a driver to stimulate local development and poverty reduction.	
Recommendation	**Management response**
Recommendation 1: Make a clear statement regarding whether the Programme considers certain geographies or territories as strategic priorities in the short term, and explicitly formulate and justify how these geographies or territories are to be pro-actively targeted through Programme activities.	**Accepted** UNESCO Secretariat welcomes this recommendation, and agrees that there is a need for a strategic choice in both pillars of the programme. In both pillars of the programme, the UNESCO Secretariat will continue to encourage women and early career scientists to apply for capacity-building events. The IGCP council has designed a strategic vision and has set thematic priorities, but it is important that the UNESCO global priorities are reflected in that vision. As for the UNESCO Global Geoparks, there is a historical overweight of UGGp in Europe and Asia. The UNESCO Secretariat has in recent years invested efforts in promoting the concept and building capacity in areas of the world where the concept was less known, with recent successes in Latin America, and will sustain and increase those efforts, in particular in Africa and the Arab States.
Recommendation 2: Undertake further efforts to enhance cross-pollination and programmatic synergies between IGCP and UGGp within the IGGP.	**Accepted** UNESCO Secretariat welcomes this recommendation. It is noted that the IGCP has grown into the well-established and respected International Programme in the course of 47 years, while the UGGp is a recent addition, but UNESCO Secretariat and the Councils of both pillars will continue to explore further

	interlinkages and opportunities to join efforts, where possible and relevant. It will be challenging to seek further efficiency gains from the UNESCO Secretariat, which is already understaffed and working in complete synergy, but the UNESCO Secretariat recognizes that joint communication may lead to greater awareness of the existence of the two sub-pillars of the Programme and demonstrate the impact of the Programme.
Recommendation 3: Allocate additional resources to the IGGP Secretariat, mainly by bringing in additional staff.	**Accepted** UNESCO Secretariat recognizes the challenge of adequate human resources to implement the Programme, in particular in the light of a growing UGGp network and an increased volume of high-quality IGCP project proposals. UNESCO Secretariat will further explore options under secondment schemes, internship and young professional programmes. When raising additional funds for the programme and where possible, proposals will include fund allocations for additional staff.
Recommendation 4: Maintain UGGp status as an international programme with a bottom-up, expert-driven orientation.	**Accepted** The UNESCO Secretariat welcomes this recommendation and will continue its efforts to provide clarity on the application, monitoring, evaluation and revalidation mechanisms, providing further transparency and consistency with Statutes and Operational Guidelines for the IGGP. The UNESCO Secretariat invested in checklists, explanatory notes, clearer criteria for evaluators, a training and evaluation mechanism for UGGp evaluators, a clearer guidance for IUGS evaluators, online educational tools, courses and exchange programmes, amongst others. Some of these tools, forms and documents have been introduced in the course of the past months, others are in preparation, all in full cooperation with experts and statutory partners like the GGN, the UGGp, IUCN and IUGS, with the intention to provide clarity for evaluators, aspiring and existing UGGP and Member States alike, on the criteria as described in the statutory documents. The UNESCO Secretariat will continue on this momentum, to assure high-quality standards and transparency in its governance processes. The UNESCO Secretariat engages itself to further make all documents publically available, open UGGp Council sessions to Observers from Member

	States, and release the report with the decision of the UGGp Council shortly after the UGGp Council session.
Recommendation 5: Seek a more active participation of Member States in the Programme by promoting their involvement in existing UGGp mechanisms, such as the validation/sponsoring of aspiring geopark applications and participation in Council meetings as observers.	**Accepted** While the UNESCO Global Geoparks are established with a strong grassroots character, building on the commitment of local communities and stakeholders, the UNESCO Secretariat is aware that they strongly rely on governmental support. A good understanding of the UNESCO Global Geopark concept amongst UNESCO National Commissions and relevant governmental institutions is therefore key in further expanding the network. For that reason, the UNESCO Secretariat will continue including these target groups in its promotion and capacity building events. A close cooperation and consultation with Member States is not only key for ownership, it also contributes to furthering the quality and transparency of the governance mechanism, reason why the UGGp Council meetings welcome the increased participation of Observes from Member States. The UNESCO Secretariat will also continue to advocate good practices of such interaction between Member States and their UGGp.
Recommendation 6: Increase frequency of communication from the UGGp Secretariat to the geoparks and National Committees, on the support that can be provided by the Secretariat and to provide information on the latest UGGp developments.	**Accepted** While the statutory obligations related to the evaluation process for aspiring and existing UGGp, in addition to the preparations of the Council meetings will remain to a large extent hidden for the Geoparks community, the UNESCO Secretariat takes note of the importance to communicate clearly and frequently with the GGN and the respective UGGp on their actions and efforts to improve governance processes and support communication, promotion and capacity building activities. The preparation of an annual report by the UNESCO Secretariat to the GGN on the expenditure of the GGN contribution will contribute to this effort.
Recommendation 7: Improve guidance to countries that do not yet have a National IGCP or Geopark Committee, providing examples of how such Committees operate, including best practices for setting-up and maintenance.	**Partially Accepted** Very much in line with Recommendation 5, the close involvement of Member States is key to the success of the expansion of the UGGp Network, and the creation of National Geopark and IGCP committees facilitates knowledge transfer within the countries, within the regions and with UNESCO.

	The UNESCO Secretariat can also provide information on good practices and maintain regular contact with these bodies. However, the creation of such committees is national sovereignty and their sustainability is largely dependent on local commitment.
Recommendation 8: Implement a light, flexible and efficient mechanism allowing ongoing improvement of key aspects of UGGp, including its rules, regulations and documents.	**Accepted** This recommendation is closely linked with recommendation 4, aiming at securing standard processes and procedures for the governance of the IGGP, and in particular the UGGp pillar. The UNESCO Secretariat is engaged in a continuous process of improving processes and procedures, in respect with the rules and regulations as adopted by the General Conference of UNESCO at its 38th session in 2015. Still in line with Recommendation 4, and in respect with the expert-driven character of the Programme, the Secretariat does this in full coordination with the experts of its Statutory partners (UGGp Bureau and Council, GGN, IUCN, IUGS) and any other relevant stakeholder. With the ambition to assure consistency and transparency in the process, it will also continue to propose changes and improvements in documents, clarifications on criteria, updates on evaluator rosters, and any other action that professionalizes the application, monitoring and evaluation processes, and inform Member States thereof. The UNESCO Secretariat will also hold regular information meetings for Member States, hold surveys with Member States and experts alike to improve the impact of the Programme, and consult with Observers from Member States at UGGp Council sessions. The UNESCO Secretariat also welcomes the opportunity to clarify any of the decisions taken by the UGGp Council.
Recommendation 9: Develop and adopt a tailored results framework that is based on a Theory of Change and allows for the generation of quantitative assessments of Programme activities and results.	**Accepted** This recommendation is welcome and UNESCO Secretariat agrees that a more detailed results framework would facilitate the monitoring against the SDGs and overall impact of the programme. The current tracking system in SISTER already allows us to identify activities that contribute to the SDGs, against specific targets and performance indicators, including the number of Geoparks involved, the number of women and early career scientists trained, the relevance for Africa and SIDS, but the Secretariat agrees that the current reporting

	system could be improved by including other relevant indicators. This would imply a reporting framework that would allow the UNESCO Secretariat to obtain reporting information on the activities developed within the UNESCO Global Geoparks, and that it can track the outcome and results of the IGCP projects all the way up to measure their impact.
Recommendation 10: Strengthen the longer-term financial sustainability of IGGP, its sub-programmes and geoparks.	**Accepted** This recommendation is strongly related to recommendation 3, proposing additional resources to IGGP, basically by bringing in additional staff. To assure the statutory obligations in a context of a fast expanding network, the UNESCO Secretariat will need to invest part of its budget and time in Resource Mobilisation. The UNESCO Secretariat will also engage with GGN and the regional networks in exchanging good practices and funding opportunities for UGGp where relevant.

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IMPLEMENTATION OF STANDARD-SETTING INSTRUMENTS

PART IV

IMPLEMENTATION OF THE 2017 RECOMMENDATION ON SCIENCE AND SCIENTIFIC RESEARCHERS – PREPARATIONS FOR THE NEXT CONSULTATION

SUMMARY

Pursuant to 39 C/Resolution 85 and in compliance with 177 EX/Decision 35.I and 196 EX/Decision 20 on the specific multi-stage procedure for monitoring of the implementation of UNESCO conventions and recommendations for which no specific institutional mechanism is provided, the first consolidated report on the implementation of the 2017 Recommendation on Science and Scientific Researchers should be submitted to the General Conference at its 41st session in 2021.

In accordance with stage 3 (b) of the above-mentioned specific multistage procedure, the Secretariat seeks the advice of Committee on Conventions and Recommendations prior to the collection of information from Member States, National Commissions, research institutions and civil society organizations, in order to prepare the first consolidated report on the implementation of the 2017 Recommendation. This document presents draft guidelines developed to guide the reporting on implementation of the 2017 Recommendation.

Decision required: paragraph 12.

Job: 202000531

Introduction

1. The Recommendation on Science and Scientific Researchers (the “Recommendation on Science”), adopted by the General Conference at its 39th session in November 2017, aims to promote a common global set of norms and standards for research and innovation systems. They largely codify what is familiar already, but are novel and specific in some areas.

2. Under Article VIII of UNESCO’s Constitution, Member States are required to submit a single national report on the legislative and administrative provisions and any other measures they have taken to implement the Recommendation. According to the specific multi-stage procedure for the monitoring of the implementation of UNESCO conventions and recommendations for which no specific institutional mechanism is provided, as adopted by the Executive Board at its 177th session (177 EX/Decision 35.I) and amended at its 196th session (196 EX/Decision 20), the reports are submitted every four years.

3. After the national reports are received, and as requested by 39 C/Resolution 85, the Director-General will prepare a consolidated report and transmit it to the Executive Board and subsequently to the General Conference at its 41st session, so that it may examine the measures taken by Member States to implement the Recommendation.

4. In compliance with stage 3(b) of the above-mentioned specific multi-stage procedure, the Director-General hereby submits to the Executive Board, in the Annex to the present document, a draft for guidelines which she will circulate to all Member States, to guide the preparation of national reports on the implementation of the Recommendation.

Development of the present proposal

5. In the course of consultations with the National Commissions and UNESCO Chairs and other partners during 2019 to prepare the present proposal, 35 replies were received, including seven from National Commissions. The Secretariat also consulted internally and collected views from, *inter alia*, academics specialized in science, technology and innovation indicators particular.

6. The proposal contained in this report and its Annex is based on careful review of the advice received, comparable monitoring processes, and weighing of alternative approaches. If so decided, the Director-General could circulate guidelines with specific questions under each topic in the attached guidelines, when she will invite Member States to report on implementation.

Proposal for the first consultation of Member States

7. The first consultation of Member States on the Recommendation on Science covers the period 2017 to 2020. The 10 key areas of the Recommendation will be the focus of the reporting and, in part, guide its structure.

8. This consultation is an important opportunity for Member States to report back and benchmark progress over time. The national reports by Member States should provide self-assessments of progress on implementation, substantiate and document the assessment, and highlight any difficulties encountered. Ideally, all Member States should participate in this first consultation.

9. In addition to the relevant ministry in charge of reporting, a range of scientific and research institutions and some other relevant ministries and offices of government could usefully be involved. To facilitate such an extensive process, it would be desirable to select and measure at the start of the process indicators for activities in the 10 key areas (options appear as an annex to the guidelines). For this same purpose, the questionnaire that appears in the guidelines has been designed in two parts: part II could be detached, translated and circulated during national consultations preceding the finalization of a report.

10. To encourage reports by a maximum number of Member States and for cost-effectiveness, the entire consultation should take the form of a short online survey. All respondents will use a registration process involving a unique sign-in code (one per Member State) with offline reporting optional to ensure inclusiveness.

11. It is proposed that the Director-General's Guidelines be circulated to Member States by 30 May 2020, and that 31 March 2021 be the deadline for the submission of reports.

Proposed draft decision

12. In the light of the above, the Executive Board may wish to adopt the following draft decision:

The Executive Board,

1. Bearing in mind Member States' obligations under Article VIII of UNESCO's Constitution and Article 17 of the Rules of Procedure concerning recommendations to Member States and international conventions covered by the terms of Article IV, paragraph 4, of the Constitution,

2. Recalling 177 EX/Decision 35.I and 196 EX/Decision 20 on the specific multi-stage procedure for the monitoring of the implementation of UNESCO conventions and recommendations for which no specific institutional mechanism is provided,

3. Also recalling 39 C/Resolution 85, by which the General Conference adopted the 2017 Recommendation on Science and Scientific Researchers and identified its 10 key areas;

4. Having examined document 209 EX/18.IV and the report of the Committee on Conventions and Recommendations thereon (209 EX/…),

5. Underlining the importance of the 2017 Recommendation on Science and Scientific Researchers as a means of supporting the achievement of the 2030 Agenda and its Sustainable Development Goals (SDGs), with particular attention to SDG 9, particularly target 9.5, and as a means of strengthening science, technology and innovation and making best use of the benefits thereof;

6. Approves the guidelines for the preparation of reports by Member States on the implementation of the 2017 Recommendation on Science and Scientific Researchers, as set out in the Annex to document 209 EX/18.IV;

7. Requests the Director-General to invite Member States to submit to UNESCO their reports on the implementation of the 2017 Recommendation on Science and Scientific Researchers;

8. Also requests the Director-General to submit to it at its 212th session a consolidated report on the implementation of the 2017 Recommendation on Science and Scientific Researchers, with a view to transmitting that report, together with the Executive Board's comments thereon, to the General Conference at its 41st session.

ANNEX

[DRAFT] GUIDELINES FOR THE PREPARATION OF A REPORT ON A UNESCO MEMBER STATE's IMPLEMENTATION OF THE RECOMMENDATION ON SCIENCE AND SCIENTIFIC RESEARCHERS (2017)

I. Introduction

1. The Recommendation on Science and Scientific Researchers (hereinafter, the "Recommendation on Science") was adopted by some 195 states on 13 November 2017 meeting in the General Conference of UNESCO at its 39th session (39 C/Resolution 85). The Director-General transmitted the certified text in six languages by her letter of 10 May 2018 (CL/4253) to all UNESCO Member States, including your government. In that letter, she reminded each government of its duties to transmit and implement the Recommendation as well as to report back to UNESCO's Secretariat by the second quarter of 2021. The present document invites these reports, explains how to submit online, and proposes that Member States may use the online questionnaire (a copy of which appears in Appendix A). Other formats are also welcome before 31 March 2021.

II. About the Recommendation on Science

2. This Recommendation to UNESCO Member States provides the internationally-agreed model set of framework policies, regulations and institutional practices for national science technology and innovation (STI) systems in all countries. It is in place for the long term, and Member States are meant to comply.

3. The overall aim is to strengthen science per se, while ensuring other interests including peaceful uses of the knowledge and other benefits that science can produce. This framework addresses all of science technology and innovation together, including even science publishing and international travel. It addresses all disciplines of science, including the social sciences, and the conduct of research and innovation in all settings, including the private sector, or citizen science.

4. There is a particular focus today on strong research institutions and regenerating human capital in relation to delivering sustainable development goals, as well as moving quickly toward more inclusive and more global science. There is a particular focus that each State develops capabilities to use scientific knowledge and advice for decision-making and public policy. Sharing data and knowledge across borders involves risks that must be managed.

5. One signature feature of this Recommendation is that it makes explicit an internationally-agreed balance of rights and responsibilities based on integrating science in society. The legal basis for scientific freedom is clarified, as based in internationally-agreed human rights including gender equality, but it is also, by this Recommendation, applicable for all institutions of science. Further information and background, as well as free online publicity and communications materials can be found online at www.unesco.org/shs/recommendation-on-science. Member States are now in a phase of implementing this Recommendation.

III. Assessing the national experience of implementation

6. On a four-yearly basis, each Member State is meant to report on its experience implementing the Recommendation on Science (this is an obligation in the UNESCO Constitution). Having comparable assessments over time can be extremely valuable for decision-makers being able to develop and achieve the common global standards of the Recommendation.

7. Each report is an evidence-based self-assessment in which compliance is substantiated by documentation and references, involving analysis that typically is based on some data collection and consultation to assess the impact of measures that have been taken. Where there is less data, it may take longer to substantiate.

8. Because reporting national implementation of this Recommendation can provide a snapshot of conditions of the national science and technology and innovation (STI) system as a whole, it could be prepared jointly with science observatories or as part of other reporting exercises[1], and these consultations could be extremely valuable to the aim of strengthening these relationships within the STI system.

9. It is recommended that all assessments take into account and use standardized (global) definitions and concepts guided by existing technical guidelines. This means that only a few select indicators for which data will be collated will be new.

A. Overcoming challenges of assessment

10. A glaring challenge to this monitoring is the vast coverage of the Recommendation. The General Conference of UNESCO adopted a check-list called the 10 key areas of the Recommendation inviting Member States to focus on these areas for their implementation in the immediate future. (For the 10 key areas see https://unesdoc.unesco.org/ark:/48223/pf0000369170/PDF/369170eng.pdf.multi)

11. To balance utility and ease, a scorecard approach is proposed in a monitoring tool online. Completing and submitting the questionnaire in the monitoring tool online constitutes a national report.

B. How to integrate data in a national report

12. The suggested approach is that the national report reflects a combination of quantitative and qualitative indicators that serve as a scorecard. Examples of qualitative data are descriptions of science policies and policy instruments for implementation. Quantitative input could be either existing indicators developed by other organizations (including their survey methods and databases) or newly developed indicators for topics on which data collection has not yet taken place. As for the existing indicators by other organizations will be available to and used by the UNESCO Secretariat (after national reports are submitted, the Secretariat will proceed with its consolidated analysis). Therefore, a national report can simply refer to them, not repeat entries.

13. As for newly developed indicators, where data collection has not yet taken place, the collection method will need investment by the Member State. Given the diversity of Member States' capacities and resources, and in order to strictly narrow areas for such investment, a suggested approach is to give some topics priority. Priority should ideally be for indicators that could be "lead indicators" and address more than one of the 10 key areas, or that fill a gap. It is important data be presented transparently and with great care, so that the indicator chosen is appropriate.

C. National contact point

14. To conduct the study and give its report, each Member State is invited to designate a qualified lead team/officer whom it authorizes to submit the national report. This person or team would most likely be from within a Ministry responsible for innovation, research or technology. It is important that the team be qualified to assess questions about research in the private sector, innovations in the economy based on foreign technologies etcetera covering the range of the Recommendation. It is important that there be support from statistics offices for the reporting and the interpretation of data, because the designated team will have privileged access to data.

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1 The report is to be archived as an official report of the Member State and could be examined to inform other reporting exercises. With the aim of maximizing the cost-effectiveness of reporting, information in the report may be shared and re-analysed after its submission.

D. National consultations

15. Such extensive consultations, documentation, and new data collection efforts require that the team/officer has adequate time. They will also need authority to engage in outreach and some inter-ministerial consultations; and to adopt new indicators. Options for new indicators in some of the areas where there is less data available today will be posted online at www.unesco.org/shs/recommendation-on-science (with technical guidance for their use). Some initial options are found in Appendix B.

16. It is advisable that the team/officer be precisely guided so that their preparations advance in the time available. This is a suggested timetable:

From now until due date:	2020: Q2	Q3	Q4	2021: Q1
(a) Outreach				
(b) Feedback				
(c) Consolidation				

IV. How to submit a report

17. Each Member State is requested to submit online a single report, preferably in the form of replies to a survey, to the UNESCO Secretariat:

(a) before the deadline of 31 March 2021;

(b) in either the French or the English language;

(c) on the authority of a qualified official representing a government of a UNESCO Member State;

(d) reviewing its experience implementing the Recommendation between 2017 and 2020 and providing some documentation, referring to sources so as to substantiate the reported initiatives and conclusions of the report.

Registration for the online monitoring tool should be made at: ……. for online reporting. As an alternative, you may submit a report by an email or regular mail to : ……

A. Online monitoring tool

18. It is expected that teams/officers will prefer using an online monitoring tool available after 10 December 2020 as a means to submit the national report. This tool can be entered by a registration process involving a unique sign-in code (one per Member State) and its use by government addresses the 10 key areas of the Recommendation (see 39 C/Resolution 85).

19. The UNESCO Secretariat has recently put online existing (globally normalized) data from some 144 countries relative to their research and innovation systems (GO->SPIN) which the online monitoring tool entirely integrates. As a result, to the extent possible, answers in the online monitoring tool will be pre-filled, and the pre-existing data may be informative to users. The respondents are authorized to make adjustments.

20. The online monitoring is a designed to adapt to the diversity of Member States, and designed to ensure that responses complement rather than duplicate information that is already available and minimize efforts:

- Only 5 topics require responses (marked with double asterisks);
- Prioritization for some topics is suggested (marked with asterisk);
- Alternative topics are always available;
- Member States may enter their indicators.

B. Preview of the online monitoring tool[2]

21. A mock-up of the homepage of the online monitoring tool is shown in Appendix A hereto. Questions to answer for most topics are variants of the following two questions:

- What measures are in place for implementation?
- Have any obstacles been encountered with implementation?

22. Selecting any topic in the survey will open a new page unique to each topic (a sample is given at the end of Appendix A). On each topic-specific page, the respondent will be able to see references to the Recommendation, and then

- The above-mentioned two required questions, and other optional questions;
- A drop-down list in which to fill in information on the indicators used;
- Spaces for respondents to describe, and/or to attach material.

23. Online monitoring will have two parts:

- Part I includes required topics, for which replies fall in the purview of the Ministry responsible for STI or research;
- Part II are topics for which consultation may be needed, organized by the 10 key areas.

Part II of Appendix A hereto might guide consultations if it is detached, translated and circulated.

24. Respondents can review and modify before submitting a report and will have all the referenced material in one online site. All submissions will receive a confirmation of receipt by electronic mail.

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2 The monitoring tool will be opened for use after 10 December 2020.

APPENDIX A

For information: a mock-up of the Online Questionnaire

UNESCO Secretariat's questionnaire – Part I (** = requires a response)

Part I topics relate to STI policy, for which replies are within the purview of the Ministry responsible for STI or research

Translations

**Transmitted to Competent Authorities

**Consultations

**New Measures Taken for compliance

The below topics refer to the STI policy and key areas of the Recommendation.

(a) have measures been taken to implement the norms and standards?
(b) have any obstacles been encountered with implementation?

Toward a Sound Science Technology and Innovation (STI) System

(a)
(b)

**Data on Conditions of Scientific Researchers	Yes/No	Yes/No
Non-Discrimination and Diversity in Employment of Researchers	Yes/No	Yes/No

STI system and national and international objectives

Target 9.5 of Agenda 2030	Yes/No	Yes/No
**Capacities for Research Informing Public Policy and Decision-making	Yes/No	Yes/No
Science Diplomacy	Yes/No	Yes/No
Brain Drain	Yes/No	Yes/No

UNESCO Secretariat's questionnaire – Part II (* = a priority topic)

Part II topics relate to all aspects of science, and require consultations with other parts of government and the science community

The below topics refer to science in society grouped by the 10 key areas of the Recommendation.

(a) have measures been taken to implement the norms and standards?
(b) have any obstacles been encountered with implementation?

1. STI and national and international objectives		
(a) (b)		
Helps achieve Sustainable Development Goals	Yes/No	Yes/No
*Helps achieve Gender Equality	Yes/No	Yes/No
2. STI and Society		
Knowledge Society	Yes/No	Yes/No
Peaceful Applications of S&T	Yes/No	Yes/No
*Scientific Culture	Yes/No	Yes/No
3. Research informing Policy		
Uses S&T Knowledge for Decision-Making and Policy	Yes/No	Yes/No
*Scientists Advise Government	Yes/No	Yes/No
4. Science is a Common Good		
*Openness	Yes/No	Yes/No
5. Diversity in Science		
Non-Discrimination and Diversity	Yes/ no	Yes/ no

6. Human Rights Standards		
*Human Right to Science	Yes/No	Yes/No
Human Right to Health	Yes/No	Yes/No
Other Human Rights	Yes/No	Yes/No

7. Scientific Freedom and Scientific Responsibility		
*Scientific Freedom and Scientific Responsibility	Yes/No	Yes/No

8. Research Integrity, Research Ethics, and Ethics of STI		
Regulations Impacting on Research	Yes/No	Yes/No
*Ethics Infrastructure	Yes/No	Yes/No

9. Human Capital for Research		
*Careers, Mobility	Yes/No	Yes/No
Learning	Yes/No	Yes/No
International Travel	Yes/No	Yes/No
Social Security	Yes/No	Yes/No
Appraisal	Yes/No	Yes/No

10. Enabling Environment for Science and Research		
*Infrastructure and S&T services	Yes/No	Yes/No
Public funding	Yes/No	Yes/No
Work Conditions	Yes/No	Yes/No
Publication	Yes/No	Yes/No

Suggestions and Experience of Implementation

Lessons learnt from experience of implementation in 2017-2020

Advice/perspectives for future implementation of this Recommendation

Suggestions to the Director-General regarding the Questionnaire, Monitoring Exercise or its Follow-up

Free-form reply

[end of page]

APPENDIX B

For information: a mock-up of a sample page of the online questionnaire

< Back to home page

1. STI and national and international objectives

Selected Topic: STI is geared to help achieve Sustainable Development Goals

This topic relates to the Recommendation at paragraphs 4 and 5 found here

- In the period 2017-2020 were measures in place to encourage that STI is geared to help achieve SDGs?

  (yes/no)

  If yes, please describe:

  [ ]

  [drop down menu for entering the indicators that were used]

- Are there any obstacles to achieving SDGs observed in your country that relate to the STI system?

  (yes/no)

  If yes, please describe:

  [ ]

  [drop down menu for entering the indicators that were used]

Optional questions:

- Does your country have an overall integrated plan for designing and developing STI policies and practices geared towards achieving the SDGs, such as an 'STI roadmap for SDGs' (this practice is encouraged by the UN)?
- Is your national STI system designed and managed to support the achievements of the Sustainable Development Goals?

- What economic, finance and policy tools are available to advance STI geared towards sustainable development and effectively meeting the SDGs?
- How do international development cooperation policies address the role of STI for global development?
- How is international science and research collaboration policy shaped and managed in order to contribute to achieving the SDGs.

Options for (new) indicators and technical reports are found online at www.unesco.org/shs/recommendation-on-science.
Some are presented here below, grouped according to the 10 key areas of the Recommendation:

1. STI and national and international objectives

*Promotion of Gender Equality

Criteria	Performance indicators		Perception indicators
	Process indicators	**Outcome indicators**	
Gender equality	[As used in go-spin] - Number of programmes funded by public funds which contain gender equality criteria - Percentage of research institutions (including universities) that (a) have gender equality plans and (b) provide documentation of their implementation - Percentage of research institutions that document specific actions that minimize /reduce barriers in work environment that disadvantage one sex (e.g. flexibility of working hours) - Percentage of research institutions that document specific actions aiming to change aspects of their organizational culture that reinforce gender bias - Percentage of research institutions that provide training/support for researchers in regard to the inclusion of gender dimensions in the content of research - Percentage of schools (primary and secondary) that have programmes promoting gender equality issues in regard to career choices	[As used in go-spin] - Percentage of women on advisory committees -Percentage of women in expert groups -Percentage of women on proposal evaluation panels -Percentage of women in projects throughout the whole life cycle (in full-time equivalent) -Percentage of women that are principal investigators on a project -Percentage of women that are first authors on research papers -Percentage of research projects including gender analysis/gender dimensions in the content of research -Percentage of women taking part in research mobility programmes	- Perception of gender roles in science amongst young people and their parents, e.g. percentage of young people who believe that science careers are equally suitable for both women and men; - Percentage of parents who believe their children (daughters) will have equal opportunities to pursue a career in STEM -Perception of people working in the area of R & I in regard to gender equality, e.g. percentage of women in R & I, who believe they have equal opportunities to pursue their careers in R & I in comparison to men

2. STI and Society

*Scientific Culture

Criteria	Performance indicators		Perception indicators
	Process indicators	**Outcome indicators**	
STEM Education	[As used in go-spin]	[As used in go-spin]	
Public engagement	-Number and degree of development of formal procedures for citizens' involvement (consensus conferences, referendum, etc.) -Number of citizen science projects, discriminating from those supported by institutions and those that are created at grassroots level, by field - Number of policies and measures to advance R&D for increasing national material and cultural well-being, sustainable development, human rights, peace and science per se; - Number of public debates on science policy issues and the use of scientific knowledge as related to controversial innovative technologies	Number (absolute and percentage with respect to the total) and the percentage in terms of funding of projects and initiatives (a) led by citizens or civil society organizations and (b) including research done by citizens or civil society organizations (citizen science) Number of advisory committees including citizens and /or civil society organizations Percentage of citizens and civil society organizations with special responsibilities within advisory boards, committees and consultant bodies (chair, rapporteur, etc.) Number of citizens engaged in citizen science projects	Degree of public interest in science and technology issues: percentage of the total population declaring themselves interested; percentage of citizens indirectly showing interest science and technology (percentage visiting science centres, percentage participating in demonstrations about scientific issues, etc.) Expectations of responsible science: percentage of population that sees science as part of the solution rather than the problem; percentage of population with high expectation

3. Research informing Policy

*Scientists Advise Government

Criteria	Performance indicators		Perception indicators
	Process indicators	**Outcome indicators**	
Scientists advise government	-Science Advisor position	-Number of advisory committees	

4. Science is a Common Good

*Openness

Criteria	Performance indicators		Perception indicators
	Process indicators	**Outcome indicators**	
Results available to all	- Number of academic articles and peer reviews that are open-access. - Number of repositories and of datasets that are openly available. - Number of scientific websites developed so to be accessible to everyone. - Number of collaborations between State, universities and journals in changing the traditional patterns toward to Open source and Open Science. - Number of legal, administrative and policy measures that are in place in your country to share or open up research data -data repositories	- Percentage of open consulted publication in the country. - Percentage of citizen who constantly use public repositories to conduct their research. - Number of actions undertaken in disseminating the importance of making scientific knowledge open.	- Citizen's perception of receiving the same access as others to scientific publications. - Degree of public perception in obtaining easily the information they need.

5. Diversity in Science

*Non-Discrimination and Diversity

Criteria	Performance indicators		Perception indicators
	Process indicators	**Outcome indicators**	
Diversity among students and workers	[as used in go-spin] - Number of students (undergraduate and graduate) and their employment (teaching, science and support), as well as for sex, race, ability, etc. - Number of reports published by the State analyzing inclusive participation and policies for it in education and work	[as used in go-spin] - Change of percentage of students that are of groups benefitting from non-discriminatory work conditions and access to education and employment in science	- Perception of students and members employed who think they enjoy equal opportunities.

6. Human Rights Standards

*Human Right to Science

Criteria	Performance indicators		Perception indicators
	Process indicators	**Outcome indicators**	
Article 27 para. 1 of the Universal Declaration / Article 15 of the Convention on Economic Social and Cultural Rights	-Policies exist with explicit objective to ensure protection and respect of range of issues of the human right to science for all (Access to the benefits Opportunities for all to contribute and freedom indispensable for scientific research Participation of individuals and communities in decision-making An enabling environment fostering the conservation, development and diffusion of science and technology). -appeals body exists - Number of measures taken to bridge and reduce knowledge divides, working towards the realization of article 27(1) of the Universal Declaration of Human Rights	[to be determined]	Human rights of scientific researchers, as well as their freedoms are duly guaranteed, protected and respected. A quality of education is guaranteed to all children in which each has an opportunity to attain qualifications in STEM subjects so as to later become a researcher

7. Scientific Freedom and Scientific Responsibility

*Scientific Freedom and Scientific Responsibility

Criteria	Performance indicators		Perception indicators
	Process indicators	**Outcome indicators**	
Human rights, freedoms and responsibilities of scientific researchers	-policies or measures taken to promote: The respect for the autonomy and freedom of research; Freedom of inquiry; Freedom of opinion and expression, freedom to challenge conventional thought, and freedom from institutional censorship; The right to disseminate research results and the protection of publications by copyright law; Freedom of movement; Freedom of association; Freedom of conscience. - Number of policies to advance ecological responsibilities for the present and future generations; At institutional level: - number of institutional policies and funding guidelines recognizing freedoms and responsibilities - number of reports produced by institutions on the policies that they have on these matters - number of complaints and/or -actions/events held to increase human right knowledge	At institutional level, - on the basis of identified non-compliances, a measurable success rate in resolving them-	Human rights of scientific researchers, as well as their freedoms are duly guaranteed, protected and respected. - freedoms and responsibilities of the Recommendation are known
Training of STI workforce	-hours of training in social and ecological responsibilities of scientists required for qualification in disciplines of science - re-training of managers, scientists and other research professionals in order to ensure that ethical principles and practices are maintained and each is supported by the institutional routines of science and technology The inclusion of science ethics related training in university programmes, research strategy/call/work programme, on-line training programmes, mass media and social media, etc. (yes/no, percentage) Capacity building for scientific ethics related training (existence, percentage of funds allocated)	- Percentage of research projects with at least one educational resource deliverable - Percentage of commitments made by students, based on their experience, in support of scientific training courses Presence of science ethics courses in the qualification frameworks for lower and higher education Education institutions/research disciplines: presence of science ethics education/training R & I project level: do they encourage or require science ethics education/training (e.g. in an integrated ELSA model)?	There are programmes and practices implemented that allow students to experience the scientific integrity, scientific responsibility, freedom in the pursuit of scientific truth, interdisciplinary and scientific international cooperation

8. Research Integrity, Research Ethics, and Ethics of STI

*Ethics Infrastructure

Criteria	Performance indicators		Perception indicators
	Process indicators	**Outcome indicators**	
Ethical Governance	Identification of policies and measures taken that promote R&D as part of national policies to advance sustainable human development, justice, human rights, peace based on the best science	- Number of policies and measures to advance R&D for increasing national material and cultural well-being, sustainable development, human rights, peace and science per se; - Number of public debates on science policy issues and the use of scientific knowledge as related to controversial innovative technologies; - Number of policies to advance ecological responsibilities for the present and future generations; - Number of measures taken to bridge and reduce knowledge divides, working towards the realization of article 27(1) of the Universal Declaration of Human Rights	
Promotion of scientific integrity and ethical codes of conduct	Review and where necessary revise existing codes of conduct to ensure consistency with a coherent overarching ethical framework and to eliminate the gaps that have emerged from the institutional development of science - Assess and manage risk, taking account of the precautionary principle, with the objective of clarifying the vigilance required of scientists with respect to possible misuses of science	- Number of ethical codes of conduct adopted or reviewed and revised; - Number of measures taken to assess and duly address “dual use” possible implications of scientific research and its results	

9. Human Capital for Research

*Careers, Mobility

Criteria	Performance indicators		Perception indicators
	Process indicators	**Outcome indicators**	
Attractive Careers	-increase in number of graduates working in research -increase in number of graduates -increase in researchers (FTE) [as in go spin] - Kind of legal recognized “Status” from the state - status given to foreign working force - Number of benefits granted for each country to scientists to attract immigrant skills -policy of talent attraction		
Mobility Promoted	[to be determined]		
Promotion criteria unified	[to be determined]		

10. Enabling Environment for Research

*Infrastructure and S&T services

Criteria	Performance indicators		Perception indicators
	Process indicators	**Outcome indicators**	
Supporting international initiatives	[to be determined]	[to be determined]	
Protection in case of conflict	[to be determined]	[to be determined]	
Data Storage	[to be determined]	[to be determined]	
Intellectual property	[to be determined]	[to be determined]	