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Policy issues: state of the environment

**Programme of Research on Climate Change Vulnerability,
Impacts and Adaptation**

Note by the Executive Director¹

Summary

The present note provides an overview of the Programme of Research on Climate Change Vulnerability, Impacts and Adaptation (PROVIA),² describing its objectives, scope, organizational principles, structure and partnerships, current and future activities and outputs, achievements since inception and governance structure, as well as challenges and future directions. It concludes that measurable progress has been made by PROVIA over the past few years, but that continuous support from Governments and partners is key in order for the initiative to effectively respond to the need for better information on vulnerability, impacts and adaptation for the benefit of Governments and decision makers.

* UNEP/GC.27/1.

¹ Issued without formal editing.

² <http://www.provia-climatechange.org/>

I. The need for coordinated research on climate change vulnerability, impacts and adaptation

1. As governments, communities and civil society prepare to adapt to climate change, they are often confronted with a lack of adequate knowledge about both the impacts of climate change and how to respond to those impacts. Numerous initiatives and programmes exist to collect, monitor and analyze different climate change data, however there has been little coordination of the work of the scientific research community on vulnerability, impacts and adaptation (VIA) to climate change. Consequently, the ability of society to effectively anticipate and adapt to climate change is hampered by, among other challenges, inadequate communication of critical information to decision makers and the absence of a common communication platform where the scientific community can become organized and avail their VIA knowledge to those who need it most.

2. The Programme of Research on Climate Change Vulnerability, Impacts and Adaptation (PROVIA) represents such a communication platform that allows scientists to coordinate their efforts at the international level, particularly in policy relevant areas. PROVIA aims to do so by identifying research gaps and initiating processes to close them, helping the scientific community harmonize, mobilize and communicate the growing knowledge-base on VIA so that governments and other stakeholders are able to fully incorporate climate change challenges and opportunities into their decision making processes.

3. The beneficiaries of PROVIA include, in addition to the VIA research community and governments, multilateral organizations and UN agencies engaged in VIA-related issues, as well as vulnerable communities who serve to benefit from the enhanced knowledge and information that PROVIA will broker.

II. Programme of Research on Climate Change Vulnerability, Impacts and Adaptation (PROVIA): objectives, scope, organizational principles, structure and partnerships

A. Objectives

4. PROVIA has a number of objectives that respond to a call from governments for interactive solutions rather than additional reports. PROVIA addresses the need for society to better understand and adapt to the risks of climate change. It is intended to be a new and vitally important interface between the scientific community and decision makers, improving the availability and accessibility of VIA knowledge to those who require it.

5. PROVIA has two overarching objectives:

- i. To advance research on climate change vulnerability, impacts and adaptation; and
- ii. To coordinate and facilitate the dissemination and practical application of this research for the benefit and value of society.

6. PROVIA has several specific objectives:

- i. To build a new and important interface between the scientific community and decision makers and other stakeholders involved in VIA issues;
- ii. To promote communication within the community of scientists working on VIA issues by providing a platform for exchanging new research results, encouraging cooperative work on specific research challenges, and providing a forum for improving the quality of research;
- iii. To identify VIA research gaps, priorities and critical emerging issues that are important to both the science and policy communities;
- iv. To provide a new avenue by which decision makers can solicit scientific input to new critical policy issues;
- v. To provide an information-clearinghouse on current and emerging VIA issues; and
- vi. To contribute to the capacity-building of young scientists in developing countries to carry out scientific assessments of climate change VIA.

B. Scope

7. PROVIA's scope of work currently includes coordinating global VIA research priorities, providing scientific advice to the UNFCCC process on adaptation, strengthening communication within the VIA research community and revising technical guidelines on VIA assessment methods (see section III for details).
8. PROVIA has been developing in three phases. The scope, range, and resource needs for the functions and core services of PROVIA are expanding from one phase to the next.
 - i. **Phase One, Start-up Phase:** This phase ran from 2010 through 2011. During this period the governance structure and an interim Secretariat were set up with in-kind support from UNEP. The PROVIA Scientific Steering Committee agreed upon four initial activities (see Section III) and detailed implementation plans. Detailed plans for Phase Two were also decided upon. Communication and outreach were an important aspect of the first phase, with letters being sent to experts introducing PROVIA.
 - ii. **Phase Two, Operational Phase:** This phase runs from 2012 through 2013. During this period PROVIA is focusing on its four initial activities and communicating the results of the activities to a wide range of stakeholders. During 2013 decisions will be taken on the longer-term funding and size of the PROVIA Secretariat to effectively sustain the initiative.
 - iii. **Phase Three, Production Phase:** From 2014 onwards, PROVIA will be fully operational. During this phase PROVIA will continue its coordination of major research activities related to VIA.

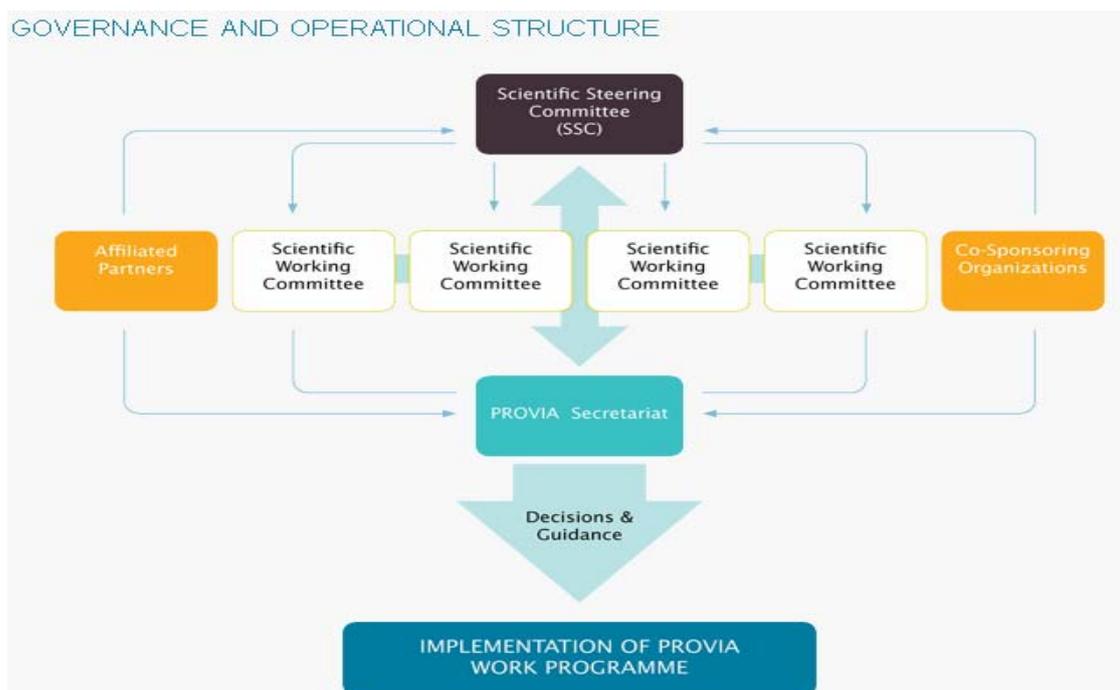
C. Organizational principles

9. PROVIA is a self-organizing and self-governing, open-ended initiative. It represents a dynamic global network of scientists, practitioners and decision-makers, who voluntarily collaborate to achieve PROVIA's objectives that they have agreed upon through a transparent participatory consultative process.
10. PROVIA is open to new collaborative partners, as well as cooperation with other knowledge networks and initiatives, while striving to promote a greater science-policy dialogue to meet policy needs in climate change vulnerability, impact and adaptation research.
11. Acknowledging emerging strategies, new scientific developments and lessons learnt from past programmes, PROVIA strives to deliver credible scientific information that is being increasingly requested by the decision makers.

D. Structure

12. PROVIA is developing as a collaborative effort between UNEP and partners. It is working closely with various research institutions, national and international organizations, scientists and other stakeholder groups in the VIA community (see Figure 1 for PROVIA's governance and operational structure).
13. The governing body of PROVIA is the Scientific Steering Committee (SSC). The SSC is an international body that sets the general scientific direction of PROVIA and supports efforts to communicate findings to scientists, policy makers and other stakeholders. It also provides guidance to the Secretariat in the implementation of the Work Programme and establishes Scientific Working Committees. The SSC is comprised of a Chair and up to 20 distinguished members from the scientific community at large, including ex officio members from co-sponsoring organizations. The members represent different regions as well as a wide range of disciplines and research areas related to climate change VIA. The SSC has been functioning since November 2010.
14. UNEP hosts the Secretariat to PROVIA and provides limited financial resources to support priority activities. The Secretariat administers the Programme's day-to-day operations, finances and overall Programme of Work. It also supports the Scientific Steering Committee (SSC) and Scientific Working Committees, and assists in formulating the scope of PROVIA and implementing its core activities and outputs through the Working Committees.

Figure 1: PROVIA governance and operational structure



E. Partnerships

15. Partnerships are fundamental to achieving PROVIA's objective of providing direction and improving international coherence for VIA research. PROVIA is working closely with various research institutions, global change programmes of the Earth System Science Partnership (ESSP) and the Intergovernmental Panel on Climate change (IPCC)³.

16. PROVIA also seeks to partner closely with various knowledge networks and platforms such as the Global Framework for Climate Services, the Global Adaptation Network and other affiliated scientific partners, while also improving communication between these networks.

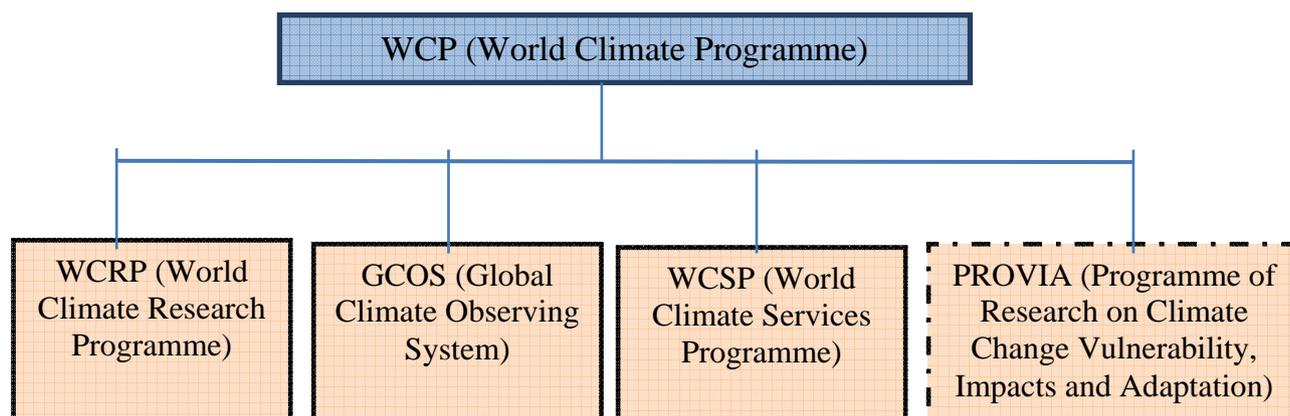
17. PROVIA has been welcome to contribute to the recently restructured World Climate Programme (WCP). The new WCP structure (figure 2) was adopted by a resolution of the Sixteenth World Meteorological Congress in 2014. The World Climate Impacts Assessment and Response Strategy Programme (WCIRP) was originally one of the four components of the WCP. It was proposed to formally close the WCIRP and to replace it with PROVIA to promote wider partnership and coordination, especially with the Global Framework for Climate Services (GFCS), a UN initiative to promote better climate risk management at all levels. Member States expressed a clear interest in PROVIA's potential contribution. Therefore the Congress authorized the WMO Executive Council to assess UNEP's request to replace WCIRP with PROVIA, duly considering its scope, governance structure, funding arrangements, and priorities vis-à-vis its relation with GFCS, and take an appropriate decision in this regard.

18. Consultations on the roles and participation of UNESCO in PROVIA are also underway. WMO and UNESCO are considered as strategic partners to UNEP in developing PROVIA from 'interim' to 'full' status by 2014.

³ http://www.ipcc.ch/meetings/session35/Inf4_matters_unfccc-other_int_bodies_provia.pdf

⁴ Resolution 18 (Cg-XVI)

Figure 2: New World Climate Programme structure



Note: UNEP proposal to include PROVIA as a fourth component of the World Climate Programme (WCP) is under consideration.

III. PROVIA activities and outputs

19. The SSC identified four priority initial activities that are now well underway. The outcomes of these activities will be reported to a wide range of stakeholders, including governments, international agencies, private sector entities and the expert community. Based on these outcomes PROVIA will inform the UNFCCC and will assist in developing procedures and guidance leading to the development of National Adaptation Plans.

- i. **Activity 1: Defining global research priorities to support adaptation planning and implementation.** PROVIA has developed a list of global VIA research priorities through a series of activities aimed at identifying research gaps, and through dialogue with both the science and policy communities. The gap analysis was based on a broad range of sources including the Intergovernmental Panel on Climate Change (IPCC) Working Group II reports, peer-reviewed articles, books, workshop and meeting proceedings, and consultations with individual experts.

A summary of findings was presented at various meetings including the ‘Planet under Pressure’ Conference in London, UK in March 2012⁵; the 2012 International Conference on Climate Adaptation in Tucson, USA (May 2012)⁶ and the Rio+20 Conference (Rio de Janeiro, Brazil) in June 2012.

PROVIA will launch an official report on the global VIA research priorities in February 2013. Follow-up activities will include, but will not be limited to, expanding the global research priority topics into a research action plan to support international VIA research, and using the list of research priorities as a background document to support upcoming sessions of the UNFCCC.

- ii. **Activity 2: Provide advice and scientific information to the UNFCCC and other international bodies, to enable more effective adaptation.** PROVIA is, in a number of ways, an active provider of scientific information to the UNFCCC process, and is now a designated partner of the Nairobi Work Programme (NWP). The NWP is undertaken under the Subsidiary Body for Scientific and Technological Advice (SBSTA) of the UNFCCC to, *among others*, improve understanding and assessment of VIA to climate change. PROVIA was also involved in the Research Dialogue of the SBSTA in 2011 as well as in the preceding workshop in June 2011⁷. In 2012, PROVIA participated in the SBSTA Research Dialogue by presenting the draft PROVIA list of global research priorities⁸.

⁵ <http://www.planetunderpressure2012.net/relatedconferences.asp>

⁶ <http://www.adaptation.arizona.edu/adaptation2012>

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http://unfccc.int/files/methods_and_science/research_and_systematic_observation/application/pdf/03-klein_provia.pdf

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http://unfccc.int/files/methods_science/research_systematic_observation/research_dialogue/application/pdf/15_provia_rosenzweig.pdf

PROVIA was present at COP-18 in Doha, with the objective of communicating information to the UNFCCC, governments, international agencies and VIA experts. PROVIA organized a side event featuring a panel discussion that included SSC members and other experts. An overview of the PROVIA research priorities was presented at the side event, with the intention of initiating further dialogue and research coordination among VIA experts and the policy community. The final VIA research priorities report will be available in February 2013.

- iii. **Activity 3: Strengthen communication within the Vulnerability, Impacts and Adaptation Research community and provide an interface with stakeholders affected by climate change.** PROVIA is promoting communication of VIA information through a number of mechanisms, including the PROVIA website (<http://www.provia-climatechange.org>). There is now an established biennial PROVIA International Adaptation Conference that brings together research scientists, policy makers and practitioners from developed and developing countries to share knowledge about adaptation challenges and opportunities. The 2nd Conference was held in Tucson, USA in May 2012. Nearly 700 participants from over 60 countries shared insights into the challenges and opportunities that adaptation presents⁹. The 3rd International Adaptation Conference will be hosted by the Earth System Science Center-National Institute for Space Research in Fortaleza, Brazil in 2014.
- iv. **Activity 4: Improving practices of assessing climate change vulnerability, impacts, and adaptation.** PROVIA is producing a guidance document on methods for climate change impacts, vulnerability and adaptation assessment. The document will be available in March 2013.

20. PROVIA is exploring possibilities to summarise and synthesise the PROVIA guidance report into a document that could complement the UNFCCC Guidance targeted specifically at the National Adaptation Plans (NAPs). The PROVIA Guidance is designed in a way to allow easier updating, making the Guidance a living document. In addition, the Guidance could be used to prepare training modules and materials targeting potential users. The UNFCCC process for preparing NAPs was agreed at COP-16 in Cancun, Mexico. The UNFCCC Secretariat is currently preparing technical guidance to support NAP preparation, which takes place in parallel with the development of the PROVIA Guidance.

All four of the current activities will continue to be in the core of PROVIA work in the next three years.

21. To ensure complete and satisfying achievement of the four activities, the following indicators will be monitored and verified, see table 1:

Table 1: PROVIA indicators of success and means of verification

Indicator	Means of verification
Strong link between PROVIA and the VIA scientific/research community is established.	References to PROVIA and PROVIA outputs by decision makers at national and sub-regional levels in developing countries.
Facilitating communication to policymakers and civil society of the latest results from the VIA community. Gaps in VIA research and emerging issues are identified.	Analysis of government decisions, meeting reports, publications and websites.
New interface between the scientific community and policymakers involved in VIA issues is established.	Analysing access of target audiences to relevant climate change assessments and information.

A. Proposed new activities

22. The SSC has proposed new activities based on the following criteria: a) high measure of need and value added; b) high likelihood of achievability; c) clear alignment with UNEP's Programme of Work, and d) strong relevance to the objectives of PROVIA. Proposed new activities include:

⁹ <http://www.adaptation.arizona.edu/adaptation2012>

- i. **Evaluation of current and past adaptation approaches.** At present very large scale funding is being considered for climate adaptation (a target of c. \$100 bn per annum together with mitigation) but relatively few methods and technologies of adaptation have been properly evaluated, especially of adaptation in practice. Nevertheless, a substantial number of projects have already been carried out. What lessons are to be learned from this experience? How can this experience best be conveyed to adaptation planners so as to get the most out of adaptation investments? Findings will be communicated immediately to a wide range of climate change affected stakeholders.
- ii. **Designing methods for monitoring the success of new impact and adaptation studies.** To ensure that adaptation planners have a quick learning curve it is important to set up effective monitoring and evaluation procedures for all new projects. How should this be done? How can we measure the effectiveness of adaptation? How can we design successful systems for detecting climate impacts? These are some of the critical questions to be addressed in this activity.
- iii. **Developing and analysing scenarios of climate adaptation and socio-economic trends.** The next generation of impact and adaptation assessments requires an analysis of future socio-economic and adaptation conditions. These conditions can be described in the form of scenarios which can address questions such as: What adaptation will be needed between now and 2030 to cope with early impacts? Or, what are the likely unavoidable climate impacts beyond 2030? PROVIA will both lead in the development of new scenarios, and write/publish an accessible guide to the methods of scenario development for Vulnerability-Impact-Adaptation assessment.

23. PROVIA is consulting with other stakeholders on how it can guide UNEP to establish a robust scientific evaluation process to help the UN and other organizations improve effectiveness/efficiency of adaptation projects, while also ensuring that adaptation projects are conceptualized and implemented based on the best available scientific knowledge. One of the areas for PROVIA to contribute is the development of a framework for a robust scientific evaluation and monitoring of adaptation projects.

24. PROVIA had a meeting with the UNFCCC Secretariat to discuss PROVIA's involvement either as a member or observer to the Adaptation Committee. Such involvement by PROVIA would promote the implementation of enhanced action on adaptation in a coherent manner and contribute to the Adaptation Committee's activities, such as monitoring and evaluating National Adaptation Programmes of Action (NAPAs), providing guidance to assess NAPAs and developing training modules and materials targeted at users of the guidance. PROVIA could be an important contributor to work on the Review of the Adequacy of the Global Goal to limit global average temperature rise; and could contribute to some of the scientific aspects of the Work Programme to consider approaches to address loss and damages, such as attribution and risk assessment.

IV. Challenges and future directions

25. There are a number of challenges that PROVIA faces in establishing itself as a robust, effective programme that meets the needs of its stakeholders. UNEP, the PROVIA SSC and partners are working to overcome these challenges.

A. Resource Constraints

26. While the SSC has agreed on several activities to support PROVIA's objectives, PROVIA remains constrained by a very limited level of resources. PROVIA is seeking sustained sources of funding for the Secretariat and supporting activities in order to ensure its strengthening, and increased presence and credibility among the VIA community. The PROVIA Secretariat also has limited staff, while the activities of PROVIA continue to increase in number and scope. The PROVIA Secretariat will need to grow in order to carry out all of these activities effectively, especially as PROVIA continues to increase in visibility and prominence. PROVIA is cooperating with partners to develop a Resource Mobilization Strategy. The Strategy will include concrete actions and time lines to successfully obtain sufficient resources.

B. Partnerships

27. A key strategy to achieving PROVIA's goals is establishing robust partnerships with other agencies, governments and stakeholders. These partnerships will partially offset some of the resource constraint challenges that PROVIA faces and will also help PROVIA reach a wider community of researchers and practitioners. Partnerships also allow PROVIA to better meet the needs of its stakeholders, by coordinating its activities with others and bringing in the expertise of other partners.

28. While UNEP has formed partnerships with WMO and UNESCO in developing PROVIA, such links could be made stronger, especially in coordinating PROVIA with other relevant bodies such as the Global Framework for Climate Services and the World Climate Programme. PROVIA is seeking wider government recognition and support so as to encourage strengthening of its existing partnerships and form additional partnerships.

C. Visibility

29. One of the key goals of PROVIA is to promote communication and dialogue within and between the science and policy communities. For PROVIA to serve as a platform for this communication, it needs increased visibility as a robust, credible and effective mechanism for knowledge exchange. PROVIA's visibility is expected to increase as it evolves. PROVIA is cooperating with partners to develop an Outreach and Communication Strategy and a follow-on Implementation Plan. These will provide a robust framework for communications and outreach and will articulate clear steps to effectively implement the recommended strategy. In particular the strategy implies increasing PROVIA's visibility through a more informative website, quarterly newsletter and submissions by SSC members to reputable scientific journals.

V. Conclusions

30. PROVIA responds to the need for a single, credible programme that coordinates VIA research globally; a need for better dialogue between the research and policy communities; and a need to prioritize VIA research and communicate this prioritization to research practitioners, governments and international agencies. PROVIA is expected to help the scientific community to become more organized and communicate vital VIA information, increasing the ability of societies to effectively anticipate climate change impacts and adapt.

31. PROVIA has made progress on its four initial activities and two related publications: a list of global VIA research priorities, released at the end of 2012 and a guide to climate change VIA assessments, to be released by March 2013. PROVIA will continue working on the four priority activities and communicating results to various stakeholders, and will also commence work on a set of new priority activities that will improve understanding and coordination of VIA research. However, as PROVIA continues to deliver, it faces a number of constraints. PROVIA requires strong and continuous support from governments and partners in order to more effectively respond to the need for better VIA information for decision makers.
