

National Development Plan

# MONTENEGRO

November 2017

## Introduction

The goal of this plan is to promote the development of data services for the social sciences in Montenegro, to give an overview of larger strategic considerations in conceiving and establishing a national data service, and to bring the attention of relevant stakeholders to the key issues in development planning.

The plan was compiled based on the results of the recent SEEDS - South Eastern European Data Services project, which dealt with issues around establishment of data services in Montenegro. Ms. Nikoleta Tomović (nikoleta@cemi.co.me) from the Centre for Monitoring and Research (CeMI), who was the author of relevant SEEDS project deliverables, was involved in the development of this plan. The plan was also shared and discussed with Ms. Zorana Lakićević from the Montenegrin Ministry of Science. The plan follows the Guide for the elaboration of national data service development plans, produced for the CESSDA SaW project by FORS - Swiss Center of Expertise in Social Sciences, and some parts of the text are taken directly from the Guide.

### ***The benefits of establishing a national data service***

Conducting empirical research in the social sciences is often extremely extensive and financially demanding, especially if it aims for analysis of complex phenomena on a representative sample. During such research, large amounts of data are collected, which can not be reproduced because phenomena that are studied change over time.

Because data are often not appropriately preserved by researchers, they may be lost or become unusable over time. This represents a loss of potential knowledge and cultural heritage. The data service, through appropriate procedures, policies, tools and infrastructures, ensures long-term preservation of data.

From a research policy perspective, there are benefits of national data services to scientific communities that justify the needed investments. First, through their core activities - data preservation and dissemination - data services make possible long-term access to and wider and more effective use of existing data. This means that publicly-funded data are used more fully beyond their original purposes, and that research funders can concentrate on financing fewer new data collections. Indeed, data gathered for original research can be further exploited by “secondary” users for new insights and scientific contributions. Recent work by Beagrie et al.<sup>1</sup>

<sup>1</sup> Beagrie Neil, John Houghton, Anna Palaiologk, and Peter Williams. (2012). Economic Impact Evaluation of the Economic and Social Data Service. Available <http://www.esrc.ac.uk/files/research/research-and-impact-evaluation/economic-impact-evaluation-of-the-economic-and-social-data-service/>

demonstrates the economic benefits of national data services.

Second, data services strengthen research practice and quality by rendering research more transparent and open for replicability. By making data and related documentation available for scrutiny, original research can be tested and evaluated, a key pillar of the scientific method. Also, knowing in advance that the data could be used by others in the future is a way to ensure better quality in methods.

Third, more and more funders and journals are requiring that data be deposited at and available to researchers for secondary use and replication - having archives and repositories as places to store and disseminate data makes possible these requirements. Finally, the easy availability of secondary data brings value to university teachers and students, who benefit from having data to train and illustrate methods and concepts in their courses and projects.

### ***How to use this document***

The document is divided into three main sections. In the first two sections, a concept for a future national data service has been developed, that is, the model and key features that are to be put into place. First, we state the overall mission of the data services and then continue to describe the general desired features of the data service, the main objectives, and structure of the data.

In the third section, the previously developed concept is evaluated in relation to realities on the ground, including probable resources and challenges for setting up and maintaining a viable data service over time. This includes subsections on identifying the host institution for the data service, defining the human resources required (number and types of staff, internal structure), and identifying potential partners among the existing network of relevant national and international organisations.

## Mission

The mission of the **Montenegrin Social Science Data Archive (MSSDA)** is:

- » to offer a database of well-documented quantitative and qualitative data to be available for researchers and a broader public;
- » to preserve data and documentation long-term;
- » to promote the use of social science data, culture of data sharing, and secondary analysis; and
- » to facilitate international visibility of Montenegrin social science research within the European research area (ERA).

## General features of the data service

### ***Definition of organisation***

The Montenegrin Social Science Data Archive (MSSDA) is a national data service infrastructure for long-term preservation and distribution of social science research data produced by Montenegrin researchers. The data service is housed within a larger organisation to avoid additional costs for administrative and financial services. The main purpose of the data service is to provide support in data management and data archiving in the field of social sciences and related disciplines and to promote the re-use of data in secondary research.

### ***Scope of collection***

The focus of the data service is on both quantitative and qualitative data in the social sciences. The data in the area of sociology, psychology, education sciences, law, political science, economics, business and management, and other social science disciplines are included in the collection. Contemporary, as well as historical data, are considered for archiving by the data service.

### ***Services and activities***

The key services of the MSSDA are curation and long-time preservation of data, and data dissemination. MSSDA selects and acquires research data and documentation, maintains the catalogue of archived data, and provides access to public and restricted data. Open access is provided for public data. However, different levels of access are defined for restricted data (such as funder determined access, depositor-determined access), and access to sensitive data can be provided under special protocols. Permanent monitoring of compliance with the international standards in the field of data management and preservation is one of the main principles in conducting the service.

Support and training in data management and data re-use for researchers are also provided by the MSSDA. Promotional activities and outreach to users should be part of the regular activities of the data service together with the wider promotion of Open Access to data.

Additionally, depending on available resources, the MSSDA develops materials and training for data depositors and for data users. Providing access to online tools for data analysis and variable exploration (creating tables, graphs and other analytical results) can also be developed in the future.

### ***Beneficiaries***

The primary recipients of the services offered by the MSSDA are researchers and teachers from public research and education institutions (universities, scientific institutes, government agencies) and university students (doctoral, master, and/or bachelor). Also, policymakers and research funders can use MSSDA services in decision-making (using the data itself for evidence), for science policies development, and in evaluation (getting statistics about data archiving and data use among researchers). The MSSDA services can also be used by researchers from NGOs and private research companies, secondary school teachers and students, journalists, businesses, and professional organisations. The data and the services should be freely available for research purposes and/or for non-commercial use.

### ***Governance structure***

The MSSDA joint Oversight Board consists of representatives of the funding institutions and the hosting institution representative. The role of this board is to review annual plans and annual reports of the data service and to ensure that the work is in line with the goals and strategies of institutions to which the service belongs.

The Scientific Advisory Board consists of eminent researchers in social sciences, data archiving experts, information science experts and information technology experts. This board advises on issues related to social science methodology and data archiving procedures.

The Executive Board is composed of the data service director and the head of the host institution. A director is responsible for overall management of the data service.

### ***Financing schemes***

The data service, as a national infrastructure, should be financed from public funds to ensure its long-term operation and sustainability. The possible funding sources for the data service are the Ministry of Science, the Ministry of Education, and Montenegrin Academy of Arts and Sciences. Additional funds will be provided by domestic and international funding organisations.

The financing model for the establishment phase should be different than the model for financing day-to-day operations after the establishment of the data service. During the establishment phase, the costs for procuring office and technical equipment have to be considered. Once the service is established, the regular budget should cover the costs for staff and maintenance of technical infrastructures, and also the membership in CESSDA-ERIC to ensure connections with the European community of social science data archives and to be able to receive support from

this community.

## Description of resources and challenges

### ***Host institution of the future data service***

The national data service for the social sciences could be hosted by the Centre for Monitoring and Research (CeMI) as a service of the Ministry of Science and the Ministry of Education of Montenegro. CeMI is a non-governmental, non-profit organization, whose main goal is to provide infrastructural and expert support for continuous monitoring of the overall process of transition in Montenegro. Its mission is an evidence-based advocacy organization which provides continuous support to the process of democratic consolidation and Europeanization of Montenegro. CeMI is well integrated into existing national networks, with links to universities, research institutes, NGO sector and other institution producing social sciences research.

Most relevant to data services development in Montenegro is the fact that CeMI was involved in the international project SEEDS - South-Eastern European Data Services<sup>2</sup> whose aim was to support the establishment of new data services for social sciences in countries where no such services exist. During the course of the SEEDS project, an establishment plan for data services was developed and data archiving policies and procedures were written<sup>3</sup>. Also, the prototype data archive website was set up<sup>4</sup>. Through that work, CeMI staff gained experience and developed skills in data curation.

### ***Human resources and internal structure***

The data service should employ experts in data management and data archiving. They will be responsible for all aspects of the archiving workflow, including data solicitation, curation, and dissemination. The data experts should optimally have a background in social sciences and information sciences, but could also have a background in related disciplines, such as data science or statistics. Main activities of a data expert include: solicitation of data, data and documentation processing (ingest), data curation and preservation, dissemination of archived data, creating contracts for data depositors and data users, providing information and advice to researchers and students.

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<sup>2</sup> SEEDS project was funded by the Swiss National Science Foundation and the Swiss Agency for Development and Cooperation. <http://www.seedsproject.ch>

<sup>3</sup> SEEDS project deliverables are available at [http://seedsproject.ch/?page\\_id=64](http://seedsproject.ch/?page_id=64)

<sup>4</sup> Prototype data services website for Montenegrin Social Science Data Archive. <http://me.seedsproject.ffzg.hr>

In addition to data managers, the data archive must have IT support available. IT expert shall be responsible for the overall technical support of the system, ensuring the appropriate functioning of the data service in its storage, preservation and dissemination activities, and maintaining the website of the data services.

As legal advice is also necessary for the data service activities, a legal expert has to be available to give advice related to copyright issues and protection of personal data.

At the beginning, the data service should employ at minimum two data experts, one of which needs to take a management role as the Director of the data service. Staff will be subject to the rules and regulations of the hosting institution.

The engagement of professional and highly qualified candidates for all positions in a data service is very important. The search for suitable candidates will require detailed job descriptions that are appropriately publicized. If the positions are taken over by existing staff, it should be clarified which of their responsibilities are to be transferred and which are to be maintained.

Staff hired for the data service should begin training with respect to their future roles and responsibilities. Some training activities have already begun as part of the SEEDS project and the knowledge could be transferred to newly employed staff.

### ***Partner support and cooperation***

On the national level, it is very important for the data service to be recognised as a valuable national service by all relevant institutions that are part of the science community and higher education system. Stakeholders and partner institutions should include:

- » The Ministry of Science and its Sector for Scientific Research Activity which performs administrative tasks related to this field and professional tasks related to:
  - the implementation of programs of common interest through which priorities are implemented in this sector;
  - development of plans and programs of scientific research activities;
  - making scientific policy and strategy; proposing and implementing laws and other regulations;
  - harmonization of laws and regulations with EU regulations;
  - drafting regulations on scientific and technological cooperation between Montenegro and other countries (agreements, treaties, protocols, programs);
  - Montenegro's participation in multilateral, regional and bilateral programs and projects relating to science, research and development;

- project implementation in the field of science financed from the EU pre-accession funds - IPA and other international funds;
  - implementation of bilateral scientific and technological cooperation between Montenegro and other countries;
  - promoting EU Framework Programme and other programs of international cooperation;
  - organization and coordination of the NCP (National Contact person for the Framework programs) and individual programs or parts of programs;
  - monitoring of the implementation of the strategy of scientific research activities in Montenegro;
  - program of the Ministry for scientific and research activities;
  - report on the work of the Government in the field of scientific research;
  - licensing of research institutions and keeping a register of institutions;
  - management of databases in the field of scientific research activities in accordance with the law;
  - and other activities within its scope.
- » The Ministry of Education, which is responsible, in this field, for the development of higher education system in Montenegro;
  - » The Ministry of Public Administration, which has no direct competences when it comes to establishing research data archives, but gives support regarding software and related issues;
  - » The Council for Scientific Research Activity, which analyses issues related to science in Montenegro and achievements in scientific research activity, makes expert proposals and opinions regarding all issues in this field, and thus contributes to improving scientific research activity in Montenegro;
  - » Montenegrin Academy of Sciences and Arts;
  - » All relevant public and private scientific and research institutes; public and private universities;
  - » The National Library and academic libraries of all Montenegrin universities;
  - » Think tanks and NGOs, which are engaged in social science research activity, and which promote the concept of open data.

### ***Local challenges***

One of the challenges is that researchers in Montenegro are currently not fully aware of the benefits of sharing their data with other researchers. Also, a practice of using secondary data in research is not very common. On the other hand, that can be the reason to push forward the development of data services, as a way to promote the culture of data sharing in Montenegro. A strong political will is needed to make this happen.



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