South-Eastern European Data Services

D5 – Policy and procedures: Albania

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Name	Short Name	Country
Faculty of Humanities and Social Sciences University of Zagreb	FFZG	Croatia
Centre for Monitoring and Research, Podgorica	CeMI	Montenegro
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Institute for Democracy and Mediation, Tirana	IDM	Albania
Institute of Economic Sciences, Belgrade	IES	Serbia
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1. Introduction

There is a growing awareness about data sharing among international organisations, national science organisations, research funding bodies, data services, universities and researchers, on the one hand but also the growing needs for proper tools, mechanisms and instruments aimed at providing trustworthy long-term preservation of research data. Data sharing enables the reuse of data by researchers who did not generate these data themselves, thus leading to greater efficiencies and more research. Data sharing also stimulates the usage of data beyond research in academia. Ultimately, data sharing leads to a higher return on investment. Data sharing furthermore makes science more transparent and facilitates replication of research by others.

A crucial perquisite for any existing or aspiring data service are a set of clearly defined, written down, core policies in order to achieve trust among those stakeholders.

Through their core activities – data preservation and dissemination – data services make long-term access to and wider use of existing data possible in the first place. This means that publicly-funded data are used more effectively, beyond their original purposes (secondary use). It goes without saying, that data services, as a key stakeholder, have to develop a transparent set of policy and procedures that support internal data management procedures across the whole data life-cycle and ensure accountability and allow for external quality control. Accountability and transparency are key factors for creating trust by funders and researchers.

Three main models and guidelines that serve as a foundation for this policy and procedures document are outlined in chapter 2. The following chapters focus on the policies of the future data service. They are represented in a three-layered policy structure: The high-level organisational infrastructure (chapter 3), the descriptions of digital object management procedures as a data lifecycle approach (chapter 4), and the segments on technical infrastructure, security and risk management (chapter 5). The policies are for the time being described in one document. As the future data service starts to take shape, and services start being more distributed, the different policies can be developed further into separate different documents (strategies and programs).

2. Conceptual frameworks

2.1 CESSDA Maturity model

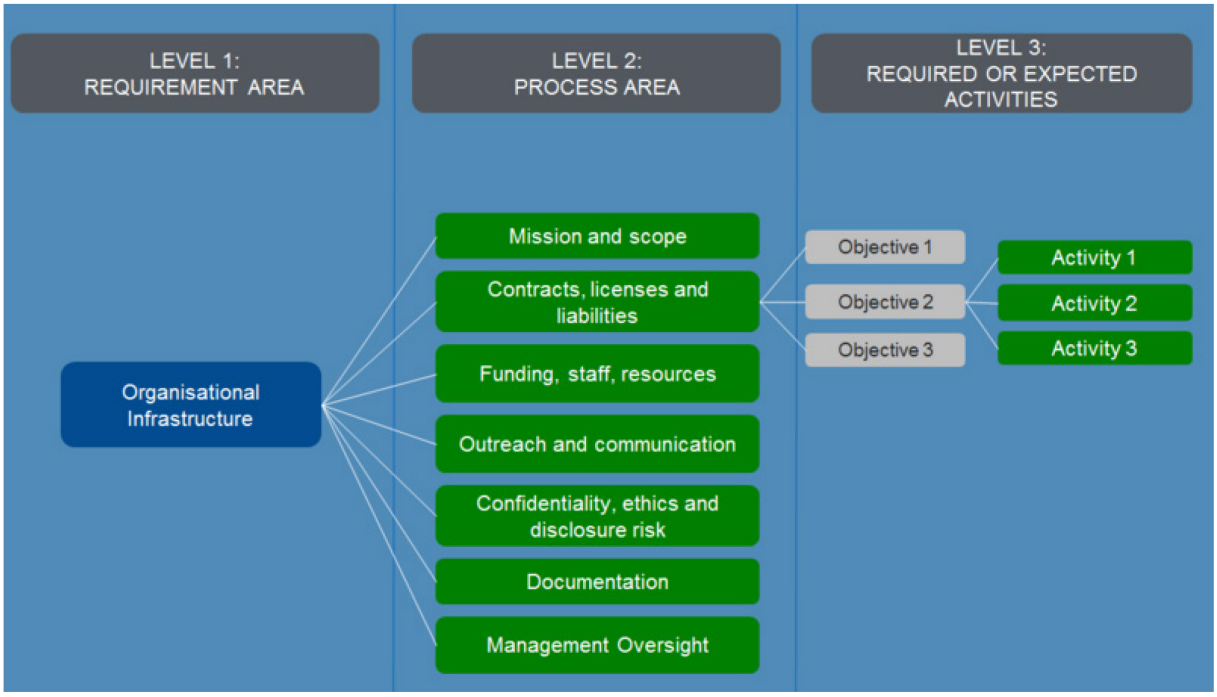
The first model that acts as a makeshift is the CESSDA SaW Capability Development Model (CESSDA-CDM)[1]. It aims to provide a structured view of processes across an organisation (data service or research infrastructure) and it can be used to set process improvement goals and priorities, provide guidance for quality processes and activities, and provide a benchmark for assessing and appraising current practices. The CESSDA-CDM was generated in the realm of the CESSDA SaW[2] project as a tool to evaluate social science data archives and services in European Research Area (ERA) countries, to identify gaps and bottlenecks in existing data services, and to produce national development plans to close the gaps and overcome present barriers.

[1] http://cessdasaw.eu/content/uploads/2016/06/D3.1.pdf.
[2] http://cessdasaw.eu/.

It is a structured collection of elements that identify and describe the characteristics of effective preservation processes and activities. Building on established frameworks for trustworthy data preservation and the CESSDA community's prior experiences, the model provides both a starting point for emerging preservation initiatives and a reference tool for established data services that wants to strengthen their services. It is a model that can be used to appraise and/or improve the capability of a data service to perform and to provide services.

The CESSDA-CDM takes its cue from the Reference Model for an Open Archival Information System (OAIS) (see chapter 2.2) and the European Framework for Audit and Certification (also known as Trusted Digital Repository EU) (see chapter 2.3).

The CESSDA-CDM is hierarchical. On the highest level, the model focuses on three main subject areas, so called Capability Requirement Areas (CRA), which describe on a high-level, the main objectives and principles of a data service. Each CRA is divided in various Capability Process Areas (CPA), which each has its own purpose. Within each CPA there are several activities defined to achieve the objective(s) of that CPA.

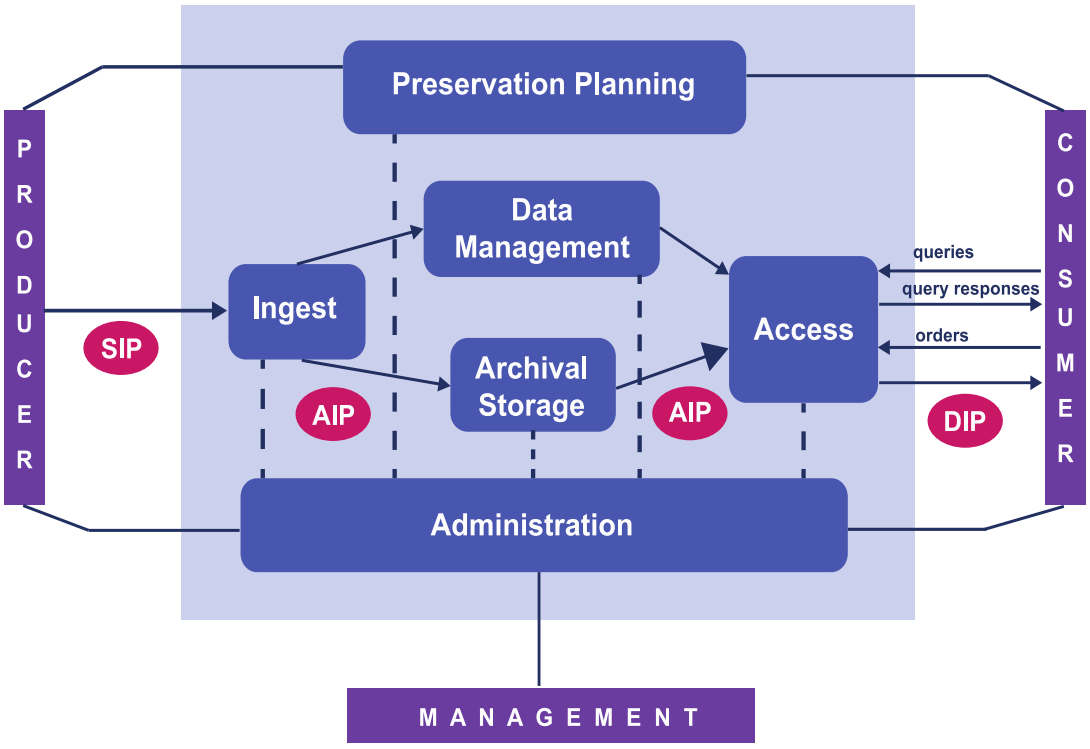


CESSDA SaW Capability Development Model (CESSDA-CDM), in: CESSDA SaW, Deliverable 3.1 Heuristic Maturity Development Model, 2016, p. 11 (http://cessdasaw.eu/content/uploads/2016/06/D3.1.pdf).

2.2 Open Archival Information System Reference Model (OAIS)

The policy domains put forward in this document correspond to functional areas within the Open Archival Information System Reference Model (OAIS). The OAIS model is a conceptual framework for an archival system dedicated to preserve and maintain access to digital information over the long term. The OAIS model specifies how digital material should be preserved for a community of users (Designated Community) from the moment digital material is ingested into the digital storage area, through subsequent preservation strategies, to the dissemination of digital material for the end user.

The OAIS model differentiates three so called Information packages which all are connected and relate to each other. They were developed in order to better describe the different handling and varying activities in digital preservation. The information package that is ingested into the archive is called Submission Information Package (SIP). Once in the archive, the SIP is enriched with metadata and converted into an Archival Information Package (AIP), which represents the form in which the digital information is actually stored for the long term. The AIP's are made accessible through the so called Dissemination Information Packages (DIP), which are generated for a specific user group according to certain legal requirements. Three principal actors, known as Producers, Consumers and the Management are interacting within six functional entities, Ingest, Data Management, Archival Storage, Preservation Planning, Access and Administration.[3]



Reference Model for an Open Archival Information System (OAIS); CCSDS 650.0-M-2; Consultative Committee for Space Data Systems: Washington, DC, 2002, p. 4-1 (https://public.ccsds.org/pubs/650x0m2.pdf).

2.3 DSA and DSA-WDS

The Data Seal of Approval (DSA) was developed in 2008 by DANS (Data Archiving and Networked Services) in the Netherlands. It has been further developed, expanded and internationalized and handed over to an international board in 2009. The DSA involves 16 guidelines for applying and verifying quality aspects concerning the creation, storage, use and reuse of digital data. The guidelines serve as the basis for awarding the Data Seal of Approval by the DSA Board.[4]

[3] In addition to the OAIS model that supposes that the ingest procedure starts with SIPs that after some handling become AIPs and can be ingested, we feel that there is a need for an extra stage in the ingest procedure: pre –ingest. In this pre-ingest stage the received material will be checked on various aspects, which are fundamental to make a decision whether the material should be accepted to enter the repository in the first place (see chapter 4.1.2).

[4] http://www.datasealofapproval.org/media/filer_public/2014/10/03/20141003_dsa_overview_defweb.pdf

The DSA is part of the European Framework for Audit and Certification (also known as Trusted Digital Repository EU). The European Framework for Audit and Certification is a collaboration between Data Seal of Approval, the Repository Audit and Certification Working Group of the Consultative Committee for Space Data Systems (CCSDS)[5] and the DIN Working Group "Trustworthy Archives – Certification"[6]. The framework consists of three trust and certification models: the DSA (Data Seal of Approval)[7], the DIN 31644 (the Nestor seal for trustworthy digital archives)[8] and the ISO 16363 (audit and certification for trustworthy digital repositories)[9]. The DSA guidelines can be seen as a minimum set of requirements and as a lightweight approach in this framework.

There are currently just over 60 data services which obtained the Data Seal of Approval by the end of 2016. Through a self-assessment the data service should supply evidence that it meets the 16 DSA guidelines and the relevant level of compliance. After submission, the DSA Board appoints a peer reviewer evaluating the self-assessment.

In 2012, the DSA and the ICSU World Data System (WDS)[10] started a common working group under the umbrella of the Research Data Alliance (RDA)[11] with the objectives of realising efficiencies, simplifying assessment options, stimulating more certifications, and increasing the impact on the community. The DSA and WDS certifications both offer a basic certification standard for trusted digital repositories. Their catalogues of requirements and their review procedures are based on the same principles of openness and transparency. Up to this point, the two standards have evolved and operated independently. The primary focus of DSA has been on data services in the Humanities and Social Sciences. For historical reasons, the focus of WDS has been on Earth and Space Sciences.

At the End of 2016, the ICSU World Data System (WDS) and the Data Seal of Approval (DSA) Board presented a unified catalogue of requirements. The group built on inherent complementarity between the criteria previously established by the two organisations to harmonise unified and universal requirements reflecting the Core Characteristics of Trustworthy Data Repositories. The applicant must indicate a compliance level for each of the requirements which are similar to the structure in the CESSDA-CDM model (see chapter 2.1): Organisational aspects, management of digital objects and technical aspects.[12]

3. Organisational infrastructure

3.1 Mission/Scope/Purpose/Mandate

The mission of the Albanian Data Archive for Social Science (ADAS) is to ensure and promote sustainable services of ingest, storage and access to quality research data obtained from the field of social sciences in Albania, which have a potential for secondary analysis.[13] ADAS offers data services for national and international researchers, students, and teachers. The primary focus will be on

[5] https://public.ccsds.org/default.aspx
[6] http://www.din.de/en/getting-involved/standards-committees/nid
[7] http://www.datasealofapproval.org/en/
[8] http://www.langzeitarchivierung.de/Subsites/nestor/EN/Siegel/siegel_node.html
[9] http://www.iso16363.org/standards/iso-16363/
[10] https://www.icsu-wds.org/
[11] https://www.rd-alliance.org
[12] https://drive.google.com/file/d/0B4qnUFYMgSc-eDRSTE53bDUwd28/view
[13] More information at our web site: https://al.seedsproject.ffzg.hr/

quantitative data in the disciplines anthropology, sociology, political science, psychology, education science, information science, economics and demographics; qualitative data will encompass in the first phase oral history and life story projects, as well as other narrative studies, currently undertaken within academia and NGOs. The data service will also collect and curate qualitative data, but with more careful selection and with consideration of available resources.

The main functions of the data service provider are:

- Acquiring important research data from a wide range of social sciences.
- Appraisal of submitted research data and their selection for deposit.
- Ingesting and processing research data and other documentation, together with creating metadata with the goal to prepare a package for long-term digital preservation (AIP) and preparing for access and further use for scientific, educational and other purposes (DIP).
- Long-term digital preservation.
- Providing access to research data that enables easy and well-informed usage for various purposes.
- Training researchers on planning, dealing and preparing data for ingest in open access.
- Actively promoting the secondary use of research data through training of users and stimulating exchanges of knowledge amongst users.

3.2 User Orientation and Designated Community (definition and monitoring)

The targeted user community consists of national university teachers, students, researchers, researchers from other public institutions, researchers from private institutions, policymakers, journalists, as well as the general public.

ADAS carries out a range of promotional activities including e-mail digest for researchers, newsletters, training courses for data management, etc. The communication with our designated community is carried out through different channels such as: training courses (on topics such as data management); targeted presentations; and social networking.

3.3 Financial sustainability and Resources

3.3.1 Funding

Funding will be secured through the Ministry of Education and Sport as well as the Agency for Research Technology and Innovation. Moreover, additional funding will be secured by third party projects. [14]

3.3.2 Collaboration

The key stakeholders will include the Ministry of Innovation and Public Administration, the Ministry of Education and Sports and other government agencies, the Albanian National Institute of Statistics, the State Archives, the Central Bank of Albania, public and private universities, as well as other relevant institutions, governmental and nongovernmental ones. This should also include a study of the legal questions concerning formal relationships with stakeholders.

[14] Funding is subject to change due to the fact that the Agency for Research and Innovation (ARTI) is not confirmed yet as the leading institution that will implement the Albanian national archive. Thus, at this phase it is impossible to provide detailed information.

Formal communication will be established with key stakeholders regarding ongoing activities, so that they are regularly informed about the development and progress of the data service. A key contact person from each stakeholder institution will be identified and contacted to obtain their consent to participate as representatives on behalf of their institution. Representatives will be included in a contact database that will be used for communicating information about the data service. All interested parties can be members of this database. In addition, it would be optimal to organize annual meetings with interested stakeholders.

3.4 Staffing

3.4.1 Roles and responsibilities

A minimum of four full time employees are involved in the new data service. The positions will be as follows:

1) Head of data service (responsible for financial and executive management, communication with stakeholders, and regional and international partners). The Head of the data service should ensure the operation of the Archive and will be focused on implementation/execution of its strategic goals, which are pre-determined and clearly defined. The Head will be in charge of promoting employees skills development. Moreover, the Head of the data service will be responsible for establishing and maintaining good external relationships with key stakeholders and cooperating institutions.

2) Minimum 2 data experts (knowledgeable in social science methodology and data management). The data expert's responsibilities will be related to the entire process of data archiving such as solicitation, curation and dissemination of research data.

3) IT expert (with experience in data management, software applications, documentation standards, and data exchange protocols, with programming and database skills). The IT expert will be responsible for the overall technical support of the system and ensures appropriate functioning of the Archive in its storage, preservation and dissemination activities.

3.5 Legal framework

3.5.1 Legal status and legal responsibility

ADAS is conceptualized to be part of the Albanian National Agency for Research and Innovation (ARTI), thus the Archive's legal status and legal responsibilities will be subject to the internal legal acts of ARTI which complies with the 2015 Law on Higher Education and Scientific Research as well as various bylaws.

3.5.2 National laws

ADAS will be in line with the relevant legal framework which regulates the area of preservation, access and use of digital data, as defined by the following legislations:

Law on Science and Technological Development: The 1994 Law on Science and Technological Development established a Council for Science Policy and Technological Development (CSPTD) as the body that defines and proposes any Science and Technological Development Policy to be approved by the Council of Ministers, reviews it, and takes decisions on the national programmes. It sets out

the objectives of science and technology policies, including incentives for global integration of national R&D and measures to encourage privatisation. Further, it defines the main functions of the Committee for Science and Technology, currently performed by the Ministry of Education and Sports.

Law on Higher Education and Scientific Research 2015: The Law on Higher Education and scientific research (Official Gazette 164/2015 Article 1, 2, 11, 12, and 13) introduced greater flexibility and objectivity in university funding, while the Strategy of Higher Education sets out a number of ambitious goals for improving the performance of the university system. The institutes of higher education conduct applied scientific research, prepare reports and develop projects, as well as other activities defined in the statute of the Institute of Higher Education and in accordance with the specific objectives of the institution. The research and development activity performed by the Institutes of Higher Education aims also to improve the quality of education, to equip the students with methodological skills for research, provides continuous opportunities to supplement the program of study with advanced scientific and practical comprehension, improves the qualification of the academic staff of the Institutes of Higher Education, and generates concrete implementations of development and research in these institutions. Research activities are carried out based on plans, programmes and projects, approved in compliance with the procedures defined by this law or other bylaws.

Law on Archives: The Law on Archives (Official Gazette no. 9154, of date 06.11.2003) defines the basic rules concerning the organisation and function of the archival service in Albania, the institutions that perform this service, and also their legal obligations on creation, preservation, and the accessibility of the archival heritage, as part of the national heritage. According to Article No. 2, "Archives" are specialised governmental or non-governmental institutions that collect, manage, administer, preserve, and serve the archival heritage, protected and secured by the government. Archives are also called the structural entities and sub-entities of the institutions of central and local state institutions that register, preserve, manage (treat), and put in service records created by them. Article No. 4 and 5 specifically state: "Records of national historical records" are all the documents that are considered as having a permanent value and are declared as such by the General Directorate of Archives because of their juridical, administrative, historic, scientific and cultural importance to the heritage of the Albanian people. "Documents" are all the acts that are created by the public authorities while they exert their administrative functions; acts created by non-governmental institutions and also by private juridical and physical entities, if they are considered of national historic importance.

Law on Protection of Personal Data: The Law No. 9887 dated 10.03.2008 On Protection of Personal Data aims at defining the rules for the protection and legal processing of personal data in Albania. The law clearly states that the legal processing of personal data shall respect and guarantee the fundamental rights and freedoms of persons and in particular their right to privacy. Article No. 7 on Processing of sensitive data, says: "Processing of sensitive data shall be done only if: data are processed for scientific or statistical research". In addition, Article No. 10, Processing for scientific and statistical research paragraph 1, 2 and 3 states: "1) Personal data collected for any purpose may be further processed for scientific or statistical research purposes provided that the data is not processed in order to take measures or decisions related to an individual. 2) The transfer of sensitive data for scientific research shall take place only in case of an important public interest. Personal data shall be used exclusively by individuals who are bound by confidentiality. 3) When data processing is made in a manner that allows the identification of the data subject, the data should immediately be

encrypted in order for the subjects to be no longer identifiable. Encrypted personal data shall be used exclusively by individuals bound by confidentiality."

Law on the Academy of Sciences: According to the Law on the Academy Of Sciences (Official Gazette of the Republic Of Albania No 9655 of 11 December 2006), the duties of the academy are to: "a) cooperate with domestic and foreign education and research institutions, which have the physical capacity required to conduct research and studies in different scientific areas; b) propose new research and study fields, in accordance with the development needs of the country; c) offer the high state institutions the necessary advice on and expertise in issues of importance to the development of the country; d) publish periodicals and other works of high scientific level; e) host scientific and topical congresses and conferences at a national and international level; and f) host contests and grant award scientific prizes." Financing is regulated following article No. 10 point 1: _"The Academy shall be a budgetary institution, which shall receive its budget out of the: a) state budget; b) technical-scientific services provided to juridical and physical persons outside its system; and c) applications, projects, gifts, subsidies and sponsoring in accordance with the effective legal and subordinate legal acts."

3.5.3 Data protection and licenses

The user contract is based upon principles of open access and relevant national legislation. It limits the use of the data to research or teaching purposes within an academic framework, commits the user to use the data with respect to national law and standard norms of data protection, to not identify any individual cases, to respect confidentiality and scientific ethical rules, to store it without third party access, to destroy the data after the expiration of the contract, and to inform the repository of all

4. Digital Object Management

4.1 Pre-Ingest

4.1.1 Data collection

Data selection and appraisal play an important role in the acquisition of data in any archival setting. The collection policy indicates the principles and criteria by which the data service develops its data collection in order to serve the Designated Community. The collection development policy of ADAS will be flexible and respond to future developments and shifting requirements that will influence the archive's data collections (technology, scientific standards, etc.).

The archive will be open to host both quantitative and qualitative data deriving from eligible data depositors that meet the standards of quality and ethical social research. Potential depositors may include: universities (staff and students) that collect data in basic and applied research projects (such as master's and PhD studies, research projects, etc.). Research institutes and NGOs producing data as part of their activity could be eligible data depositors too. The database will be open to data produced form disciplines falling in the wide realm of social sciences, economic disciplines and humanities. Anonimisation of data to be uploaded will be a responsibility of the researcher. The data set should be accompanied by documents with necessary information on how the data was collected and prepared for data analysis.

4.2 Ingest

4.2.1 Data deposit at ingest

In this section, the standards that the data and the documentation of the data deposited should measure up to are explained in more detail. Data documentation explains how data were collected (context of data collection), what they mean, what are their content and structure, and specifies any manipulations that may have taken place. It consists of any useful information about the project and its results (e.g. research proposals, publications) or of any relevant information that may help to understand the data and their production, thus increasing the re-use potential (e.g. questionnaires, codebooks, methodology reports, user guides). The quality of the documentation can be significantly improved if its creation and collation is planned at the beginning of the data life cycle, during the project conception phase (see chapter 4.5).

With each data deposited at the data service, a deposit contract is signed with the data producer. It is a legal agreement between the depositor and the archive that covers arrangements regarding usage rights, authenticity, data protection responsibilities, and disposal (see chapter 3.5.3).

4.2.2 Data authenticity

Several or all of the following data authenticity checks will be integrated in the ingest tool:

- Scan and check for viruses;
- Identify and validate file format of the SIP: make sure that the files are what they pretend to be;
- Create checksums for each data and document file in order to guarantee data integrity during the transfer process;
- Generate Unique Identifiers (UI): Make sure that each study, dataset and file is assigned a reference number that is permanent and unique;
- Quality assurance routine checks should be carried out for completeness, integrity and validation of the data files, the submitted documentation and metadata:

4.2.3 Data protection

The data service is aware of the conflicting gap between the tendency to provide open and easy access to research data and at the same time to protect the confidentiality of research participants and the rights of the data depositors. In order to ensure confidentiality, we rely on a combination of anonymization measures, specific user contract conditions (restricted access) and informed consent among study participants. Our practices are in accordance with national law (Law No. 9887 dated 10.03.2008 On Protection of Personal Data). The deposit contract indicates that the depositor has collected the data in conformity with existing national legislation on data protection and confirms that the data has been anonymised. In any case, the deposited data is screened by staff for disclosure risk.

4.3 Data preservation

4.3.1 Data management and Persistent Identifiers

The data that is stored within the data service's archive will be attributed an ID and its metadata safely stored in the corresponding data base.

Persistent identifiers are long-lasting references to a digital resource and objects. It has typically two components: a unique identifier; and a service that locates the resource over time even when it's location changes. The first helps to ensure the provenance of a digital resource, whilst the second will ensure that the identifier resolves to the correct current location. There are several persistent identifier schemes for research materials currently in use.[15]

4.3.2 Preservation Planning

The functional entity "Preservation Planning" encompasses tasks such as development of preservation strategies and standards, development of packaging designs and migration plans, and monitoring of technology (innovations in storage and access technologies) and the designated community (shifts in scope or expectations). The data service monitors the technical fitness of its archive, does regular risk assessments of the stored digital objects (which includes technology monitoring for the different object types), and plans for preservation actions.

Migration planning, archive standards and policies and technology watch report are usually gathered in the preservation policy of a data service. Digital objects may become unreadable or obsolete after a certain number of years. The need might arise to migrate file formats that have come close to obsolescence to new file formats that are more sustainable and guarantee future usability. After migration the original manifestation of the data file will be maintained and all subsequently generated manifestations of the original files. In this case, we adhere to the principle of reversibility: being able to revert to an earlier version of a digital file after migration. We also fully document the migration process in the form of a detailed migration history as part of the metadata associated with the data file.

4.4 Access and data provision

4.4.1 Data discoverability and accessibility

This is another component of OAIS and it is related to providing services and functions that support data users in determining the existence, description, location, and availability of information stored in the data archive, allowing them to request and receive data and documentation. It means that within this function the Dissemination Information Packages (DIP) are generated through addition of descriptive metadata, and the dissemination request is processed accordingly. When it comes to access, it is necessary to implement security or access control mechanisms associated with the archive's content.

The data will be discoverable through: (1) the newsletter of ADAS that will be distributed to the designated community for announcing a new project in the Archive; (2) the catalog – searchable inventory; and (3) upon specific requests by users.

Due to the lack of appropriate resources at the beginning we will use SEEDSbase[16] developed by FORS, as a technical tool to provide access to the metadata and data.

[15] Digital Object Identifier (DOI), Handle, Persistent Uniform Resource Locator (PURL), Universal Resource Name (URN). For more information see: http://www.dpconline.org/handbook/technical-solutions-and-tools/persistent-identifiers

[16] https://seedsdata.unil.ch/

4.4.2 Access control

ADAS does everything possible to provide open and easy access to data, while at the same time protecting the confidentiality of research participants and the rights of the data depositors. Metadata and other similar information about archived projects will be open to all, including the public, but the access to data files will be managed depending on the conditions set by the depositor of the data. The control of data files will range from simple filing of the registration form up to fulfilling conditions like embargo or obligatory communication with depositor, from the side of the user.

The conditions that will form the basis for access control will be part of the user contract.

4.5 Outreach

Data management is a set of skills needed for handling data throughout the life cycle of a research project. Good data management practices mean more efficient research and a higher quality research product. A data management plan (DMP) is a written document that describes the data a researcher expects to acquire or generate during the course of a research project, how they will manage, describe, analyse, and store those data, and what mechanisms they will use at the end of a project to share and preserve the data. It is also intended to meet funder requirements, and help others to use the data if shared. Our data service offers training courses regarding DMP and other workshops and help for data depositors and users equally.

5. Technical infrastructure and risk management

5.1 Technical infrastructure

Due to several limitations in resources such as: lack of appropriate human resources with relevant IT knowledge and experience; lack of funding for regular daily activities as well as lack of funding for hardware and software equipment, during the initial phase, ADAS will use SEEDSbase, as the easiest tool based on previous experience. However, when finalizing the development of the National archive in social sciences in Albania (ADAS), the technical infrastructure challenges will be properly addressed.

6. Resources

Audit and certification of trustworthy digital repositories (ISO 16363) - http://www.iso16363.org/standards/iso-16363/

CESSDA – http://cessda.net/

CESSDA SaW – http://cessdasaw.eu/

- D3.1 – Heuristic Maturity Development Model (CESSDA-CDM) http://cessdasaw.eu/content/uploads/2016/06/D3.1.pdf
- Guide for Developing National Data Service Plans - https://cessda.net/eng/CESSDA-Services/Projects/CESSDA-SaW/Work-Packages/WP3/Guide-for-Developing-National-Data-Service-Plans

Consultative Committee for Space Data Systems (CCSDS) - https://public.ccsds.org/default.aspx

Data Seal of Approval (DSA) - http://www.datasealofapproval.org/en/

DIN 31644 – Nestor seal for trustworthy digital archives - http://www.langzeitarchivierung.de/Subsites/nestor/EN/Siegel/siegel_node.html

DIN Working Group "Trustworthy Archives – Certification" - http://www.din.de/en/getting-involved/standards-committees/nid

FORS - http://forscenter.ch/en/

- Deposit contract FORS: https://forsbase.unil.ch/media/general_documentation/en/deposit_contract_FORS_en.pdf
- User contract FORS: https://forsbase.unil.ch/media/general_documentation/en/download_contract_en.pdf
- Collections Policy FORS: http://forscenter.ch/wp-content/uploads/2015/09/Collections-Policy_E_v2.pdf
- Preservation Policy FORS: http://forscenter.ch/wp-content/uploads/2015/05/Preservation-Policy1.pdf

ISO 16363 - http://www.iso16363.org/standards/iso-16363/

KRDS (Keeping Research Data Save) Activity Model – User Guide: http://www.beagrie.com/static/resource/KeepingResearchDataSafe_UserGuide_v2.pdf

OAIS – Reference Model for an Open Archival Information System, CCSDS 650.0-M-2, Consultative Committee for Space Data Systems: Washington, DC, 2002 https://public.ccsds.org/pubs/650x0m2.pdf

Research Data Alliance (RDA) - https://www.rd-alliance.org

SEEDS - http://seedsproject.ch/

- D4 – Establishment plan: http://seedsproject.ch/wp-content/uploads/2015/06/Establishment-Plan_Montenegro.pdf; http://seedsproject.ch/wp-

content/uploads/2015/06/Establishment-Plan_Kosovo.pdf; http://seedsproject.ch/wp-content/uploads/2015/06/Establishment-Plan-ALBANIA_FINAL.pdf; http://seedsproject.ch/wp-content/uploads/2015/06/Establishment-plan-Macedonia.pdf

- D9 – Report on technical improvements: (unpublished document, at the time being)

SERSCIDA – http://serscida.eu/

- D4.2 – Data Service Training Manual: http://www.serscida.eu/images/deliverables/SERSCIDA_D_4_2_Training_Materials_V1_2.pdf
- D5.1 – Documents and Materials for Social Science Digital Data Archives: http://www.serscida.eu/images/deliverables/D5.1_FINAL.pdf
- D5.3 – Report on Prototype Database: http://www.serscida.eu/images/deliverables/D5.3_FINAL.pdf

World Data System (ICSU/WDS) - https://www.icsu-wds.org