Metadata and classification system development
Bosnia and Herzegovina

Project BA 08-IB-FI-03

MISSION REPORT

on

Metadata system III

Component 3, Activity 3.2.4

Mission carried out by
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List of Abbreviations

BiH	Bosnia and Herzegovina
BHAS	Agency for Statistics of Bosnia and Herzegovina
FIS	Federal Institute of Statistics of the Federation of Bosnia and Herzegovina
RSIS	Republic Institute for Statistics of the Republika Srpska
GSBPM	Generic Statistical Business Process Model
DDI	Data documentation initiative
SBS	Structural Business Statistics

Content

1. Introduction

This mission report was prepared within the state and entity statistical institutions in Bosnia and Herzegovina. It was the *fourth* mission to be devoted to *topic 2* within Component 3 (*Strengthening the Institutional Capacity of BIH Statistical System*) of the project concerning Metadata and Classification System Development for the BiH statistical system.

The consultants would like to express their thanks to all officials and individuals met for the kind support and valuable information which they received during the stay in Bosnia and Herzegovina, and which highly facilitated the work.

The views and observations stated in this report are those of the consultants and do not necessarily correspond to the views of Statistics Denmark.

2. Objectives in general and objectives on metadata

Implementation of the activities foreseen in this project will significantly contribute to the fulfillment of priorities stated in European partnership for BiH (Article 1. Background in Twinning Contract):

> Short-term priorities:
> *"- Implement the agreement between the Entities in the statistical system on improvement of the work of the Central Statistical Agency in Bosnia and Herzegovina and improve the range and quality of statistics, in particular at State level."*
>
> Medium-term priorities, European standards, Sectoral policies:
> *"- Develop reliable economic statistics and build up institutional capacity to produce and publish basic statistical data harmonised with European standards, in particular in the areas of national accounts, agricultural, macro-economic and business statistics, and social statistics, including education, labour and health statistics*
> *-   Carry out the population census"*

Component 3 in the project - Strengthening the Institutional Capacity of BIH Statistical System - comprises long term strategy and metadata. The objectives for component 3 are: a) sustainable development and b) better communication between the three statistical institutes and between providers and users of the statistics. Overview of elements in *Component 3 Strengthening the Institutional Capacity of BIH Statistical System:*

This component is planned to strengthen the institutional capacity for the BiH statistical sector as a whole. This horizontal component should
- *Improve practical co-operation between the three institutions.*
- *Such co-operation requires the further work towards*
  - *a common IT architecture*
  - *the organisation of joint meetings, and*
  - *common access for the statistical managers in BiH to experience and know-how in the organisations*
  - *co-ordination and implementation of statistical work*
  - *staff in the different Statistical Institutions should have the availability of joint training and other learning experiences to acquire the same*

knowledge on harmonised methods and the same practical experience to apply these harmonised methods

In order to reach these objectives and fulfil benchmarks requirements the contract with EU stresses a scenario with common metadata as an important foundation for horizontal cooperation.

The statistical production should be harmonised on national level. Metadata and classifications have to be stored and updated in one place: the Agency. RSIS and FIS will have web access to this information and use it in their compilation and dissemination of statistics. RSIS and FIS will, based on this information, be able to report to the Agency and ensure that the same classifications etc are used in all three statistical organisations.

The benchmark for metadata and classifications (sub-component 3.2) are
- *Metadata strategy developed by 8th project quarter*
- *Database model with data flow diagram prepared by 8th project quarter*
- *Plan on development of software for classification database by 8th project quarter*

This includes technical documentation, including selection of IT tools for Metadata system, prepared Development plan and preparatory activities carried out for Classification server.

3. Activities and expected output of the mission

The expected activities are:
- Overview of activities between two missions
- Finalizing GSBPM document before official adoption
- Finalizing metadata strategy
- Introduction to classification server – introduction and experience
- Discussion and training using the SBS-survey as case

Expected output
- Adopted GSBPM model on working group level
- Metadata strategy is finished
- Documentation of business processes and data on the SBS-survey
- Classifications in metadata system introduced

3. Assessment and recommendations

The work on activities between missions according to mission report from January:
- *Strategy: Decision on software and elaboration of Business Process Management and Metadata Strategy.*
- *Business processes: Plan documentation of 6 surveys using templates presented at mission*
- *Establish organization for documentation of business processes and metadata.*
- *Continue work on collecting information on existing metadata*

The strategy has been elaborated. It has been decided to postpone the decision on software until after approval of strategy. The planning of documentation of business processes has started. The organization has been discussed.

3.1 Strategy

The draft version of strategy on metadata was discussed at a study visit in Denmark in May. Bosnia has translated and elaborated the strategy. At the mission the strategy was further elaborated. Regarding objectives: short terms objectives need to be elaborated.

Regarding international standards: the recent work on standard at international level was introduced. This included introduction to GSIM as a reference framework for metadata-objects. Regarding implementation standards DDI with added Eurostat quality declaration was discussed.

Having the 4 main components: methodology, concepts, variables and classifications as an abstract starting point the following levels of use of standards were suggested:
- Conceptual level: GSIM – selected areas in Concepts group
- Implementation level: DDI with ESMS/ESQRS extension

Regarding the implementation level Bosnia should aim for gradual implementation starting with simple DDI-elements: Group, Study, Categories and Codes, Variables. Concepts in DDI should be introduced hereafter.

Regarding organization: it was agreed to have common working group at state-level and working groups and institution level.

The system architecture was discussed. It will be possible to use and integrate Colectica in order to fulfil the scenario above and to move towards using standards recommended in the by the international statistical community. The choice of software was discussed and it has decided to postpone the decision until after discussion of the strategy with top management.

As mentioned in the contract Bosnia should move towards a common meta-database where metadata can be established as a common resource. The text from contract inserted above is repeated here: *The statistical production should be harmonised on national level. Metadata and classifications have to be stored and updated in one place: the Agency. RSIS and FIS will have web access to this information and use it in their compilation and dissemination of statistics. RSIS and FIS will, based on this information, be able to report to the Agency and ensure that the same classifications etc. are used in all three statistical organisations.*

It is a well known fact that introducing changes like this is difficult. At Statistics Denmark we have different cultures and understanding in departments, but we have succeeded in gradually moving towards common standards, metadata-repositories and tools. To help this process in Bosnia it recommended
- All parties agree on long and short term objectives on harmonisation, storing, updating and dissemination of classifications and metadata in a common repository at state-level. This must be part of the strategy.
- Each party is chairing the state-level group for one year and after one year the responsibility moves to the next part. The group is responsible for the operation of the common repository

- Responsibility on content of metadata can be distributed using grant of access to surveys
- On the road toward a common metadata base it will be a good idea to build capacity at institution level using different kind of tools. It is recommended to use standards and tools that support the standards chosen (Colectica Express and other tools supporting DDI). Common metadata elements can then be gradually moved from institution-level to state-level.

The draft version of strategy will be ready at the end of July. It is highly recommended that top management approve and sign the strategy by 15th of August.

3.2 Generic Statistical Business Process Model (GSBPM) and documentation of business processes

The GSBPM-document were discussed and adjusted with focus on special conditions in Bosnia. The documents should be approved by management and there should be introduction to all staff. The revised business process model must be used when preparing documentation on surveys using templates presented at January mission.

3.3 Training
- Training online was conducted. How to create documentation using DDI and Colectica
- Introduction to Quality declarations as part of an integrated metadata-system (Colectica) was introduced
- Training on documentation of metadata on SBS-survey was conducted. A subset of variables and code-lists was imported
- It is recommended to continue this work and SBS and other surveys using simple DDI-elements: Group, Study, Categories and Codes, Variables.

3.4 Classifications
Classifications were discussed shortly. It is problematic on at which level to introduce, since it is expected not to build a stand-alone classification server as described in the contract. The next mission will focus on the way forward regarding classifications.

3.5 Missions
Next mission is expected to be at the end of August and the rest of missions will be placed in November and December.

4. Plan for work until next mission
- Strategy: approval and further discussion on choosing software etc
- Business Process Documentation of 6 surveys using templates presented at mission in January
- Metadata documentation (using simple DDI-elements: Group, Study, Categories and Codes, Variables) on SBS finished.

5. Topics for the next mission:

- Classification
- Strategy
- Business Process documentation
- Training

Annex 1 Terms of reference

Metadata and Classification System Development
17th to 21th of June 2013
Terms of Reference - Activity 3.2.4
EU Twinning Project BA 08-IB-FI-03
Agency for Statistics of Bosnia and Herzegovina, Zelenih beretki 26, Sarajevo

Component 3   Institutional Capacity

    3.1.   Long term strategy
    3.2.   Metadata and Classification System Development
    3.2.1   Assessment of the current situation regarding metadata and classification systems
    3.2.2   Metadata system I
    3.2.3   Metadata system II
    3.2.4   Classification systems I
    3.2.5   Classification systems II
    3.2.6   Classification systems III
    3.2.7   Follow-up on the work done on metadata and classification systems
    3.3.   Promotion of dissemination

3.2. Benchmark

Metadata strategy developed by 8th project quarter

Database model with data flow diagram prepared by 8th project quarter

Plan on development of software for classification database by 8th project quarter

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3.2.4. Activity
Metadata system III

Purpose of activity

The expected activities are:

o   Overview of activities between two missions
o   Finalizing GSBPM document before official adoption

o   Finalizing metadata strategy

o   Introduction to classification server – introduction and experience

o   Discussion and training using the SBS-survey as case

Expected outputs

o   Adopted GSBPM model on working group level

o   Metadata strategy is finished

o Documentation of business processes and data on the SBS-survey

o Classifications in metadata system introduced

List of Participants

Experts

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Agency for Statistics of BiH

Mr. Sulejman Hasanović, Head of Department for applications and database management

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Haris Imamovic, Interpreter

Agenda

Time	Day	Place	Event	Purpose / Detail of event
12:00-15:30	Monday	BHAS	Meeting with the BC Component Leader and BC Experts	Overview of the activities that should be done between missions. Preparing and discusing about metadata strategy
8:30-15:30	Tuesday	BHAS	Meeting with the BC Component Leader and BC Experts	Adoption of GSBPM document on working group level Training on documentation of business processes using the SBS-survey
8:30-15:30	Wednesday	BHAS	Meeting with the BC Component Leader and BC Experts	Follow up on standards (GSBPM, DDI, ESMS, ESQRS) and discussion of tools Training on documentation of data using the SBS-survey
8:30-15:30	Thursday	BHAS	Meeting with BC Experts	Training on documentation of data using the SBS-survey Meeteng with coordinators of HBS component related to metadata (?)
8:30-12:00	Friday	BHAS	Meeting with BC Project Leader and Experts	Introduction to Classifications as a part of metadata system Presentation of results. Agreement on report. Implications for the next activities (missions); Expert