Sustainable Water Integrated Management Support Mechanism
SWIM – SM
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CIHEAM Bari

The MONEVA system

A monitoring and evaluation (M&E) system for Participatory/Transfer Irrigation Management programs (PIM/IMT)

.....Water is too precious to Waste

A descriptive Summary of

The MONEVA system.

A monitoring and evaluation (M&E) system for Participatory/Transfer Irrigation Management programs (PIM/IMT)

Prepared by:

Juan A. Sagardoy, International Water Management Consultant, SWIM-SM

Suzan Taha, Water Expert; SWIM-SM

Roula Khadra, Conceptual Model Developer, CIHEAM-Bari

Marco Daurù, IT Developer, CIHEAM-Bari

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EXECUTIVE SUMMARY

The MONEVA system intends to be a contribution to the scarce information and data available on the evaluation of Participatory Irrigation Management/ Irrigation Management Transfer (PIM/IMT) programs that are under implementation or completion in more than 60 countries over the world.

The MONEVA system is a decision making tool aimed at evaluating the performance of government agents and farmers in the implementation of Participatory Irrigation Management/ Irrigation Management Transfer (PIM/IMT) programs in an specific country.

The tool was a joint effort of the Sustainable Water Integrated Management- Support Mechanism (SWIM-SM) Project, financed by the European Union, and the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM) - Bari. Without the strong support of the Jordanian and Tunisian governments, where the system was tested and implemented in selected pilot areas, it would not have been possible to consolidate and improve earlier versions of the tool.

The system has two major components: one is addressed to assess the performance of the irrigation agency responsible for the implementation of the PIM/IMT programs at the national and regional Level. For this purpose, outcomes, outputs and activities are defined and evaluated trough the indicators developed.

The other component is aimed at evaluating the performance of the newly formed Water Users Associations (WUAs). With this purpose, also potential outcomes, outputs and activities were defined as well as the corresponding indicators for their achievement. The yearly monitoring and evaluation permits to assess the progress in performance and the corrective actions needed. Both components are part of a single integrated approach and therefore the installation of both components is required for a satisfactory functioning of the system.

The system is a national integrated system in the sense that only one MONEVA system can be installed at the national level but at the regional level it is possible to install one in each region. Selected information from the WUAs is accumulated at the regional level and some selected information is accumulated at the national level. If the communications among the different levels are kept up to date, the MONEVA system provides updated information at any time of consultation over the levels.

The MONEVA system uses free domain programming language (Access Runtime 2010) and therefore can be freely installed. It is available in English, French and Arabic, which greatly facilitates its adoption in many countries and particularly in those of the Mediterranean and Near East Region. The flexibility built into the MONEVA system permits to select the indicators that will be applied in a specific country. This adaptation feature of the MONEVA system is rather unique.

The purpose of this brochure is to describe the main features of the MONEVA system but also some of the challenges that have framed its development as well as some suggestions for its use and application by other countries and potential users.

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BACKGROUND TO THE DEVELOPMENT OF THE MONEVA SYSTEM

THE SWIM PROGRAM

All the activities related to the development of the MONEVA system were framed within the Sustainable Water Integrated Management (SWIM) Program, which aims to contribute to the effective implementation and extensive dissemination of sustainable water management policies and practices in the South-Eastern Mediterranean Region. The program is financed by the European Union (EU) **and it covers the following Partner Countries (PCs):** Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, Syria[1] and Tunisia.

The SWIM Program consists of **two Components**, acting as a mutually strengthening unit that supports much needed reforms and new creative approaches in relation to water management in the Mediterranean region, aiming at their wide diffusion and replication.

The development of MONEVA was undertaken under the Support Mechanism (SWIM-SM) component of the SWIM program.

The two SWIM Components are:

- A Support Mechanism (SWIM-SM) funded with a budget of € 6.7 million and
- Five (5) Demonstration Projects funded with a budget of approximately € 15 million

NEED FOR DEVELOPING AN M&E SYSTEM FOR PIM/IMT PROGRAMS

The need for developing a comprehensive M&E system for PIM/IMT process emerged as a priority action that was identified unanimously by all experts attending the regional experts' group meeting that was held in Athens in April 2012, where the regional assessment[2]; undertaken by the project on the status of water users' participation in the project countries (PCs), was discussed, and priority actions for SWIM-SM under the "Water Governance" Pillars were identified. This was later confirmed by the surveys[3] also made within the framework of the project, which evidenced a lack of a consistent monitoring and

[1]The situation in spring 2012 is that following formal EC decision, activities have been stalled in Syria while Libya has officially become a Partner Country of the SWIM Programme but no activities were implemented due to the current political situation.

[2]See "Regional Assessment - Water Users' Associations in the SWIM-SM Project Countries: Final Document Produced after Discussion and Validation during the WUAs Expert Regional Workshop (23-24 April, 2012, Athens, Greece) at: http://www.swim-sm.eu/index.php/en/resources-en/assessments

[3]See Section 2 of the document "Review of the International and Regional Experience in Monitoring and Evaluation Systems with Special Reference for the Formation and Support of Water Users Associations - Analysis of responses to the questionnaire/checklist on the availability of data for the monitoring and evaluation of PIM/IMT programs in the SWIM countries available at http://www.swim-sm.eu/index.php/en/resources-en/assessments or contact info@swim-sm.eu

evaluation (M&E) approach to PIM/IMT processes in the SWIM countries, or its complete absence in some cases. Furthermore, the review of the main M&E systems used by international agencies for assessing PIM/IMT programs evidenced that general guidelines for carrying out monitoring and evaluation of activities are abundant, but when it comes to PIM/IMT processes, very few specific orientations (mostly related to monitoring the performance of the Water Users Associations) are given, which fall short of a comprehensive monitoring and evaluation of the whole PIM/IMT process

A draft proposal for the system was thereafter developed in 2013 which was vetted by the countries in a regional meeting in September 2013. Given that the M&E system has to account for several countries' specificities, a major difficulty was encountered in defining M&E outcomes, outputs and activities that could be of general applicability[4] to the system. During the mentioned meeting, the main components of the M&E system specifically addressing the PIM/IMT processes were presented. After a long debate and many contributions made by the representatives of the SWIM countries, **the Project was endowed with the responsibility of developing a software** that will be in line with the general M&E structure approved during the meeting and **with testing its applicability in pilot areas in two countries; Jordan and Tunisia**.

THE MAIN DEVELOPMENT PHASES OF THE MONEVA SYSTEM

According to the responsibilities assigned by the SWIM participating countries, two kick-off missions were carried out to Tunisia and Jordan during December 2013 to define the work plan for the following year.

At the beginning of 2014, the SWIM-SM project contracted - CIHEAM Barito develop a software that will follow the structure defined at the Regional meeting mentioned earlier. A first version was available by June 2014 and training sessions were undertaken in Tunisia and Jordan. Subsequently the monitoring and evaluation parts of the MONEVA system were tested in pilot areas in both Jordan and Tunisia; at the National[5], regional[6] and local[7] levels

[4] For more details see Section 2 of the document: "Review of the International and Regional Experience in Monitoring and Evaluation Systems with Special Reference for the Formation and Support of Water Users Associations - Analysis of responses to the questionnaire/checklist on the availability of data for the monitoring and evaluation of PIM/IMT programs in the SWIM countries available at http://www.swim-sm.eu/index.php/en/resources-en/assessments or contact info@swim-sm.eu "

5 Involving in Jordan the Jordan Valley Authority (JVA) and in Tunisia the General Directorate of Rural Engineering and Exploitation of waters - Direction Générale du Génie Rural et de l'Exploitation des Eaux (DG/GREE)

[6] Involving two regional offices (directorates) in Jordan and three Regional Offices for Agricultural Development - Commissariats Régionaux de Développement Agricole (CRDA) in Tunisia

7 Involving Water Users Association; two in Jordan and three in Tunisia

in September 2014. Representatives of the government agencies, as well as leaders of the participating WUAs, expressed high satisfaction with the system. However, some improvements were recommended.

In November 2014, the alpha version of the system, together with the results of its application in the two pilot countries, was presented in a regional meeting that was held in Athens. SWIM countries expressed their satisfaction with the results achieved and requested that the activities be continued during 2015. When participants were confronted with the question of expanding the MONEVA activities in other countries or consolidating the system and strengthen the implementation in Tunisia and Jordan they nearly unanimously endorsed the second alternative.

Consequently, during the year 2015 the beta version of the MONEVA system was released; consolidating many of the recommended improvements in the new version. Refreshing training sessions were organized in Tunisia and Jordan and the system was tested on a larger scale and evaluations made. The results of the evaluations were highly satisfactory and the implementation of the system continues in the selected countries with the national resources available. ***The new version of MONEVA is now ready for a larger dissemination***.

CHALLENGES FACED AND RESPONSES GIVEN IN THE MONEVA SYSTEM

DEVELOPING A CONSISTENT SET OF OUTCOMES AND OUTPUTS THAT COULD FIT THE DIVERSITY OF THE PIM/IMT PROCESSES

Any M&E system is based on a number of outputs and outcomes to be achieved that are well defined from the very beginning. However, in most of the PIM/IMT processes, the final objectives are sometimes defined but outcomes and output to be reached in a shorter time are rarely spelled out.

The first step in the definition of the outputs and outcomes of the proposed M&E system emanated from the stated overall objective of the system as approved by the PCs in the meeting of Athens in September 2013. These are:

- The system should enable monitoring the degree of political commitment towards the process
- It should provide the basis for monitoring and evaluating the various government interventions to establish and support WUAs
- It should enable monitoring the and assessing the level of progress of WUAs and their institutional, financial and technical performance
- It should allow Periodical assessment of the results/impacts of the government interventions and the establishment of the WUAs in the country.

In order to meet the stated objectives, four different modules were proposed to assess the performance of the three main stakeholders: the irrigation agency at the central (national) level, the offices involved with the water users associations in the regions (regional level), and the Water Users Associations at the local level. The four modules were:

1. **Module A:** assesses the degree of political commitment towards the PIM/IMT process and the adequacy of the existing institutional and legal arrangements in support of the establishment of the WUAs.
2. **Module B:** assesses the performance of the responsible irrigation agencies in the implementation of the PIM/IMT program particularly at the regional level
3. **Module C:** Assesses the institutional, financial and technical performance of Water Users Associations
4. **Module D:** Assesses the impact of WUAs' establishment.

Within each module, a number of outcomes were defined based mostly on the international and regional literature review undertaken by SWIM-SM and the experience of the SWIM-SM consultants. To achieve the mentioned outcomes, a set of outputs were made explicit as well. Finally, in order to achieve the desired outputs, a set of indicators reflecting good practices in the implementation of PIM/IMT process, were also defined for each output. Table 1 summarizes the number of outcomes and outputs defined.

Table 1: Number of outcomes and outputs of the MONEVA system

MODULES	Applicable level	No. of outcomes	No. of outputs
Module A	National	5	7
Module B	National and Regional	9[8]	16
Module C	Local	10	29
Module D	All	8	13
Total		**26**	**74**

DESIGNING AN OBJECTIVE AND SIMPLE SYSTEM OF EVALUATION

While the monitoring can be developed with a high degree of accuracy and detail, the evaluation part is often left to the good sense of the evaluator. Some guidance is usually provided in general terms but the evaluator remains with the responsibility of applying his/her judgment. Developing an evaluation system that would eliminate the subjectivity factor of the evaluation was a significant challenge.

For the MONEVA system, a simple evaluation system was developed that is based on a point system where the maximum score that can be obtained for each indicator is 2 points, the minimum is 0 points and 1 point is obtained for intermediate results. This evaluation arrangement applies to the three types of indicators that were used in the M&E system in the following way:

- *For the logical indicators* where the possible answers are only YES or NO, the number of points (scores) that can be obtained are respectively either 2 or 0. The scores are based on international experience and logic.
- *For the qualitative indicators,* the range of answers is grouped in 3 categories that will receive the scoring of 2, 1, or 0 points. Example: High, Medium or low.
- *For the numerical indicators* the score can be 2, 1, 0 depending on the value of the indicator vis a vis an accepted range of values that was acquired through international experience or recommended by the experts in Athens, and later by the countries involved in the pilot implementation.

In theory, some indicators are more important than others and therefore one could have thought of a system where certain indicators would have a higher scoring weight than others, depending on their relative importance. However, due to the subjective nature of such decisions, this feature was not contemplated in the MONEVA system and all indicators were assigned the values already mentioned.

[8] The outcomes and outputs of the regional level are the same as those at national level since they are part of the same organization and share the same overall objectives.

The proposed evaluation has the advantage of being simple and independent of subjective judgements, which is an important consideration when it comes to evaluation matters.

ORGANIZING THE EVALUATION AS A TOOL TO FACILITATE THE PREPARATION OF ACTION PLANS

The system of points/scores proposed for the evaluation has also the advantage that permits assessing the degree (percentage) of achievement of the PIM/IMT process within a country on the set of the desired outputs or outcomes. This is made possible through the aggregation of scores for all the indicators related to a given output first at the output level, then aggregating the scores for all the outputs related to one outcome (i.e. at the outcome level). Given that the full achievement of an output represents 100% of the degree of achievement, then if only 70 % has been achieved, it can be easily concluded that the output has not been fully achieved and that some improvements are needed. In order to arrive at 100 % achievement of the said output, the system (through its reporting capabilities) allows the user to prioritize the actions needed for full achievement on a given output. Referring to table 2 as an example, the first priority would be to improve the performance on the activities related to indicator No. 3 (where the score = zero) followed by those of second priority related to Indicator No. 1 (score = 1). Hence, the system points out to the user where improvements are needed, and in this sense, the MONEVA system is a decision support system.

The above example also applies on outcomes, the achievement of which depends on several outputs.

Table 2: Example of the evaluation of an output as a function of the points obtained for the indicators that monitor its achievement

	Indicators	2 points	1 point	0 points	Total
Output 1	Indicator 1		1		1
	Indicator 2	2			2
	Indicator 3			0	0
	Indicator 4	2			2
	Indicator 5	2			2
	Total	***6***	***1***	***0***	***7***
	Maximum Points	***10***			

The organization of **the** evaluation by the percentage of achievement of outputs and outcomes permits the user to identify in an easy way where improvements are needed. It is important to note, that an evaluation system based on the assignment of points according to some established criteria can never be complete without the human input, which is essential to explain the reasons behind low performance of a given indicator. For this reason, *it is indispensable that the evaluation provided by the MONEVA computer application be complemented with an evaluation session where those that inputted the monitoring data, analyze the evaluation results.* What is even more important is that, *such evaluation process should be*

concluded with an annual Action Plan aimed to correct the major deficiencies and gaps identified in the PIM/IMT process. In this respect, the pilot experiences have proven to be very successful.

INTEGRATING THE THREE LEVELS OF WORK (NATIONAL, REGIONAL AND LOCAL) IN ONE SINGLE SYSTEM

Considerable programing efforts were required to integrate in the MONEVA system the data generated by the three main stakeholders so that they will all share the same information. This implies that whatever information is generated at one level is stored in one single system and shared with the other stakeholders at the higher level, according to the criteria established in the system. To function properly the communication rules of the MONEVA system must be respected.

In the PIM/IMT process, three main kinds of stakeholders are normally involved: the national irrigation agency and other governmental organizations related to the process, the regional offices of the governmental offices that are often the implementers of the PIM/IMT process and the local level made of the new farmers' organizations (WUAs generally) and the farmers

For the local level a special procedure has been developed whereby the monitoring data generated at the local level is sent to the regional level for storing and evaluation. The evaluation of the WUA is sent back to the local level (WUA) for assessment and preparation of the Annual Action Plan. This special procedure was developed to cope with the problem that many WUAs still do not have computer facilities.

BUILDING FLEXIBILITY TO ACCOMMODATE NATIONAL DIFFERENCES

Since the MONEVA system should be able to cater to different conditions and varying contexts, a high degree of flexibility in the MONEVA system was needed and introduced. For example, in Jordan the PIM/IMT process is still under development and the WUAs are highly dependent on the Government Agency (the Jordan Valley Authority (JVA)). In Tunisia, the process was completed in 2007 and the WUAs have presently limited support from the government agency. While in other countries such as Algeria, the concept of users' participation has been introduced but the process has not been adopted. Accordingly, any M&E system should take into consideration the breadth of experiences in the PIM/IMT process and the development stage of such process in the project countries.

Most of the M&E systems that have been developed for PIM/IMT processes have no possibility of changing any assumed parameter. Generally, they are conceived for a specific project or program in a given country and therefore the system is suited to specific local situation. However, an M&E system that may be applied in a diversity of countries and situations must be built on flexibility

Two main mechanisms have been introduced in MONEVA to incorporate flexibility. One consists in the possibility of changing the scoring criteria to reflect the local experience. The other one permits to switch off those indicators that may not be considered relevant to a given country or situation. The designated National Administrator is the only person that can perform both operations.

ADAPTING TO THE LANGUAGE REQUIREMENTS OF THE MEDITERRANEAN REGION

Besides the need of developing the MONEVA system in **English and French** that are widely spoken in the Mediterranean region, the MONEVA system had to be available also in **Arabic** not only because is the most common language in the Region but because it is the only language spoken by many of the potential users of the system at the field .

The development of the Arabic version has entailed a number of programming difficulties that were not anticipated and has represented a substantial handicap in the development of the system but they were satisfactorily overcome.

The possibility of using several languages in the MONEVA system is part of a more general strategy of developing a system that would have a friendly interface for all potential users

A TOUR OF THE MAIN FEATURES OF THE MONEVA SYSTEM

In this section, the main characteristics of the MONEVA computer application called MONEVA will be presented. For obvious reasons of space, many details related to the actual use of the system cannot be included. However, the system incorporates a User's Manual that can be accessed from within the system where detailed guidance is provided to users.

INSTALLATION

The MONEVA software is delivered through two self-installing files. One is to be installed at the central office of the irrigation agency and the other in each of the regional offices where the system will be applied. It is important to read the installation instructions that detail the minimum hardware requirements, the operating systems supported by Microsoft Access 2010 Runtime with which MONEVA was developed, the links to freely download Runtime and the steps to correctly install MONEVA .

Access 2010 Runtime enables to distribute Access 2010 applications to the users who do not possess the full version of MS Access 2010, and thus ensure a zero cost software.

The installation takes few seconds.

WELCOME AND LOGIN

After installation, the user is presented with the opening screen where he/she is prompted to press the "Login and language setting" button.

The screen for selecting the type of user and the language follows. (See figure 1). For the first time use, the potential users will be provided with the password corresponding to their level (National Administrator, Regional administrator and regional user) to be able to login and start using the system.

Figure 1: Login and language selection

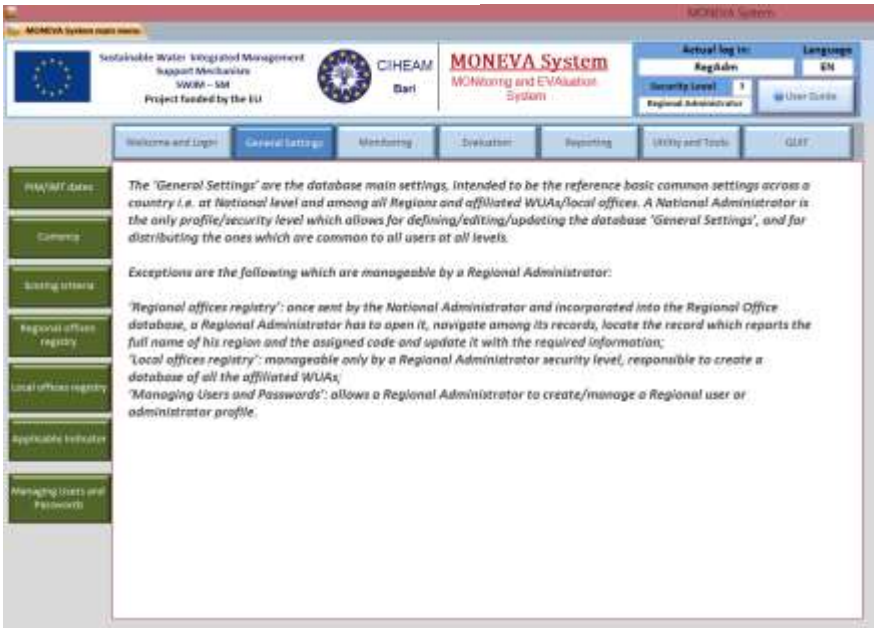
The selection of the language can also be made. After login, and if the password is correct, the access to the system is granted.

As earlier mentioned, the fact that MONEVA can work in English, French and Arabic is a significant feature that facilitates its adoption in many countries.

ESTABLISHMENT OF MONEVA NATIONAL SETTINGS BY THE NATIONAL ADMINISTRATOR

Before the system can be used by any other user, the National Administrator has the responsibility of establishing the General Settings of the system. These settings are essential parameters that will be applied throughout the country. They are all listed in the left side of the screen shot (figure2). For example, the national administrator will decide which indicators will be applicable ("Applicable indicators") in the specific country or the changes to be made in the "Scoring criteria". Some of these decisions should be made by an ad-hoc national committee but in its absence, this responsibility can be delegated to the National Administrator. Since some of the settings require a good understanding of the MONEVA, they should be established after appropriate training has taken place.

Figure 2: Main Menu of the MONEVA



At the regional level, it is the Regional Administrator who has only the authority for changing the "Local offices registry" and for "Managing users and passwords" as said in the screen of Figure 2.

A brief description of the settings to be established or modified follows.

PIM/IMT DATES

The pilot experience made evident the need to define clearly several dates that are necessary for some of the indicators. They are the following:

a) *The year in which the PIM/IMT process was started*,

b) The expected duration of the PIM/IMT program,

c) *The reference year* is the year before the start of the annual monitoring in the MONEVA system and up to which cumulative data for certain indicators need to be entered.

Figure 3: PIM/IMT time settings

d) *The number of years for which the PIM/IMT program is expected to be extended*, and

e) *The date of the last update of the time settings.*

The date of a) is used to determine the age of the PIM/IMT process, which is needed for the evaluation of some indicators whose scoring criteria depends on the stage of the development of the PIM/IMT[9]. The dates related to b), c) and d) are needed to decide the expected date of completion of the PIM/IMT process, in order to activate certain indicators that are used for end of PIM/IMT evaluation.

CURRENCY

It establishes the exchange rate of the US dollar ($) with the local currency, for the years that the MONEVA system is in use. This conversion is used in some indicators where the scoring criteria is based on values set in US$ and where conversion from local currency to US dollars are needed.

SCORING CRITERIA

Figure 4 shows a screenshot of an example of an indicator for which the evaluation criteria may be changed by the National Administrator. This setting permits the National Administrator to change the scoring criteria for any indicator to reflect the local experience of the country. However experience in the pilot areas and countries showed that this utility was rarely used since those proposed were found suitable for the local conditions.

Figure 4: Screenshot of the scoring criteria for an indicator

The left upper part of the screen (in green) defines the indicator being used. The center upper part of the screen (in rose) is the navigation menu and the right upper part of the screen (in rose) allows the use of filters to look for one or a group of indicators.

[9] For example, the performance of an indicator measuring the change in the allocation of financial or human resources during two consecutive years would be considered good if, during the first five to ten years of the PIM/IMT life time, the value of the indicator was increasing. After 5-10 years, and as more areas and O&M tasks are transferred to the WUAs, less governmental resources should be allocated, and hence a decrease in the value of the indicator is warranted.

The *Section guide* is also in the upper right part of the screen. By pressing it, a detailed guide of the section under consideration, will pop-up.

The lower part of the screen (no color) shows the definition of the indicator and the scoring criteria used. Two periods have been included, since it is possible that during a certain period the indicator will have growing values while after a number of years the values may be decreasing. For example, during the initial years, a growing amount of budget can be allocated annually by the National Irrigation Agency for the PIM/IMT programme; a feature which may be desirable during the first development phase (the first period, figure 4) of the PIM/IMT program. However, as time passes (say after some 15 years); referred to as **the second period in figure 4** the allocated amounts should decrease annually as more responsibilities get progressively transferred to the WUAs.

In addition, it allows changing the period setting; which refers to the number of years after which the scoring criteria for an indicator might vary.

This feature is an outstanding feature of the MONEVA system that permits the adaptation of the scoring criteria to the specific experience of a given country.

REGIONAL OFFICE REGISTRY

This is a registry of all the Regional Offices that are or will be involved in the use of MONEVA. For each office, a unique code is defined and some other specific data.

LOCAL OFFICE REGISTRY

This is very similar to the above and is a registry of the WUAs that will participate in the M&E system. In this context, it should be noted that "local offices" refers to the "WUAs".

APPLICABLE INDICATORS

This is another remarkable feature of the MONEVAS system that permits to select the indicators that will be used in a given country. In this section, all the indicators of the system are presented and the National Administrator can select those indicators that are considered more appropriate or applicable to his/her country. Figure 5 illustrates the screen where this selection can be made.

Figure 5: Applicable indicators settings

Figure 5 shows that for every indicator, there are two buttons with the headings: "active" and "Scored". If the "active" button is pressed, the indicator will be

inactivated; and the overall maximum scoring of the related outputs and outcomes will be adjusted accordingly. Being inactive, all the variables that are used to calculate such indicator will also be deactivated and put out of use. Likewise, if the "Score" button is pressed for a given indicator, then the overall maximum scoring of the outputs and outcomes related to the said indicator will be adjusted as if the indicator is de-activated, while still maintaining it for monitoring. This second alternative is relevant to maintain certain variables that are used to calculate more than one indicator. National Administrators must therefore study carefully the variables that determine one indicator before deactivating it. This can be done through close examination of the structure of the system which is easily accessed in a dedicated section of the system (under utility and tools). Should the country decide to use the indicator later, both de-activation and de-scoring can be reversed.

MANAGING USERS & PASSWORDS

With this sub-menu, the National Administrator and Regional adminstrator can define the passwords of the different users at the nationa, regional and local level.

MONEVA USE AFTER GENERAL SETTINGS ESTABLISHED

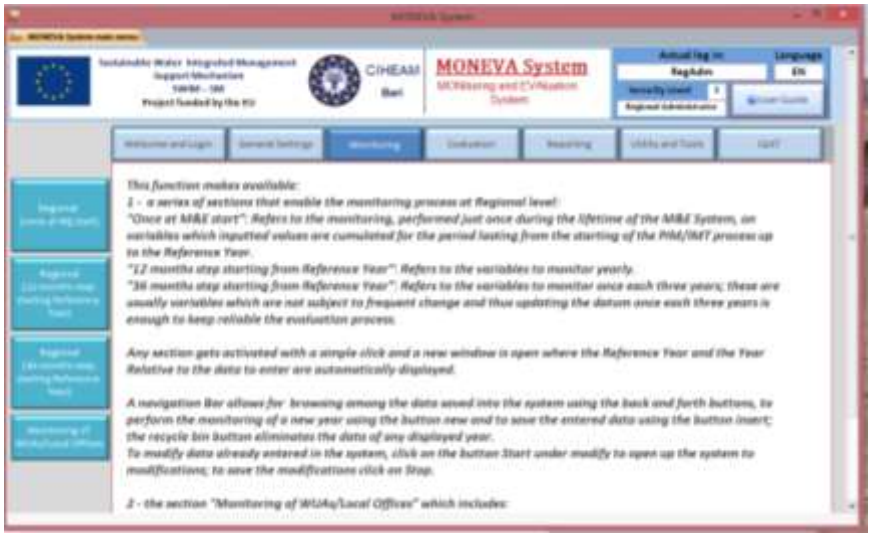
The establishment of the general setting is perhaps the only part of the MONEVA system that has a certain degree of complexity and requires a good understanding of the indicators used in the system but this task is to be carried out by one single person familiar (National Administrator) with information available in the country and the M&E systems.

The rest of the users will only be concerned with the remaining sections of the main menu the use of which is relatively simple. A brief description of these sections follows. A much more detailed description is available in the User's Guide, which is accessible from any section of the system.

MONITORING

This section of MONEVA is dedicated to enter the monitoring data that are the bases for the evaluation. The monitoring is carried out at three levels: national, regional and local. At each level the data are entered independently and even if the total number of data is high, each level is only concerned with their data, which is obviously much smaller. Even if the data are entered independently, the system allows the transfer of information from one level to the other as required to maintain the integrity of the system.

Figure 6: Screenshot of the Monitoring section at the Regional level



The monitoring data have been classified in three groups:

1. Information that needs only to be entered once called in the menu: "once at the M&E start", as for example fixed information or cumulative information up to a given year.
2. Information that changes often and is requested annually (12 months) called in the menu; "12 month step starting the reference year".
3. Information that does not change often and is requested only every 36 months (3 years, called in the menu: "36 month step starting at the reference year".

In most cases, the users are only concerned with the submenus 2 and 3 since submenu 1 only applies to countries where cumulative information up to a reference year needs to be entered into the system.

MONITORING AT NATIONAL AND REGIONAL LEVEL

Monitoring of data at national and regional level are very similar and for this description, only the Regional level was selected to illustrate the main features.

Figure 7: Screenshot of the 12 months step of monitoring at the regional level

By pressing the selected submenu in the left part of Figure 6 above, the user will be presented a screen where the monitoring data need to be entered. Figure 7 presents such screen for the 12 months step at regional level.

On the upper left side, a *navigation menu* permits to move among the data to be entered. On the right side there is the *modify menu* that permits to modify any data previously entered. In the center the *create menu* permits the creation of a new year for which monitoring data will be entered.

Data must be entered for each variable described and users should be careful to insert the correct information. The system provides more information about each variable by clicking on the "?" symbol.

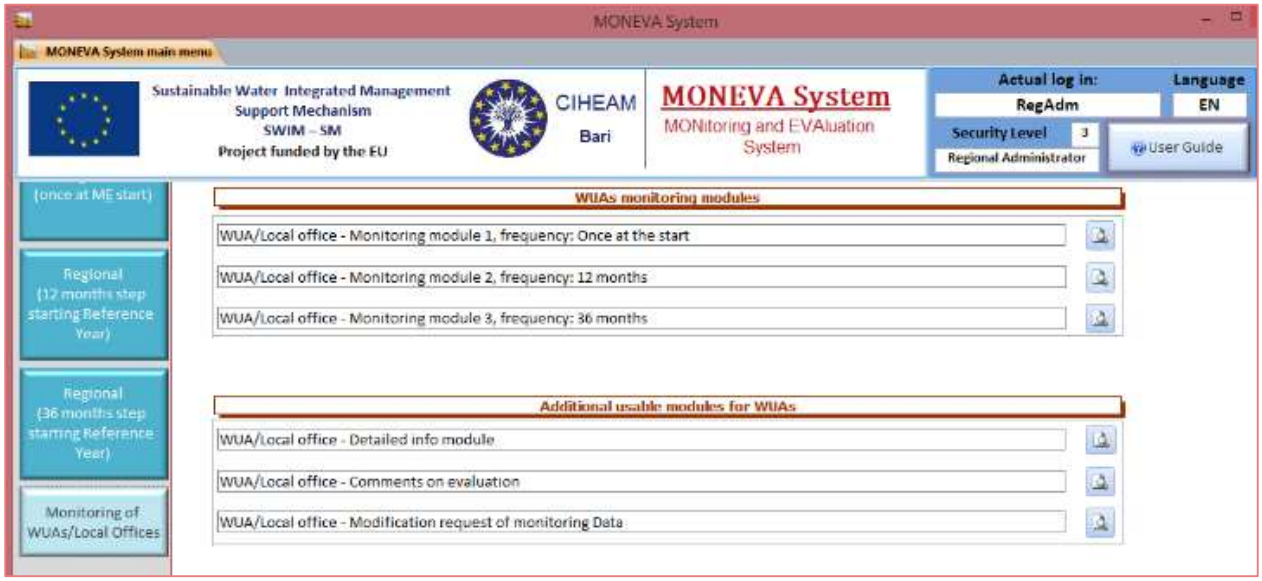
Once the data for a given year have been completed, they are automatically stored in the system.

Similar screens are presented to the user when clicking other submenus of figure 6.

MONITORING AT LOCAL LEVEL

Monitoring at local level is somewhat different from those at national and regional levels. The reason for this difference arises from the fact that unfortunately, many WUAs still do not have computers facilities or, if they have them, their ability to use them is often limited. Therefore, a different modality was devised to provide them with forms to fill them with the required data, either manually or electronically if a computer is available

Figure 8: Monitoring forms to be sent to the local level (WUAs)



The forms correspond to the 3 categories (once at the start, 12 months and 36 months) already described for the regional and national level and developed with the same criteria. Figure 8 shows in the upper part of the screen the 3 types of forms mentioned, ready to be sent to the Water Users associations as well as some other complementary forms (lower part of the screen). Other complementary forms are also available in the lower part of the screen.

The forms are sent to the WUAs by the corresponding regional office. If no computer is available, they will sent by normal mail, or if available via email.

The forms contain the questions/ variables that each WUA must fill. Once the forms are completed, they will be sent back (by mail or email) to the corresponding regional office where the evaluation will take place.

EVALUATION

No doubt that this is the most important part of the MONEVA system but, like in any other M&E system, its value is largely determined by the quality of the data entered.

Evaluation is performed once the monitoring phase is completed. The system distinguishes between two levels: National and Regional.

- A National administrator or user can perform only the National Evaluation and hence access the Outcomes A and Bn in reference to modules A and B - National .
- A Regional administrator or user can perform their own Regional Evaluation and hence access the Outcomes Br in reference to module B – Regional in addition to the evaluation of the affiliated WUAs and hence access the Outcomes C and D in reference to modules C and D related to the local level.

The evaluation is organized by outcomes and the user must select the outcomes for which the evaluation is wanted.

Figure 9 shows the screen were the outcomes can be selected. Those in green correspond to the Regional level and those in yellow to local level. By clicking in the button the description of the outcome appears as shown also in figure 9.

Figure 10: Selection of the outcomes to be evaluated

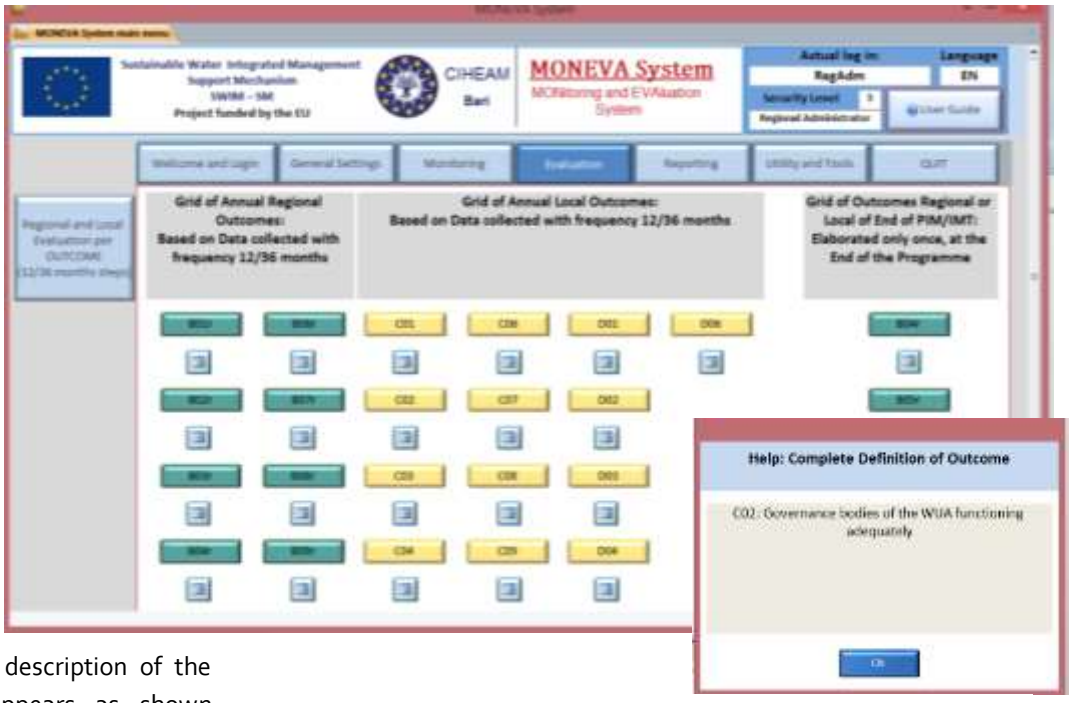
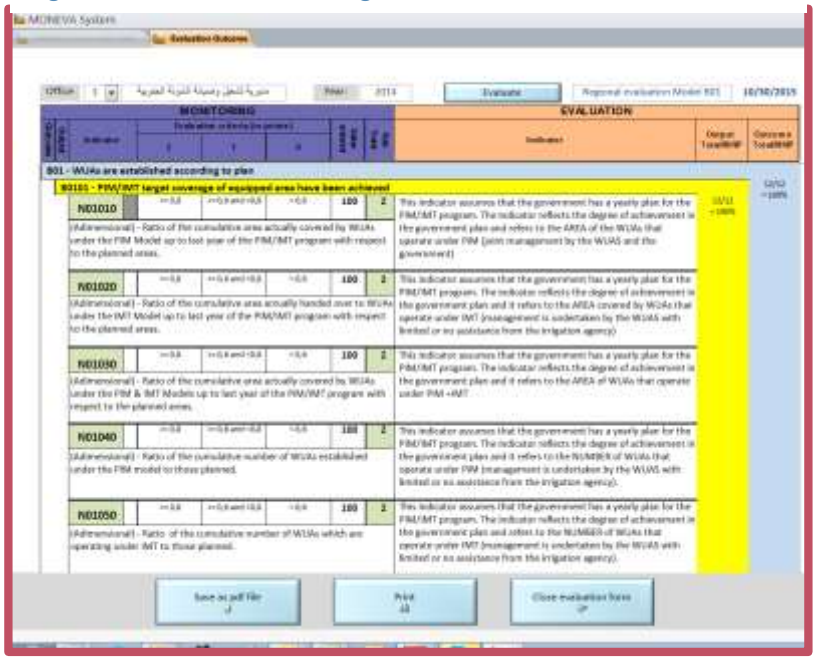


Figure 9: Screenshot illustrating the evaluation for outcome B04r

To have the complete evaluation at the national, regional or local level (WUAs), all the outcomes of that level must be evaluated. This can be performed in one single session or separate sessions.

Once an outcome is selected for evaluation, the screen that appears to the users is like the one shown in Figure 10.

The evaluation is made for all the indicators related to each output. The number of points



obtained for the output represents the total scores of the respective indicators and is reflected in the yellow part of the screen shot (depicted in figure 10).

This process is repeated for each output (in yellow) and then aggregated at the outcome level (in blue). The total number of points obtained with respect to the maximum possible indicates the level of achievement of outputs and outcomes. The number of points is only an approximation to the reality and the most important issue is whether the outputs and outcomes were achieved and, if not, why not. In the second level evaluation, that takes place in the presence of the concerned stakeholders, great attention must be dedicated to the reasons why certain outputs or outcomes were not achieved and the actions needed to correct the situation. This feature confers to MONEVA the characteristics of a DSS.

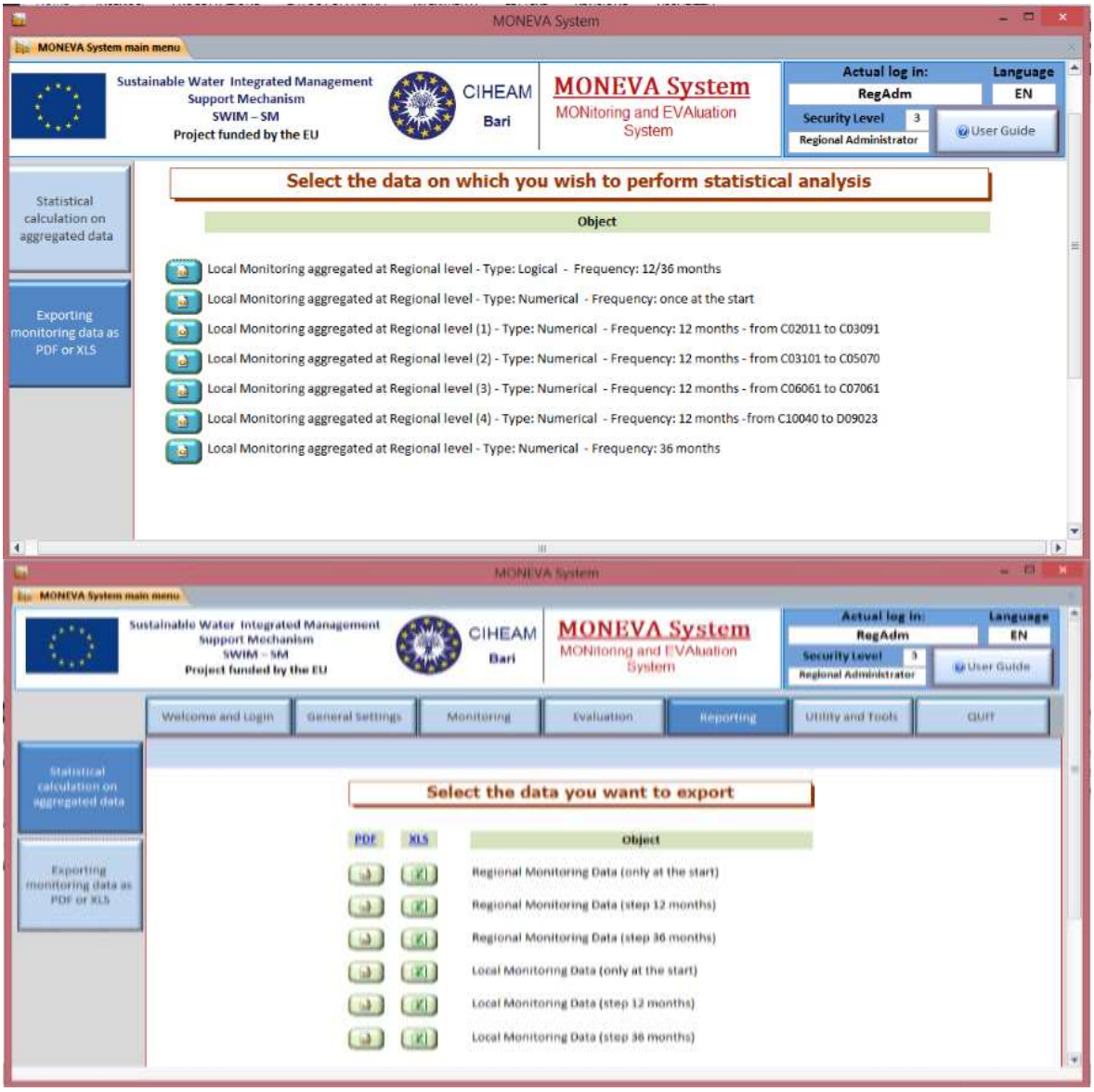
REPORTING

This function provides two tools enabling the user to perform a more detailed evaluation of selected indicators. The two options are illustrated in Figure 11. The first option of the menu is the "Statistical calculation on aggregated data". Essentially the user is provided with an Excel table where all the aggregated data regarding a given indicator are included and the user can perform all kind of statistical analysis and preparation of related graphs.

The second option of the menu permits the "Exporting of Monitoring data as PDF or XLS" by a Regional Administrator and/or User. This includes the bulk National, Regional and Local monitoring data, organized per level and frequency of update.

Exporting as an "xls" file (Excel) permits all kind of statistical analysis and graphical presentations.

Figure 11: First and second option of the reporting menu



UTILITY AND TOOLS

This function provides for a variety of tools essential to facilitate the management of the system. They should be carried out only by the national/regional administrator or the regional users.

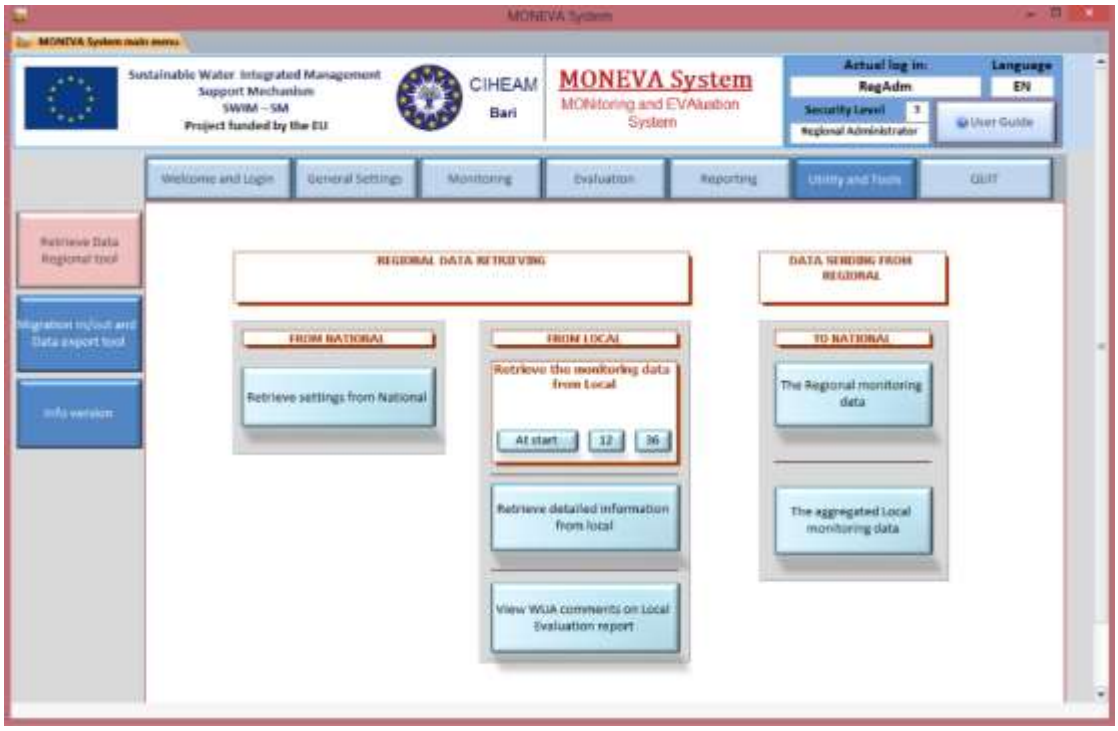
The first option of the menu concerns the retrieving of data. For illustrative purposes the case of the Regional Office has been selected but a similar menu is available at the National level.

For instance, the "Retrieve Data – Regional tool" allows the Regional Office:

1. To retrieve, check and incorporate into its database:
    - the settings received from the National level

- the monitoring data of different frequencies received from the Local level/WUA
- the detailed information received from the Local level/WUA
- and to view the WUAs comments on the Local Evaluation Reports

Figure 12: Retrieving data at the Regional level



2. To send to the National level:
    - The Regional monitoring data (own monitoring data of different frequencies)
    - The aggregated local monitoring data (of the affiliated WUAs)

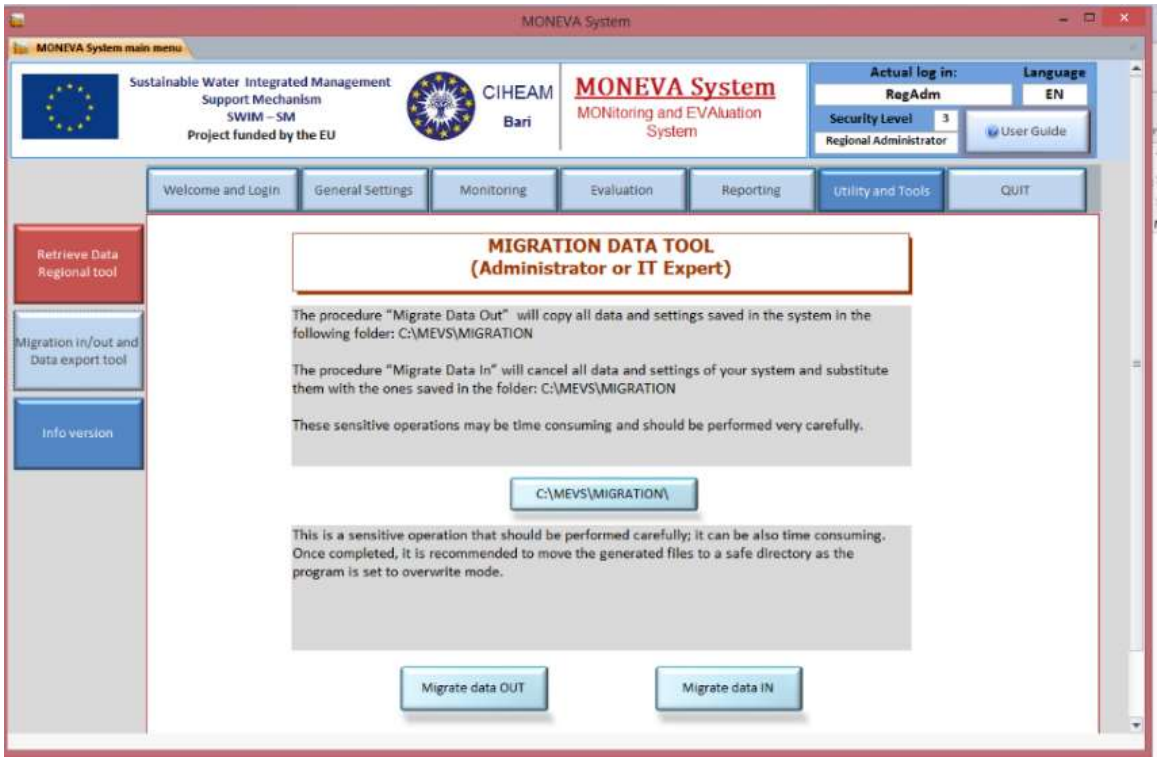
By clicking on the corresponding buttons illustrated in the Figure 11, the above operations can be performed.

The second option of the Menu is the "Migration in/out and Data export". It allows the Administrators, to import and export the data and settings of MONEVA System (see figure 12) for the following purposes:

- Backup and security (export) purposes, or
- Migration-in/out purposes allowing shifting to the use of a new release of the MONEVA software preserving the system data and settings.

As indicated in Figure 13, this operation should only be carried out by the National Administrator or IT specialist, since errors in the operation may lead to loose important data.

Figure 13.: Migration in/out and data export level



The Info system option provides general information about the developers of the system and the date of actual version (24/08/ 2015) in use, as shown in figure 14

Figure 14: The Info system option

MONEVA BEYOND THE PILOT EXPERIENCE OF JORDAN AND TUNISIA

COUNTRY APPLICATIONS

The knowledge gained in the application of the MONEVA system in the pilot areas has been essential for improving and consolidating the MONEVA tool and has been of considerable benefit to the participating countries. The system has shown its potential for identifying shortcoming and problems in the implementation of the PIM/IMT programs at all levels. But, what is even more important is that the system provides a good base for the preparation of action plans aimed at improving the implementation of the PIM/IMT activities at each governance level: national, regional and local. It was rewarding to see how the WUAs prepared their Action Plans to correct the identified limitations after they receive the evaluation report for each outcome.

> In the words of one of the leaders of the WUAs , the MONEVA system was "an eye opener to give a comprehensive view of what needs to be done".

Combining both Jordan and Tunisia as two pilot countries offered the advantage of testing the system under two opposite ends of the PIM/IMT spectrum; with Jordan representing early experience with PIM/IMT while Tunisia offering a process that was completed. This allowed assessing, in addition to the WUA performance in both countries, the PIM/IMT implementation in Jordan, and enabled end of PIM/IMT evaluation in Tunisia.

Moreover, the application of the MONEVA system in two completely different situations from the perspective of the PIM/IMT implementation has given a good insight of what potentially needs to be done in other countries when attempting to implement the system.

THE MONEVA ROAD MAP FOR ITS APPLICATION IN OTHER COUNTRIES

The road map of the main activities to be undertaken when initiating the application of MONEVA are given below. Given the fact that every PIM/IMT experience is different, the road map may need to be adapted to every specific situation but it represents a good guide of the steps that need to be considered.

1. **Government interest and support**. An essential element for the success of MONEVA in Tunisia and Jordan was the strong support received from the concerned government institutions that dedicated time and resources to support the implementation of the program. Without such interest and support, the application of MONEVA will be limited in scope and results.
2. **A progressive geographical approach.** The approach used in the pilot experiences of involving a limited number of regions and WUAs in the first year and expanding them progressively in the second year has proven to be highly adequate. This progressive approach will be advisable in other countries too to gain confidence with the system. Surely, the rhythm could be faster since already the MONEVA system is consolidated and some learning steps are no longer required.
3. **Good planning of the activities to be done is required.** One or two days planning workshops to define the activities to be undertaken is a good start.
4. **Training of trainers (TOT) is an important pillar of the implementation.** The experience showed that a 3 days training workshops were sufficient to train the national officers concerned and a limited number of WUA leaders. Use of local language (Arabic) proved to be

fundamental. The training of the National/ administrator may require some additional on-job training.

5. **Local support to the leaders of the WUAs.** For many associations the use of computer facilities is often a new world and even when information to be provided is simple they often need support. In this sense, the PIM/IMT Support Units of Jordan and Tunisia proved to be essential to provide the needed support. Also, trained Regional Officers can play an important role in this task.
6. **Remote technical assistance from the developers.** The pilot experience showed that the requirements for technical assistance from the developers were very modest but it is important to count on such assistance as required.
7. **Financial and human resources.** Carrying the above activities implies the dedication of some human and financial resources to implement them. The human resources are generally available locally and the new activities require only additional time requirements for training and application of the system; including data collection. The financial resources would need to be evaluated in each case depending of the activities to be carried out. They are certainly modest considering that mainly local human resources are needed, plus some limited external support from the developers.

   International or bilateral cooperating institutions may need to be approached if the financial resources are not available from other sources.

USE OF MONEVA FOR OTHER RELATED ACTIVITIES

Besides the country applications mentioned above, the MONEVA can be a useful tool for any activity related to the M&E of related government programs and for assessing the performance of WUAs. It can also be a complementary tool in the work of research institutes, universities and other learning institutions. It can also offer a basis for further development to adapt it for the evaluation of the performance of small WUAs, federations of WUAs, or WUAs using treated wastewater such as the case of Palestine.

International organizations should be interested in its application at the project level particularly when connected to PIM/IMT programs.

For some of the above applications the full use of the complete system may not be necessary and only specific parts of the system may be used.

The developers of the system (SWIM-SM and CIHEAM-Bari,) will be happy to provide copies of the software for these purposes and consider any related collaborative agreement.

THE EXPECTED BENEFITS DERIVING FROM THE USE OF MONEVA

MONEVA is only a tool that managers of PIM/IMT programs and leaders of WUAs may use to improve their performance. When the desire for improving such performance is there, MONEVA will contribute to identify the priorities where improvements are needed and help considerably to achieve higher levels of performance. Improved performance in PIM/IMT programs is an important objective because it contributes to:

- reduce operation and maintenance costs at governmental and WUAs level,
- accelerate the speed of the implementation of PIM/IMT programs,
- contract the public system and expand the farmers' governance level,
- increase the communication between the national, regional and local levels,
- increase the efficiency of the irrigation networks ,
- increase water availability for the farmers at low cost,
- increase water productivity,
- empower local leaders and farmers,
- consolidate the role of WUAs and expand their responsibilities,
- mobilize local resources,
- increase the decision making capacities of farmers on financial or managerial issues,

Many of the above benefits may not be attributed only to improved performance but it is certainly an important factor in their achievement.

Many of the WUAs' leaders are capable farmers but they often lack knowledge on how to run an association. The MONEVA system is a tool that may help them much in monitoring the affairs of the association and making the right decisions. This may be difficult to evaluate in financial terms but is an important societal goal for the farmers' community.