



Sustainable Water
Integrated Management (SWIM) -
Support Mechanism



Project funded by
the European Union

Water is too precious to waste

M&E System Application to monitor & evaluate the Participatory Irrigation Management (PIM) and Irrigation Management Transfer (IMT) Process

3.2 M&E per outcome

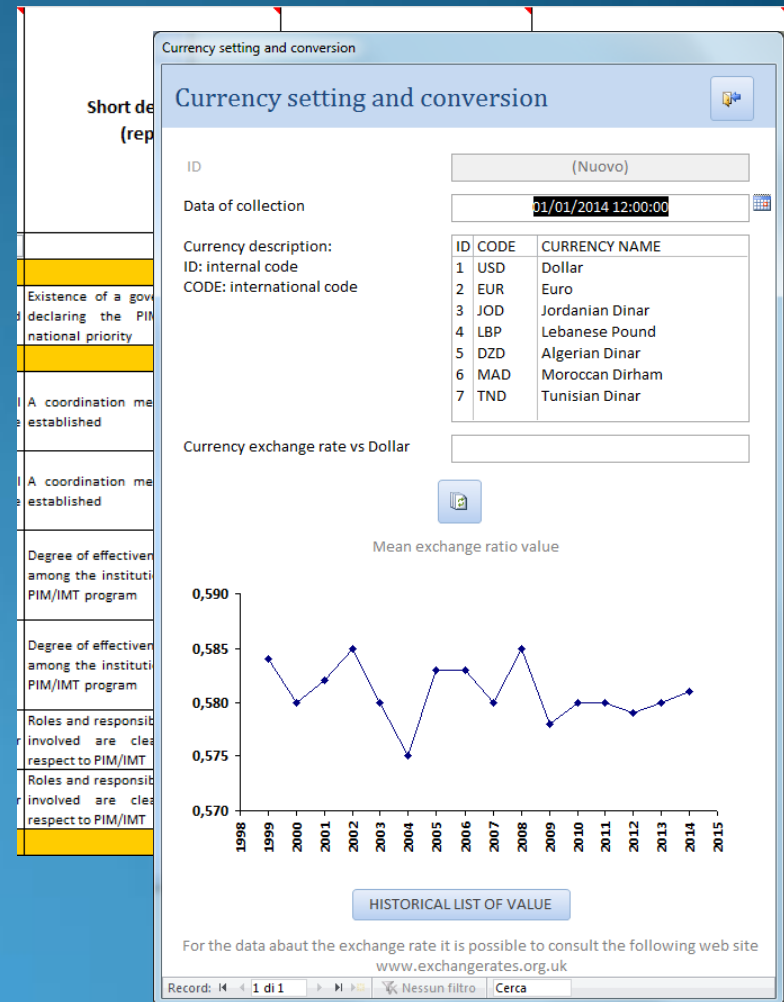
Activity implemented in collaboration with CIHEAM/IAM Bari



Organization into outputs

The section containing the numerical indicators includes all the variables needed for the calculation of the indicator. This set of tables is used in the field to collect the required data. The tables have internal validation capability in case that responses are not framed within the expected answer.

The system is capable of processing the information collected in the field and produce a complete list of the values of the indicators grouped by outcomes and outputs. For those “Numerical Indicators” or “Information Data” or variables where data may be available for several years the system should be able to generate graphs with trends.



Indicators per output

The system is able to make an evaluation of the results obtained for the indicators according to established criteria.

The evaluations at the level of indicator are aggregated at the level of output and outcome.

The reports illustrate the outputs and results after the appropriate calculation procedures carried out by the information system.

MONITORING		
Outcome	Output	Indicator
A.1 - The implementation of the PIM/MT program is supported politically.	A government statement declaring the PIM/MT program a national priority is available.	A.1.1 - Existence of a government statement declaring the PIM/MT program a national priority.
OUTCOME A1		
A.2 - The PIM/MT program has been institutionalized for the planning and implementation phases.	Coordination mechanism is in place.	A.2.1 - A coordination mechanism has been established. A.2.2 - Degree of effectiveness of coordination among the institutions participating in PIM/MT program. A.2.3 - Roles and responsibilities of the actors involved are clearly defined with respect to PIM/MT.
OUTCOME A2		
A.3 - The PIM/MT program is supported with a national PIM/MT Plan which is operational.	A national PIM/MT Plan with financial and human resources allocated is available.	A.3.1 - A national PIM/MT plan with financial and human resources allocated.
		A.3.2 (AB) - Percentage of the annual budget allocated to the irrigation agency for the PIM/MT programme with respect to the budget two years ago.
		OUTPUT A3.1
	Annual budget for rehabilitation available.	A.3.4 (AFAR) - Percentage of the annual financial allocation for the rehabilitation (AFAR) or improvement of transferred irrigation systems last year with respect to 2 years ago.
		OUTPUT A3.2
OUTCOME A3		

REGIONAL AND LOCAL OFFICE LIST			
Regional and local office list			
REG CODE	REGIONAL NAME	LOC CODE	LOCAL NAME
1 North Directorate			
		2	North Shouneh (DA 5)
		3	Al-Manshiyyeh Pump Station 14
		4	Sheik Hussein Pump Station 28
		5	Al-Mashare Pump Station 33
		6	Wadi Ar-Rayyan Pump Station 41
		1	North Shouneh (DA 3, 4)
2 Middle Directorate			
		8	Al-kraymeh Pump Station 55
		7	Abu-Seido Pump Station 50
3 Karameh			
		10	Ghor Kated Pump Station 91
		11	Ghor Kated Pump Station 95
		12	Al-Kafrein
		13	Ar-Rama
		9	Ghor Kated Pump Station 81
4 South Directorate			
		16	Al-Khunezeera
		14	Mazra'a, Haditha
		15	Feifa

Typology of requested input: Logical, Numerical and calculated

Type of input

The information that we want to acquire can be stored in different ways according to its nature, 4 type of input are considered:

IL: for logic input, normally an answer to a specific question (Yes or No);

IN: for numeric input (No. of people, a money value, areal measure, etc.)

IQ: for qualitative-coded input (normally a valuation question precompiled)

CA: for calculation, the field with this specifics, auto determinate their value through the use of a formula

output/outcome MODULE	SUBJECT OF REQUEST	LEVEL OF AGGREGATION	TYPE OF AGGREGATION	LEVEL OF APPLICABILITY	REVISER	TYPE OF INPUT	FREQUENCY	GRAPHICS & REPORT	CODE	Acronyms for numerical indicators
A	N			N		IL	12		A01010	
A	N			NR		IL	36		A02010N	
	R	N	C	NR		IL	36		A02010R	
A	N			NR		IQ	12		A02020N	
	R	N	C	NR		IQ	12		A02020R	
A	N			NR		IL	36		A02030N	
	R	N	C	NR		IL	36		A02030R	
A	N			N		IL	36		A03010	
A	N			NR		IN	12		A03021N	AB1n
	R	N	S	NR		IN	12		A03021R	AB1r

Frequency of monitoring and codification

The unit of frequency is in months, but the monitoring frequencies are every 12, every 36 and once in the PIM/IMT lifetime.

You can also enter historical data through the input forms, thanks to which the database will be populated.

Simply select the desired frequency option, and the masks data entry will appear, organized according to the coding sequences and included in the database system structure

The screenshot displays the 'MONEEVAS MAIN MENU' interface. At the top, it identifies the user as 'National administrator' and provides 'LOGOUT' and 'QUIT PROGRAM' options. Logos for the European Union, European Regional Development Fund, LDK CONSULTANTS, and CIHEAM IAM BARI are visible. The central title is 'MONEEVAS MONitoring & EVALuation System'. Below this, the 'PROGRAM SUB-SECTION' is divided into three main areas: 'GENERAL SETTINGS', 'DATA UPDATE', and 'REPORTING'. The 'DATA UPDATE' section is highlighted with a red circle and contains the following elements:

- Update frequency (months)**: Three buttons labeled '12', '36', and '72'.
- ONCE IN THE PIM/IMT LIFE AT THE START**: A button.
- ONCE IN THE PIM/IMT LIFE AT THE END**: A button.
- DATA RETRIEVE**: A button.

The 'GENERAL SETTINGS' section includes buttons for 'PROJECT TIME SETTINGS', 'PROJECT CURRENCY SETTINGS', 'SCORE SETTINGS', 'USER_PASSWORD SETTINGS', 'REGIONAL OFFICE REGISTRY', and 'LOCAL OFFICE REGISTRY'. The 'REPORTING' section includes buttons for 'TIMESSET' (with '12', '36', '72' options), 'ONCE IN THE PIM/IMT LIFE AT THE START', 'ONCE IN THE PIM/IMT LIFE AT THE END', 'INDICATOR GRAPHICS AND DATA EXPORT', and 'VARIOUS'. At the bottom, there are 'Info version' and 'Help' buttons.

Frequency of monitoring and codification

After selecting the frequency, you will proceed to the selection of the reference and the data inputting, navigating through the fields tab: each value has its own field code, with its description, to ensure the best answer

National input mask - 12M

National input mask - time of update 12 months

GENERAL A B

ID

REFERENCE YEAR

Record: 14 2 di 5

National input mask - 12M

National input mask - time of update 12 months

GENERAL A B

2006

B03021N:
Number of Government Staff at the Support Unit fully dedicated to provide support to PIM/IMT program (NGSPIM/IMT) up to last year. For staff that is not working full time they should be converted to full time. Example: 4 persons working 1/2 time is equal to 2 persons full time. Staff of the support units can be at the local level, at the regional or national level at the headquarters of the irrigation agency.

no. of people

B03031N:
Number of Actual training days carried out for the staff of the Support Units during the last year
Note that the staff of the support units can be trained at the local level, and at the regional and national levels (at the headquarters of the irrigation agency)

no. of day

B03032N:
Number of Training Days Planned for the staff of the Support Units during the last year.
Note that the staff of the support units can be trained at the local level, and at the regional and national levels (at the headquarters of the irrigation agency)

no. of day

B08040N:
Annual ME report is produced, with the results integrated into the annual workplan.
"WUAs should produce an annual report with the results of the indicators and the corresponding evaluation integrated into the annual workplan and forming the basis for actions next year".

yes

B09010:
The government undertakes an evaluation of the rehabilitation/improvement needs for each irrigation system transferred?
"The evaluation of the status of the irrigation systems is a technical study where the main problems of the irrigation infrastructure are identified with the associated cost of rehabilitation/improvement. Normally this is carried out together with the representatives of the WUAs".

yes

B09030N:
The leaders of the WUAs and the representatives of the government meet to determine the priority works to be rehabilitated

yes

A01010:
Existence of a "A government described but

A02020N:
Degree of efficiency "Coordination Mechanism."

A03021N:
Annual amount and implemented (PCs, tel. fax,

A03041N:
Number of government Normally this "A Support Unit the PIM/IMT and divide it according to t

A03051N:
Annual financial and refers to

A05081N:
Number of staff officers are working less than full time, estimate the total number of days/month they worked and divide it by 220/10. working days/month, This should give the no. of people who worked full time. If there is a fraction, round it according to the rounding rules

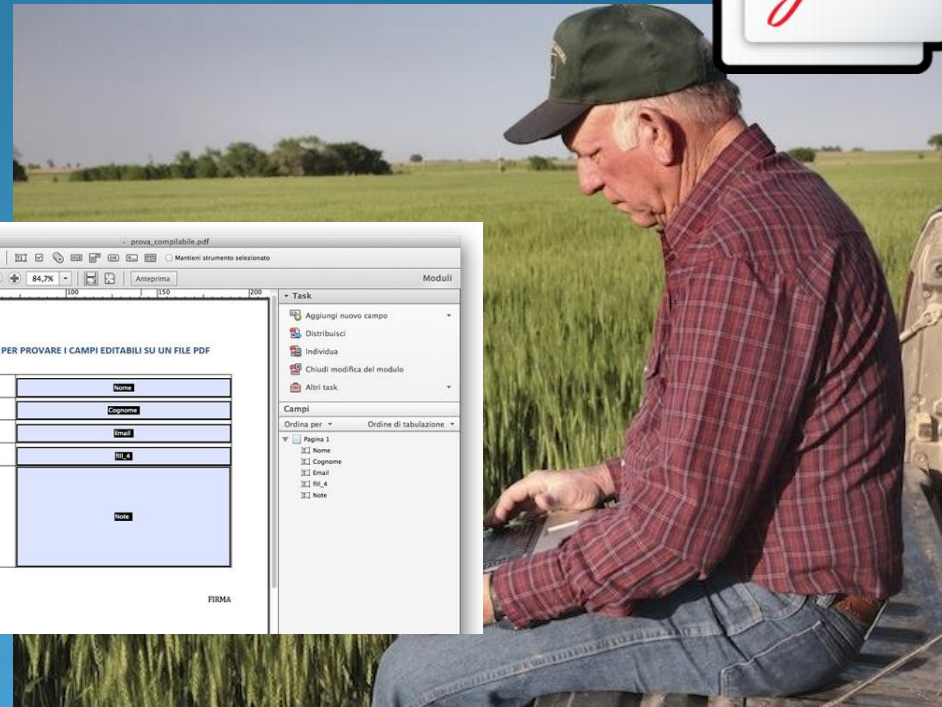
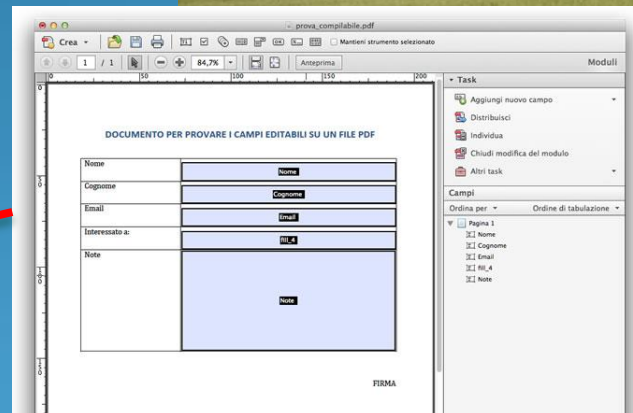
no. of people

Record: 14 2 di 5

Level of aggregation and dependability on lower levels

Local units must follow the simple instructions to fill in the PDF file that will be assigned to them, follow the wizard to export data and send the file, which is their connection to the higher regional unit.

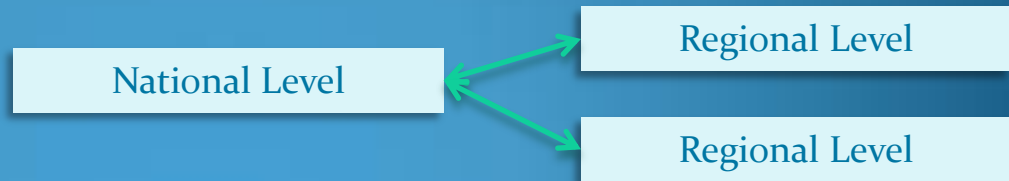
Regional Level



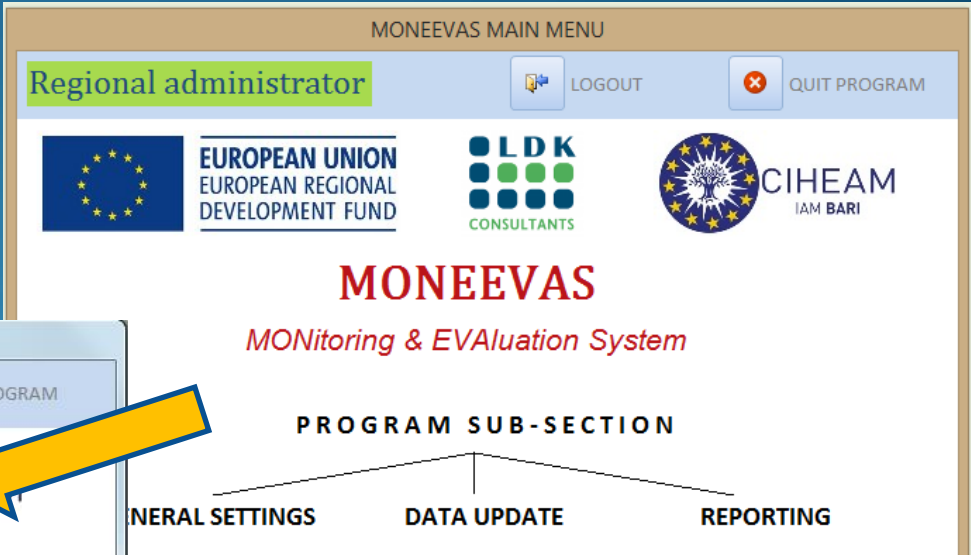
Level of aggregation and dependability on lower levels

The level of aggregation between the regional level and the national level is through the software itself, which is the same at both levels, but with different functions depending on the level of authentication. The only location where you can see all the data aggregated is the national one, where such data are derived from: the regional stations will be able to have an overview only for their local units aggregated data.

1	2	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y		
1	2	output/Outcome	MODULE	SUBJECT OF REQUEST	LEVEL OF AGGREGATION	TYPE OF AGGREGATION	LEVEL OF APPLICABILITY	REVISER	TYPE OF INPUT	FREQUENCY	GRAPHICS & REPORT	CODE	1	2	3	4	Acronyms for numerical indicators	UNIT	FORMULA	Pre-Conditional requirement	score (FIRST 10 YEARS)-2	score (FIRST 10 YEARS)-1	score (FIRST 10 YEARS)-0	score (AFTER 10 YEARS)-1	score (AFTER 10 YEARS)-0			
310	C.8																											
311	C	L						IN	12			C08011	08	01	C	1	NP1	no. of penalties										
312	C	U	R	A			R	CA	12		GC0801	P08010	08	01	P	0	%ChangePenalties	%	(C08010/C0801(-1j))*100									
313	C	L						IN	12			C08021	08	02	C	1	ECFR1	currency										
314	C	U						CA	12		GC0802	P08020	08	02	P	0	PECF1	%	(C08020/C0802(-1j))*100									
315	C	L						IN	12			C08031	08	03	C	1	VDEexpected	adimensional										
316	C	U						CA	12			P08030	08	03	P	0	VDEPo	adimensional	P03050/C08031		>=1	>0.9 Λ <1	<=0.9	>=1	>0.9 Λ <1	<=0.9		
317	C	L						IN	12			C08041	08	04	C	1	VDEexpected	adimensional										
318	C	U	NR	A			R	CA	12			P08040	08	04	P	0	VDEPp	adimensional	P03060/C08041		>=1	>0.9 Λ <1	<=0.9	>=2	>0.9 Λ <2	<=0.9		
319	C	U	NR	A				CA	36			P08051	08	05	P	1	IMCavg5yrsPerHa	currency/Ha	$\frac{\sum_{x=0}^{Year-5} year C05081(x)}{C03024}$									
320	C	L	NR	S			R	IN	36		GC0803	C08052	08	05	C	2	EMCperHa	currency/Ha										
321	C	U	NR	A			R	CA	36			P08050	08	05	P	0	IMCR	adimensional	P08050/C08052		>=1	>0.9 Λ <1	<=0.9	>=1	>0.9 Λ <1	<=0.9		
322	C.9																											
323	C	L	NR	C			R	IL	36			C09010	09	01	C	0					Y			N	Y		N	
324	C	L	NR	C			R	IL	36			C09021	09	02	C	1					C09010=y	Y			N	Y		N
325	C	L						IL	12			C09022	09	02	C	2					C09010=y	Y			N	Y		N
326	C	L						IL	12			C09023	09	02	C	3					C09010=y	Y			N	Y		N
327	C	L	NR	C			R	IL	12			C09024	09	02	C	4					C09010=y	Y			N	Y		N
328	C	U	NR	A			R	CA	36			P09030	09	03	P	0	%LVUAsatisfied	%			C09010=y	>=80	>0.9 Λ <80	<=50	>=80	>0.9 Λ <80	<=50	
329	C.10																											




Once you have finished entering data at the regional level, as for the case of the local procedures, the software installed at the regional level will export a file using a wizard



The file that will be created by the wizard is not editable for any of the following: name, extension and contents

Pre-conditional requirement of application

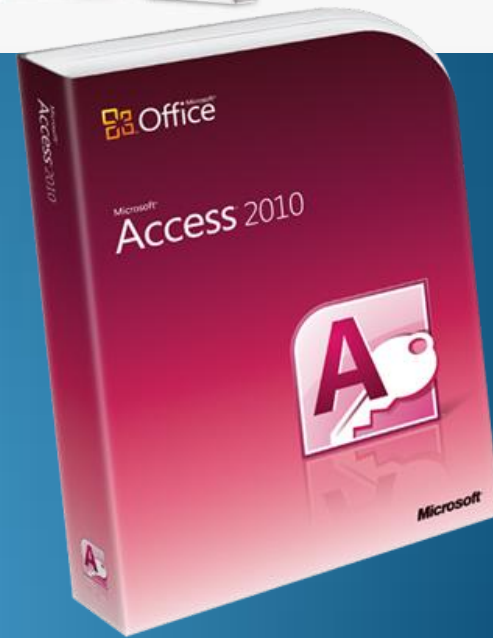
The system requirements for the different levels, both in terms of hardware and software requirements are summarized in the following table:

LOCAL LEVEL	REGIONAL LEVEL	NATIONAL LEVEL
<p>To fill out the simple PDF form, the requirements are a Personal Computer running Windows or Mac or Linux Operating System, with the only feature to be able to run Adobe Acrobat Reader 9 or later versions.</p> 	<p>The system requirements to use the selected database management software, are as follows:</p> <ul style="list-style-type: none">• 1 gigahertz (Ghz) or faster x86- or x64-bit processor with SSE2 instruction set• Required operating system: Windows 8, Windows 7, Windows Server 2008 R2 or Windows Server 2012• Required memory: 1 GB of RAM (32 bit); 2 GB of RAM (64 bit)• 3 GB of available hard-disk space• Graphics hardware acceleration requires a DirectX 10 graphics card and 1024 x 576 resolution• Required .NET version: 3.5, 4.0 o 4.5• Microsoft Access Runtime 2010	<p>The system requirements to use the selected database management software, are as follows:</p> <ul style="list-style-type: none">• 1 gigahertz (Ghz) or faster x86- or x64-bit processor with SSE2 instruction set• Required operating system: Windows 8, Windows 7, Windows Server 2008 R2 or Windows Server 2012• Required memory: 1 GB of RAM (32 bit); 2 GB of RAM (64 bit)• 3 GB of available hard-disk space• Graphics hardware acceleration requires a DirectX 10 graphics card and 1024 x 576 resolution• Required .NET version: 3.5, 4.0 o 4.5• Microsoft Access Runtime 2010

Once the programming of the system, which is still in alpha testing, will be completed it will be distributed together with a PDF manual, consisting of two parts: a basic part and an advanced part: the first helps the local units, the second at regional and national levels.

At any level, local, regional or national, no specific programming skills are needed; it is sufficient to follow the instructions to implement the database and get all the information from the system.

For any future customization of the data and/or reports structure, what you need is a Microsoft Access 2010 software license, and then to provide for the distribution of the installation package to all hierarchical levels, regional and national





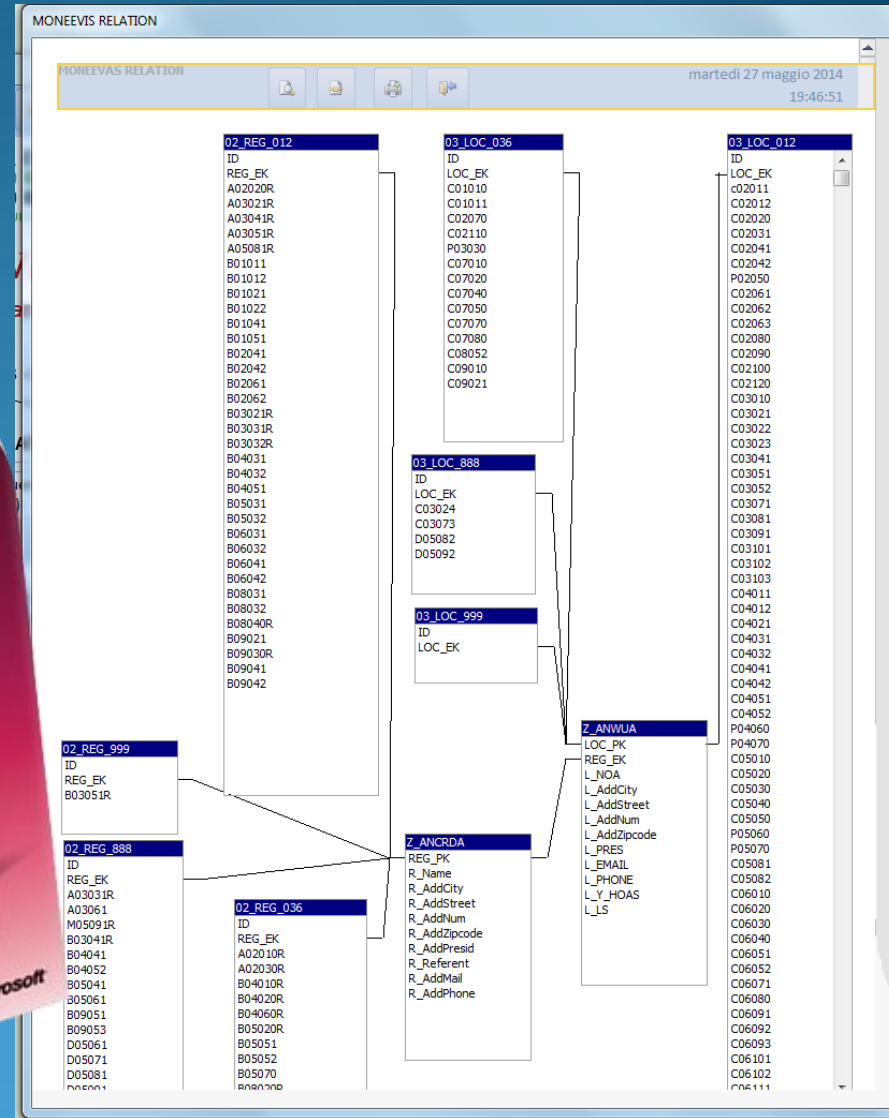
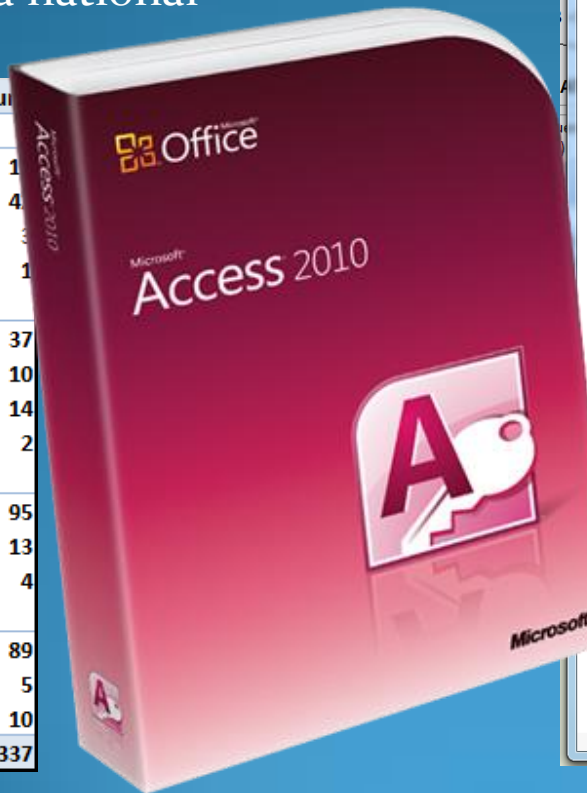
Sustainable Water Integrated Management (SWIM) Support Mechanism



APPLICATION FOR THE PARTICIPATORY IRRIGATION MANAGEMENT (PIM) AND IRRIGATION MANAGEMENT TRANSFER (IMT) PROCESS M&E SYSTEM

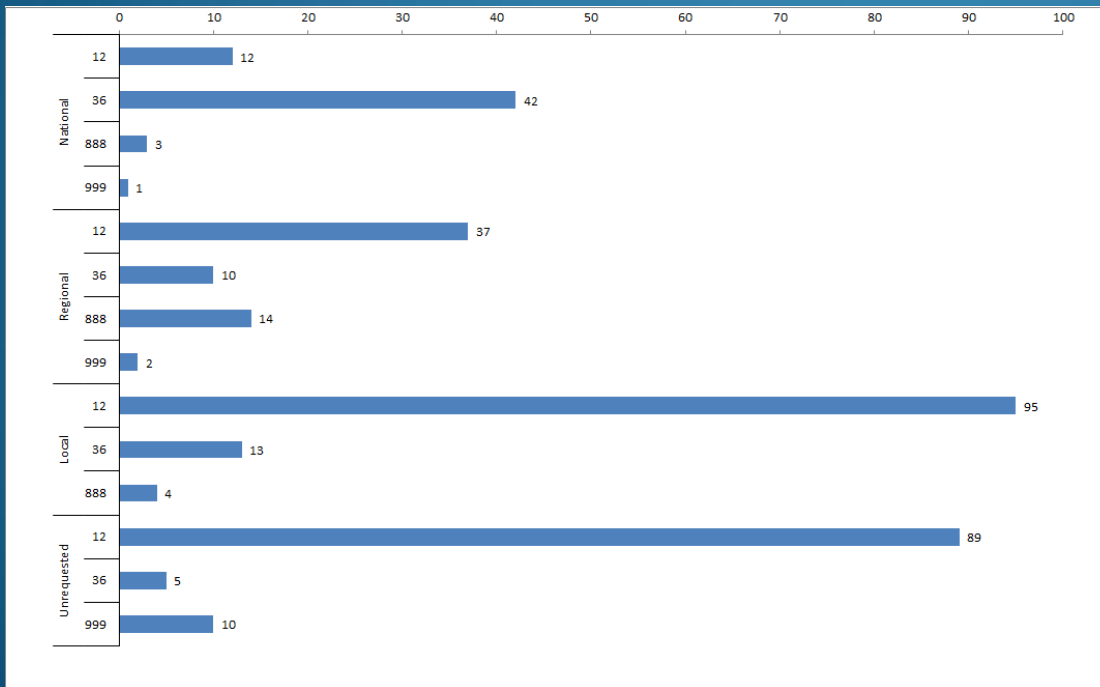
What you need to customize the structure of the data and reports is a Microsoft Access 2010 software license, and then to provide for the distribution of the installation package to all hierarchical levels, regional and national

S.O.R. / FREQUENCY / TYPE	Count
National	
+ 12	1
+ 36	4
+ 888	3
+ 999	1
Regional	
+ 12	37
+ 36	10
+ 888	14
+ 999	2
Local	
+ 12	95
+ 36	13
+ 888	4
Unrequested	
+ 12	89
+ 36	5
+ 999	10
Total	337



Annual Reporting, multiyear trend and archived info

For every hierarchical level you can get the report to display the data, indicators, results and scores: this greatly facilitates the interaction with the system, at regional and national level, and makes possible an estimate of the expected results.



Currency setting and conversion

Currency setting and conversion

ID: (Nuovo)

Data of collection: 01/01/2014 12:00:00

Currency description:
 ID: internal code
 CODE: international code

ID	CODE	CURRENCY NAME
1	USD	Dollar
2	EUR	Euro
3	JOD	Jordanian Dinar
4	LBP	Lebanese Pound
5	DZD	Algerian Dinar
6	MAD	Moroccan Dirham
7	TND	Tunisian Dinar

Currency exchange rate vs Dollar

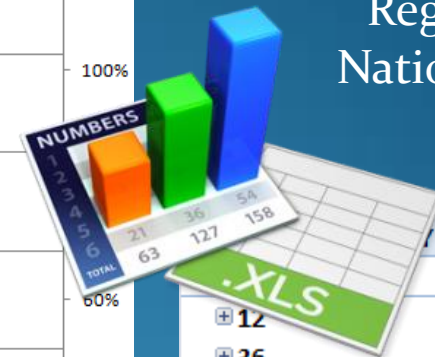
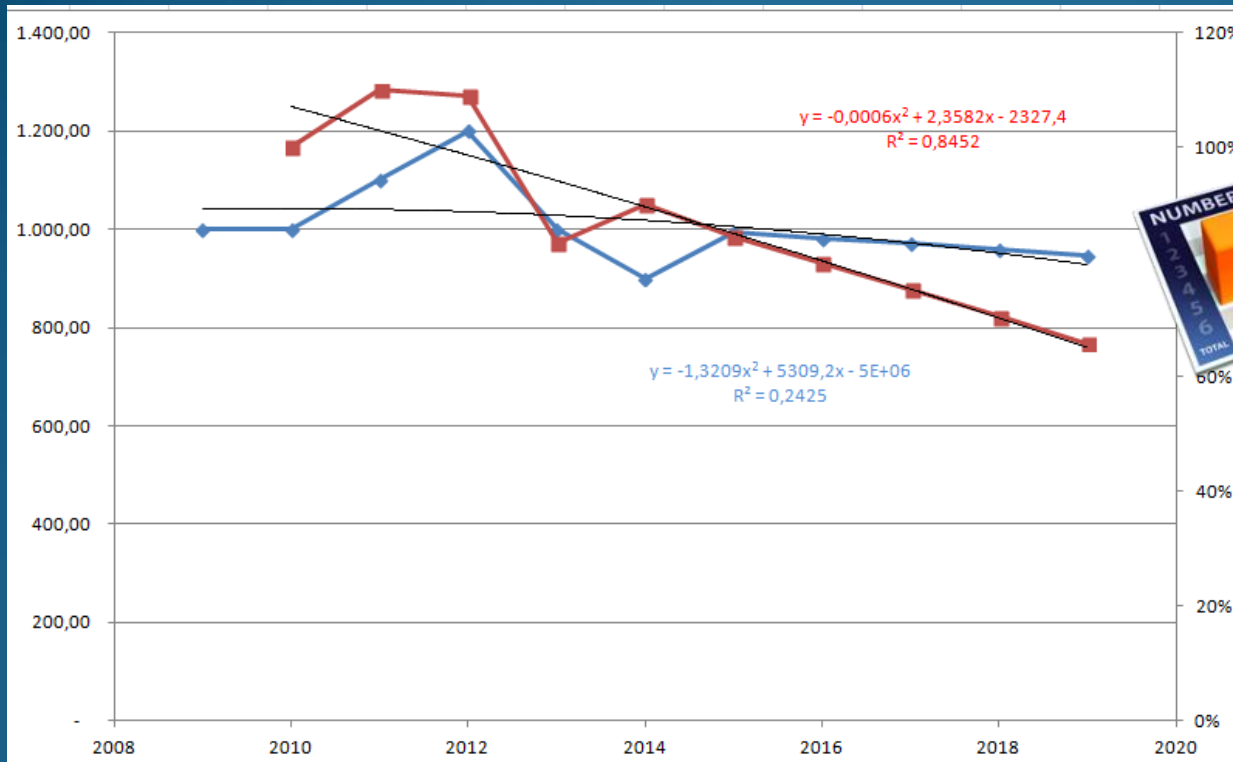
Mean exchange ratio value

HISTORICAL LIST OF VALUE

For the data about the exchange rate it is possible to consult the following web site
www.exchangerates.org.uk

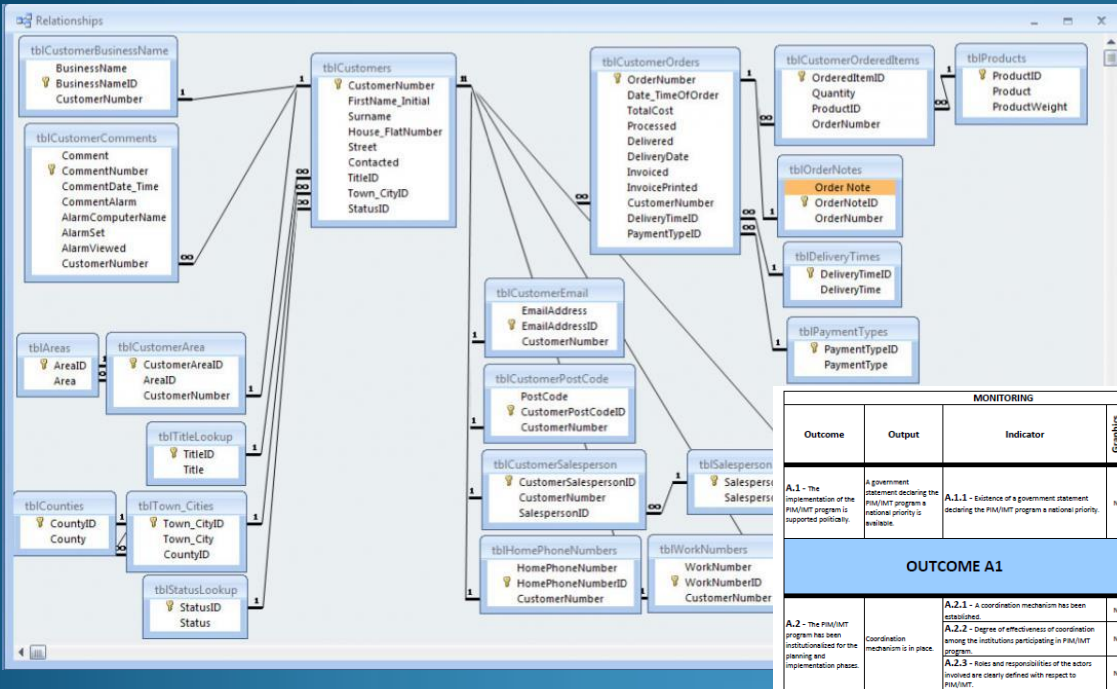
Record: 14 < 1 di 1 > Nessun filtro Cerca

Creating Graphics at Regional and National Level



	Count
12	12
36	42
888	3
Regional	
12	39
36	10
888	14
999	1
Local	
12	95
36	13
888	4
Unrequested	
12	92
36	5
999	9
Total	339

Once you have the data for several years, you will be able to compare the data, creating reports and charts for any of the variables and data available, and offer a valuable decision support, also exporting data in Excel format.



The system structure at the regional and national level contains relations and processes that integrate the data and make them viewable through reports and graphs

MONITORING						EVALUATION		
Outcome	Output	Indicator	Graphics	Score system (point)	Total	Max score	Evaluation	Comments
A.1 - the implementation of the PMA/MT program is supported politically.	A government statement declaring the PMA/MT program a national priority is available.	A.1.1 - Existence of a government statement declaring the PMA/MT program a national priority.	Y	2	1	0	Score 2 means the activity has been carried out and the output achieved. Score 0 means the output has not been achieved.	The fact that government made explicit their support to the PMA Program is a positive good practice but its absence does not mean necessarily that the PMA program is not supported. Therefore the score '0' means only that the government does not want to make explicit its policy although still it may support the PMA program.
OUTCOME A1						2		
A.2 - The PMA/MT program has been institutionalised for the planning and implementation phases.	Coordination mechanism is in place.	A.2.1 - A coordination mechanism has been established. A.2.2 - Degree of effectiveness of coordination among the institutions participating in PMA/MT program. A.2.3 - Roles and responsibilities of the actors involved are clearly defined with respect to PMA/MT.	Y	4			Score 4 means inputs from different government agencies are properly coordinated, while we are not sure of the overall impact. Score between 4 and 2 indicates deficiencies in the coordination and it will be necessary to look to the specific indicators to identify where the deficiencies are. Score 0 means that the coordination is inefficient.	



the indicator value is 2 the output has been achieved; if the value is 0 the output has not been achieved.	
a proposed scoring system for indicators A.3.2 and A.3.3 is related to the age of the PMA/MT process. An annual decreasing trend in the allocation of financial and human resources is possible after 5-10 years of the PMA/MT program, since the more work is transferred the less governmental resources should be allocated. However this may not be true in all cases since during the initial years, the government may maintain the sources constant or even increase them. For this reason it is important to look at the indicator during a period of at least 3 to 10 years to have a more proper evaluation. The pricing system may be modified according to local experience.	
score of 0 points means that the annual budget with the human resources is allocated according to the needs of the PMA/MT program. Lower points indicated that the trend is not as expected and reasons should be investigated.	
indicator A.3.4 tries to verify the continuity of funds for rehabilitation works in the preferred areas. A score between 2 and 4 indicates that the budget allocated is maintained within resource limits but a 0 indicates an abrupt decline that should be avoided. In some countries the PMA/MT process could be slow, and the budget increase get confined beyond 3 years. It is therefore important to read the trends based on the specific country's PMA program lifetime.	The rehabilitation needs may have a growing trend at the beginning but after few years (3-10), the trend should be decreasing. As we know this area transferred every year, we can also calculate the cost per ha of the rehabilitation and assess the trend.