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

3.2 M&E per outcome

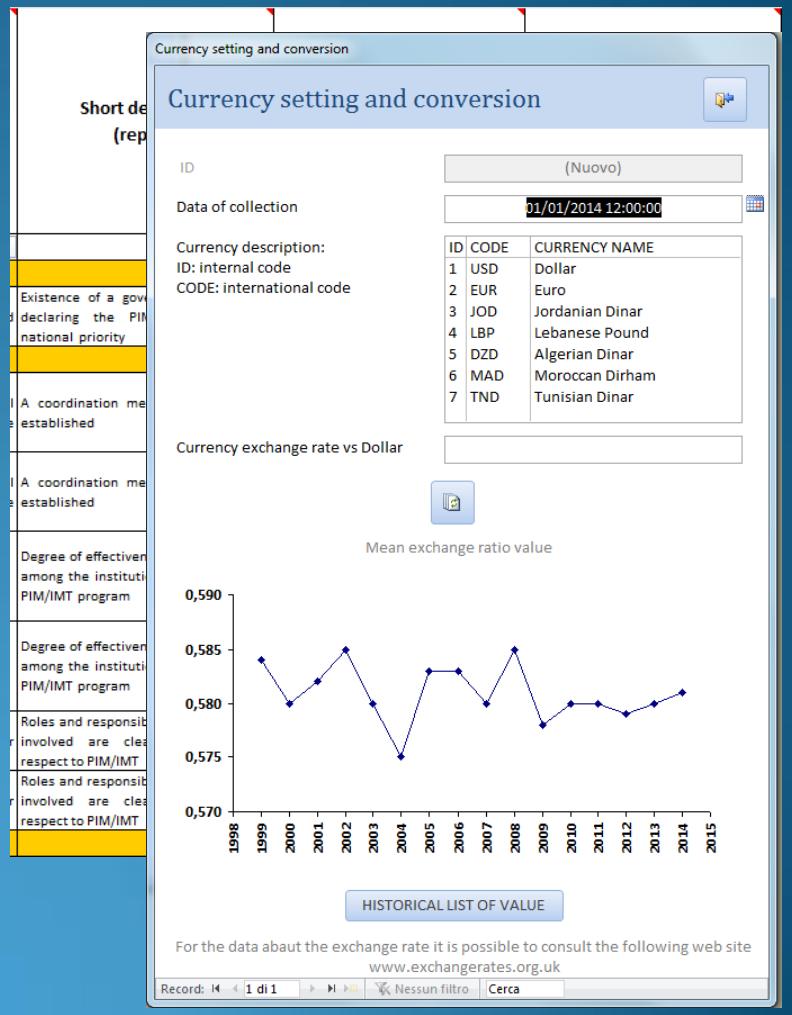
Activity implemented in collaboration with CIHEAM/IAM Bari

CIHEAM
IAM BARI

Organization into outputs

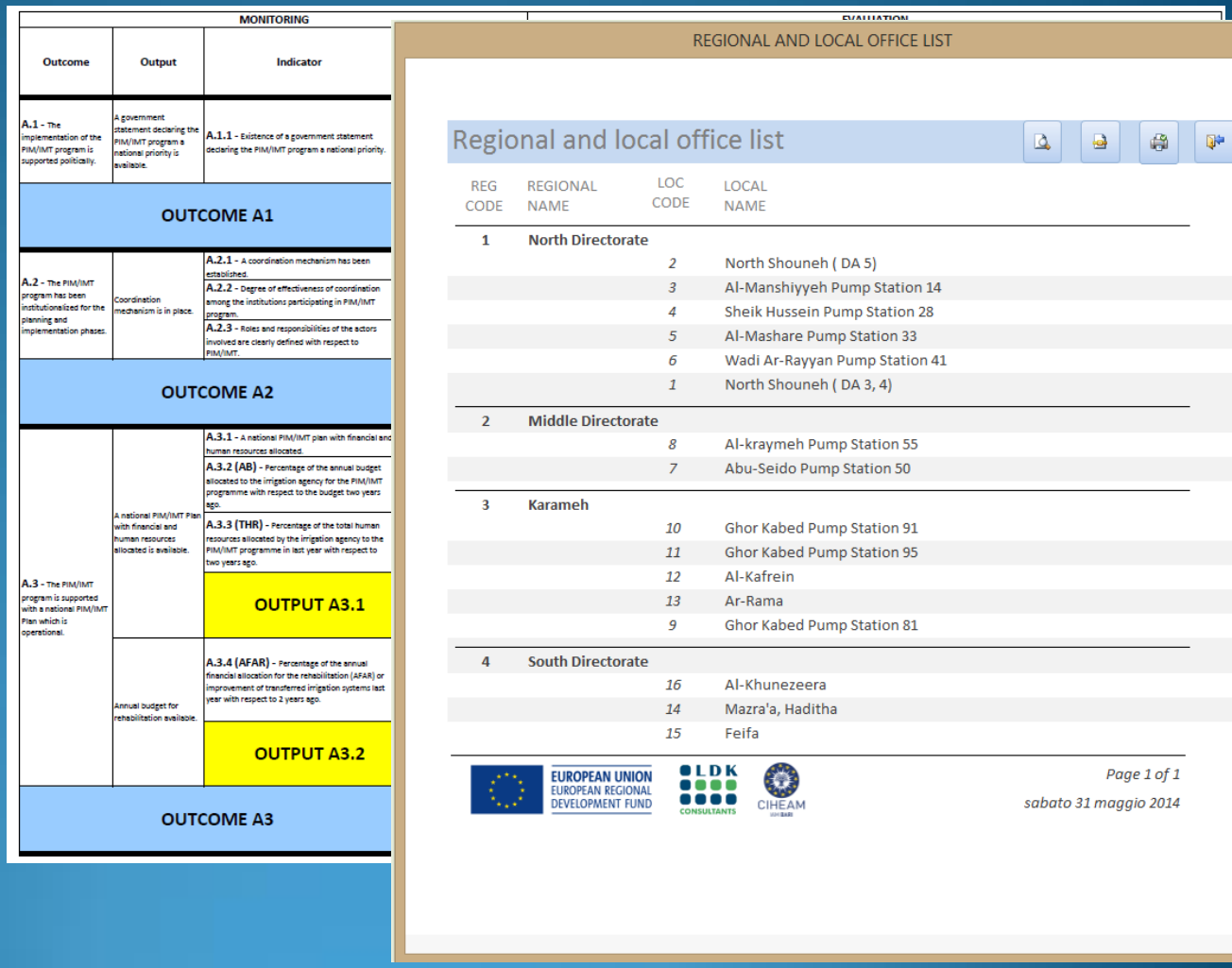
The section containing the numerical indicators includes all the variables needed for the calculation of the indicator. This set of tables is used in the field to collect the required data. The tables have internal validation capability in case that responses are not framed within the expected answer.

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/IMT program is supported politically.	A government statement declaring the PIM/IMT program a national priority is available.	A.1.1 - Existence of a government statement declaring the PIM/IMT program a national priority.
OUTCOME A1		
A.2 - The PIM/IMT 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/IMT program. A.2.3 - Roles and responsibilities of the actors involved are clearly defined with respect to PIM/IMT.
OUTCOME A2		
A.3 - The PIM/IMT program is supported with a national PIM/IMT Plan which is operational.	A national PIM/IMT Plan with financial and human resources allocated is available.	A.3.1 - A national PIM/IMT plan with financial and human resources allocated. A.3.2 (AB) - Percentage of the annual budget allocated to the irrigation agency for the PIM/IMT programme with respect to the budget two years ago. A.3.3 (THR) - Percentage of the total human resources allocated by the irrigation agency to the PIM/IMT programme in last year with respect to 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 Kabed Pump Station 91
		11	Ghor Kabed Pump Station 95
		12	Al-Kafrein
		13	Ar-Rama
		9	Ghor Kabed Pump Station 81
4	South Directorate		
		16	Al-Khunezeera
		14	Mazra'a, Haditha
		15	Feifa

EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND
LDK CONSULTANTS
CIHEAM

Page 1 of 1
sabato 31 maggio 2014

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.)

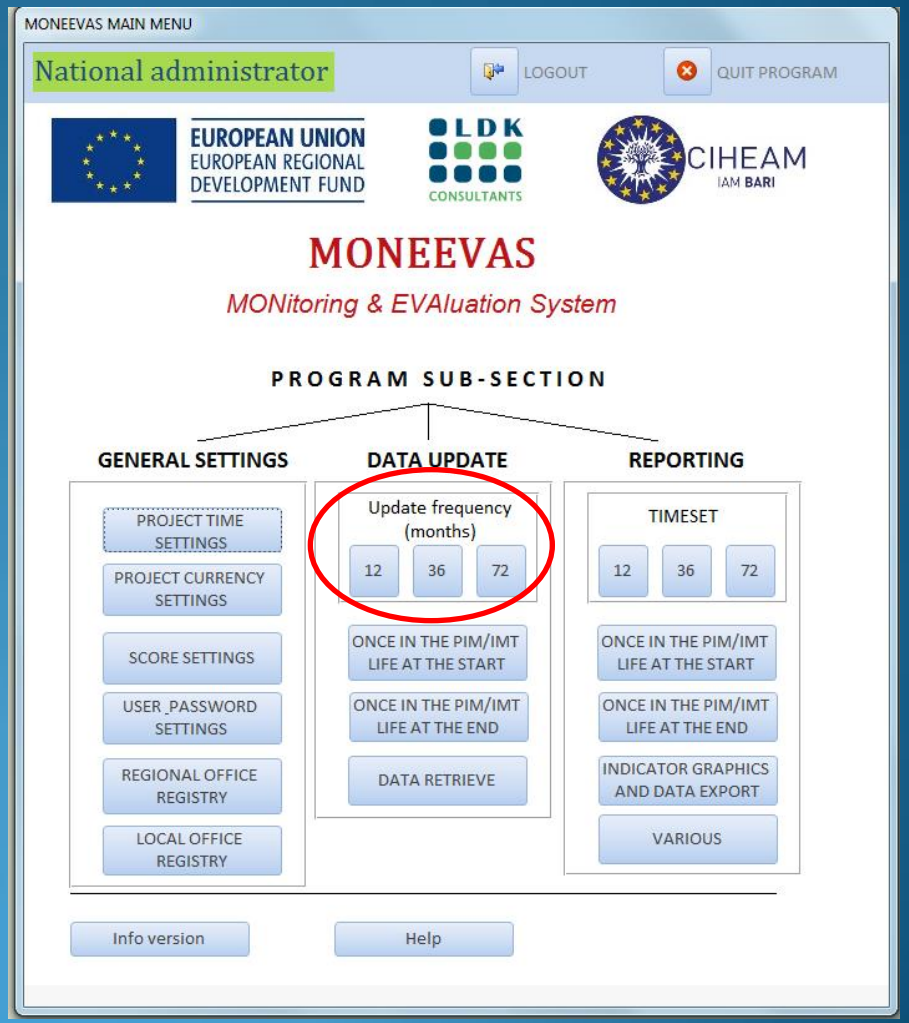
IQ: for qualitative-coded input (normally a valuation question precompiled)

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

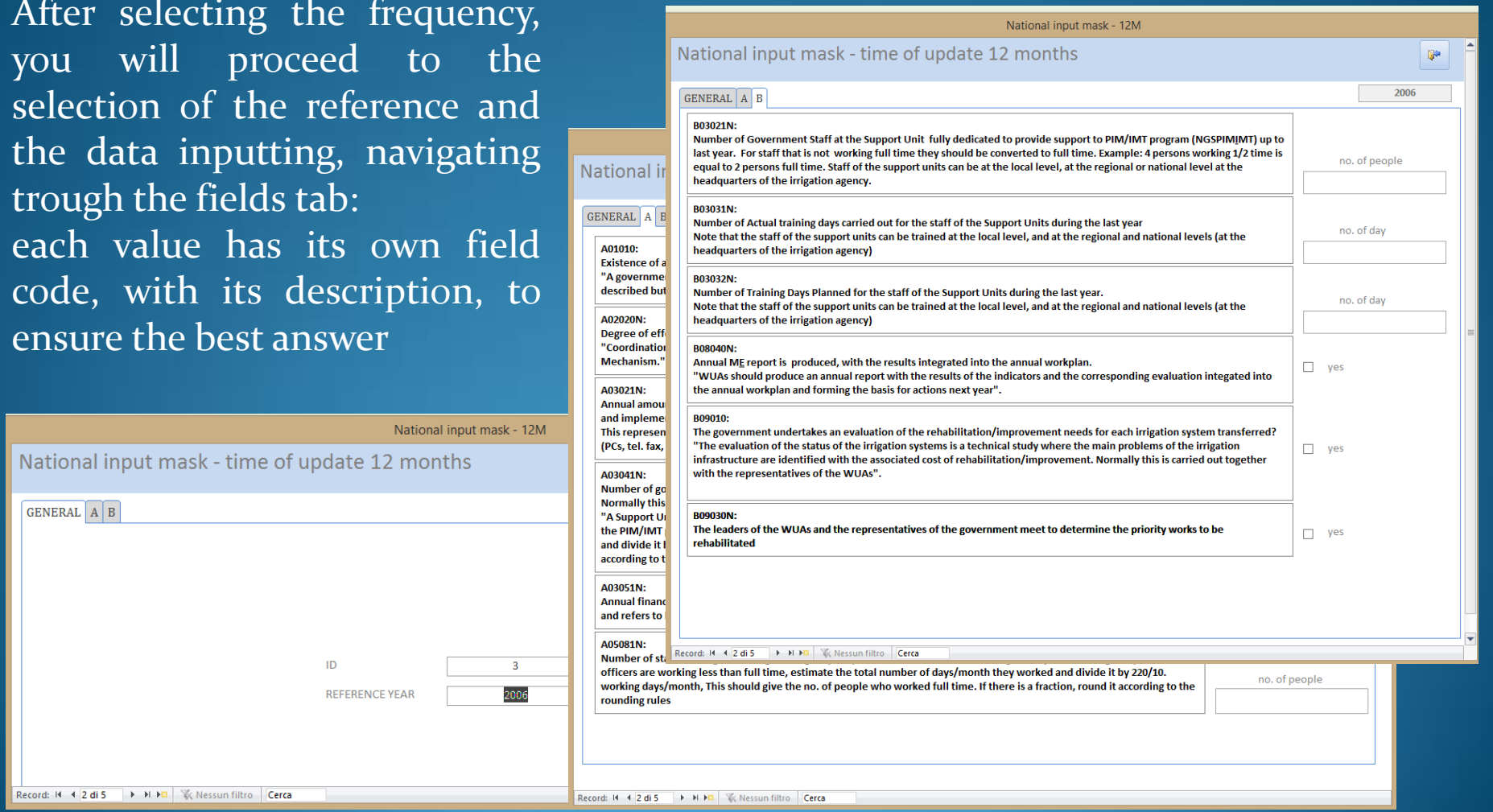
Frequency of monitoring and codification

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



Frequency of monitoring and codification

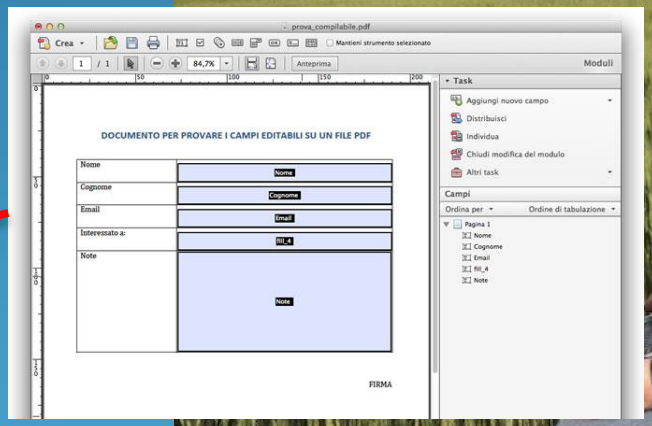
After selecting the frequency, you will proceed to the selection of the reference and the data inputting, navigating trough the fields tab:
each value has its own field code, with its description, to ensure the best answer



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.

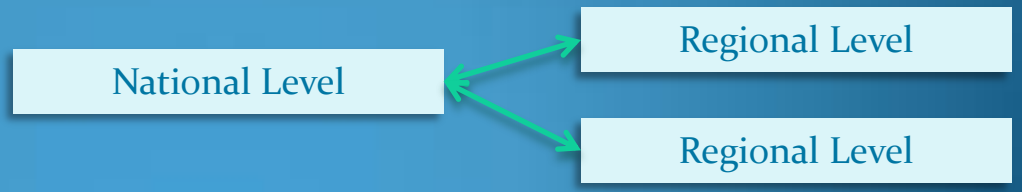
Regional Level



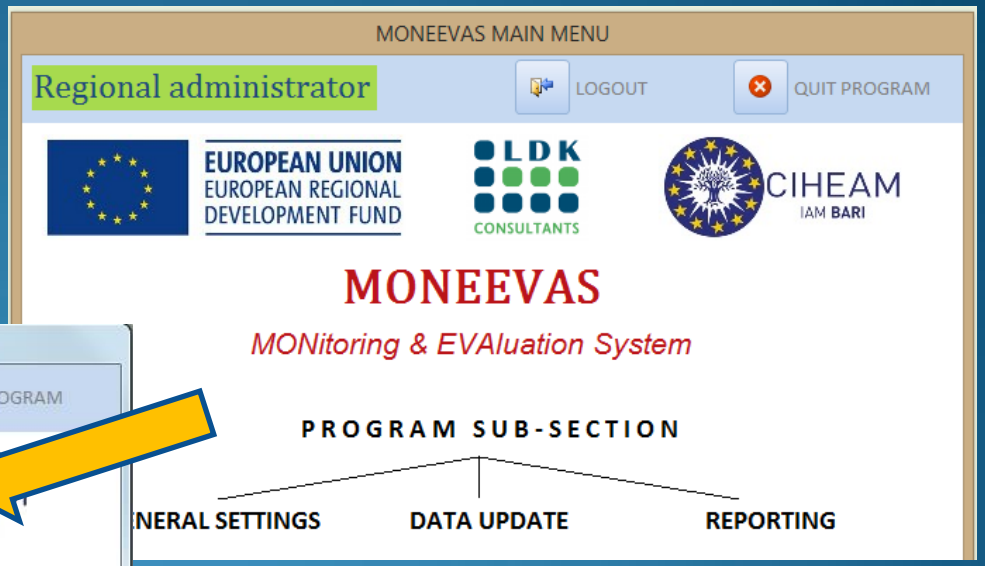
Level of aggregation and dependability on lower levels

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.

	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	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	G	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): 2	score (AFTER 10 YEARS): 1	score (AFTER 10 YEARS): 0
2																									
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	%	(C08011/C08011(-1y))*100							
313	C	L					IN	12		C08021	08	02	C	1		ECRII	currency								
314	C	U					CA	12	GC0802	P08020	08	02	P	0		PECRII	%	(C08021/C08021(-1y))*100							
315	C	L					IN	12		C08031	08	03	C	1		WDEexpected	adimensional								
316	C	U					CA	12		P08030	08	03	P	0		WDERc	adimensional	P03050/C08031		>=1	>0.9 ∧ <1	<=0.9	>=1	>0.9 ∧ <1	<=0.9
317	C	L					IN	12		C08041	08	04	C	1		WDEexpected	adimensional								
318	C	U	NR	A		R	CA	12		P08040	08	04	P	0		WDERp	adimensional	P03060/C08041		>=1	>0.9 ∧ <1	<=0.9	>=2	>0.9 ∧ <2	<=0.9
319	C	U	NR	A			CA	36		P08051	08	05	P	1		IMCavg5yrsPerHa	currency/Ha	$\frac{\sum_{x=-5year}^{-1year} C05081(x)/5}{C03024}$							
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	P08051/C08052		>=1	>0.9 ∧ <1	<=0.9	>=1	>0.9 ∧ <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		%LWUAsatisfied	%		C09010=Y	>=80	>50 ∧ <80	<=50	>=80	>50 ∧ <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

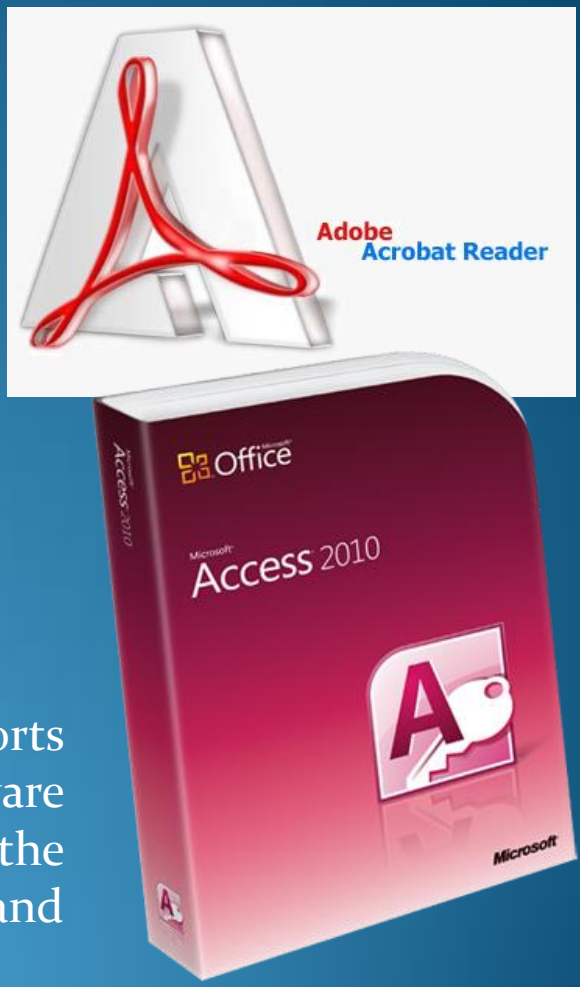
The system requirements for the different levels, both in terms of hardware and software requirements are summarized in the following table:

LOCAL LEVEL	REGIONAL LEVEL	NATIONAL LEVEL
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. 	The system requirements to use the selected database management software, are as follows: • 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	The system requirements to use the selected database management software, are as follows: • 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.

A nay 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

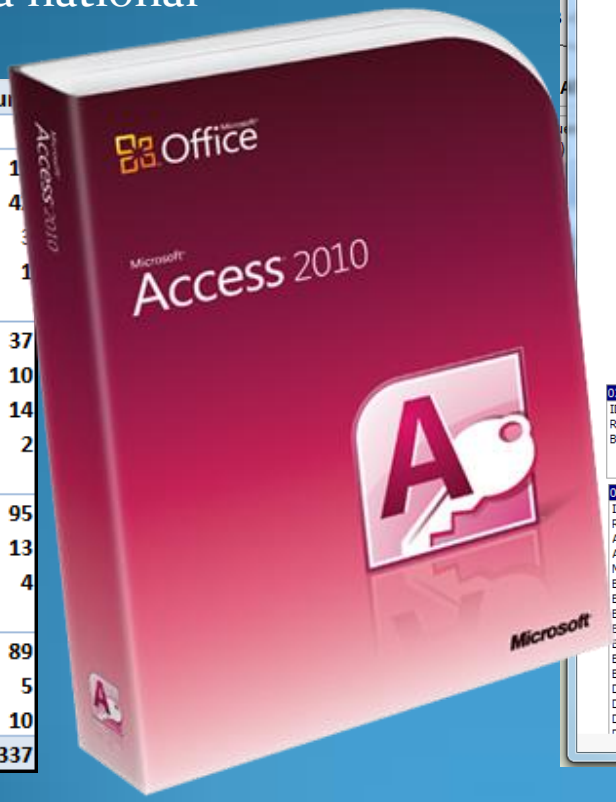


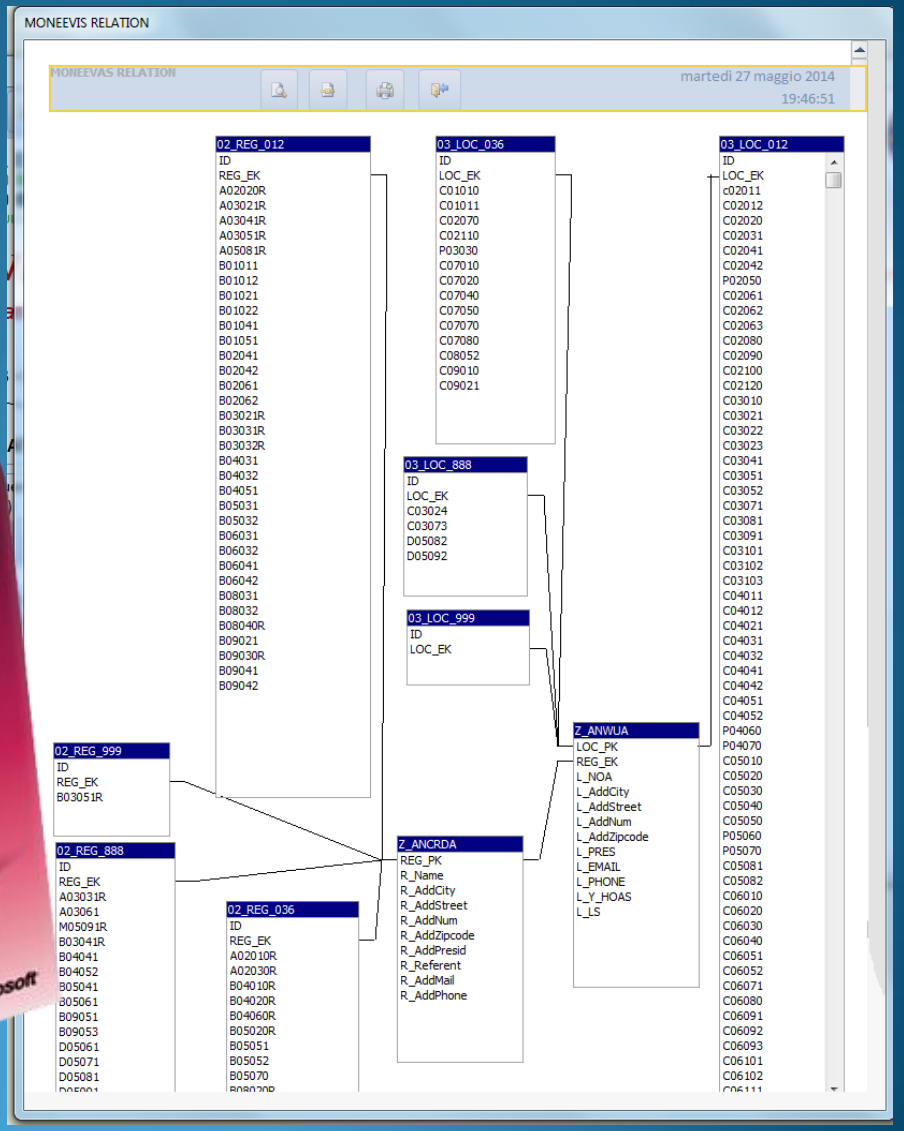
Sustainable Water Integrated Management (SWIM) Support Mechanism

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

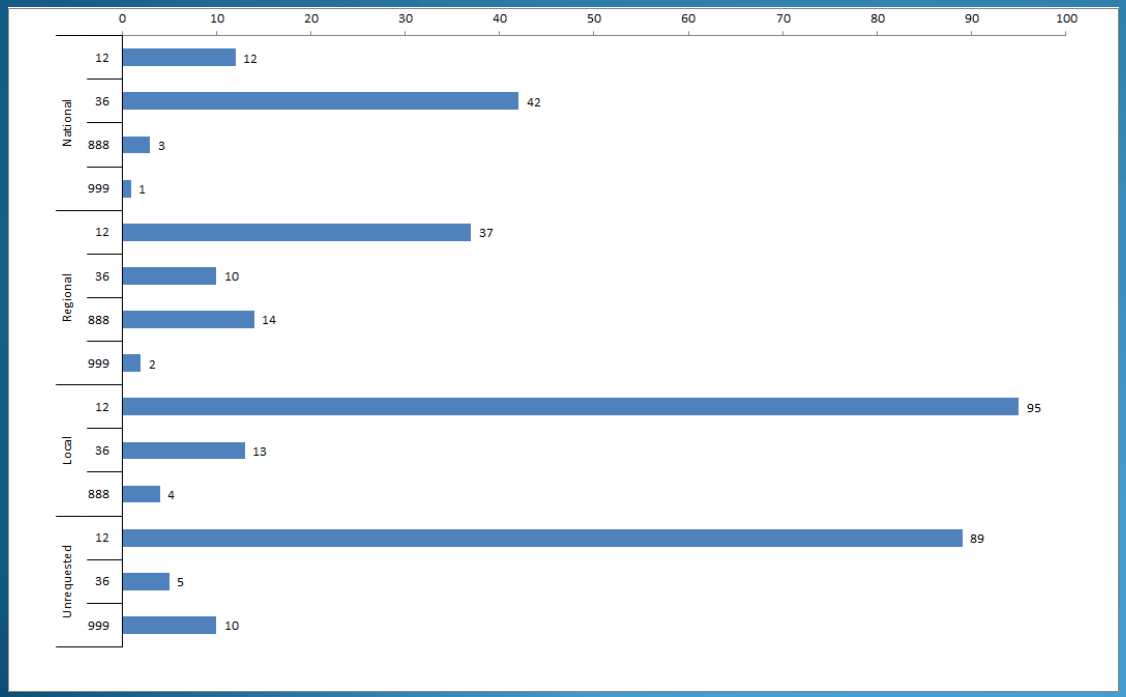
S.O.R. / FREQUENCY / TYPE	Cou
National	
12	1
36	4
888	
999	1
Regional	
12	37
36	10
888	14
999	2
Local	
12	95
36	13
888	4
Unrequested	
12	89
36	5
999	10
Total	337

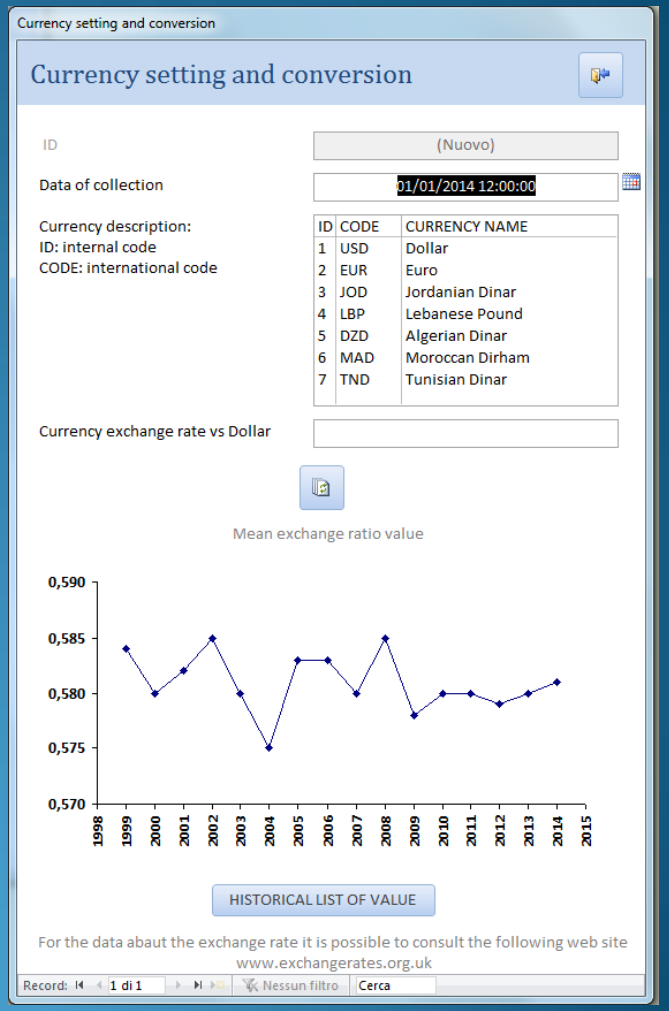




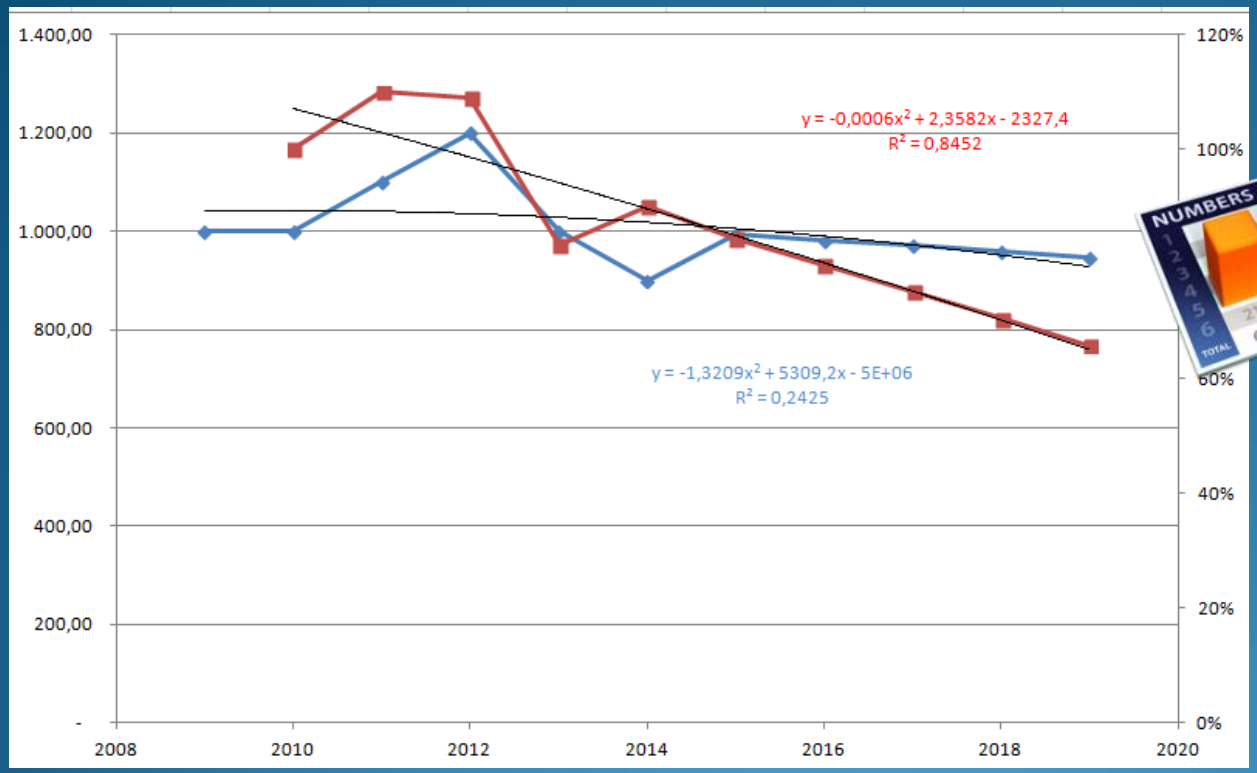
Annual Reporting, multiyear trend and archived info

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.



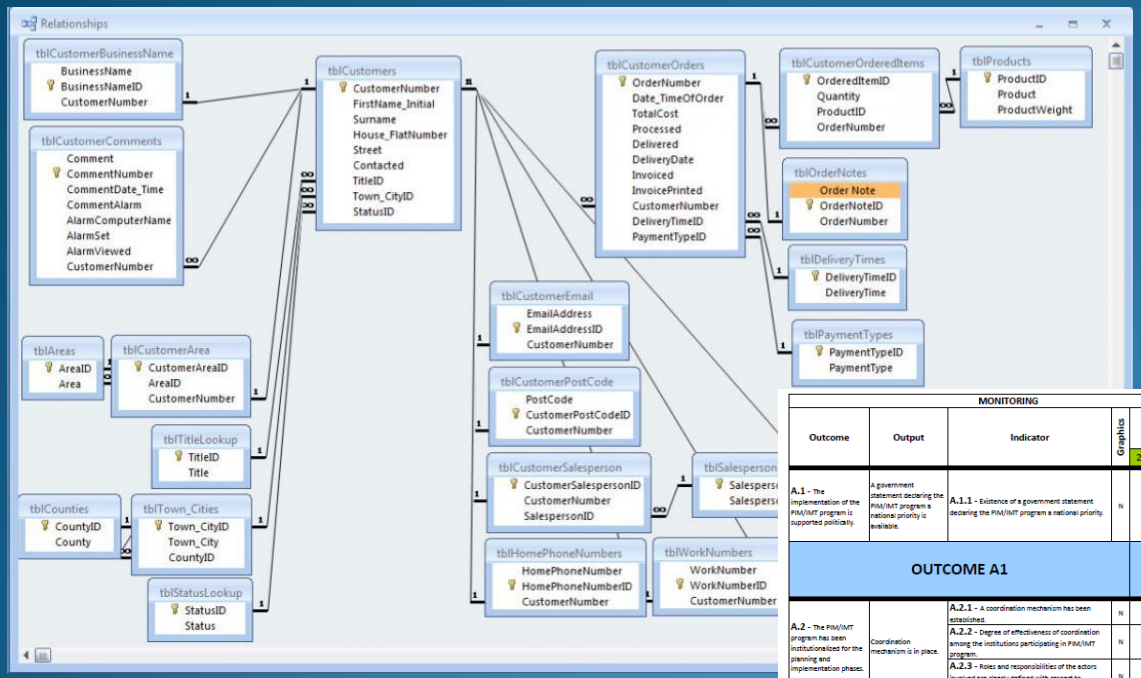


Creating Graphics at Regional and National Level



/ TYPE	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) 2 1 0	Total	Max score	Evaluation	Comments
A.1 - The implementation of the PIM/IMT program is supported politically.	A government statement declaring the PIM/IMT program a national priority is available.	A.1.1 - Existence of a government statement declaring the PIM/IMT program a national priority.	N				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 PIM Program is a positive good practice but its absence does not mean necessarily that the PIM 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 PIM program.
OUTCOME A1						2		
A.2 - The PIM/IMT program has been institutionalized for the planning and implementation phases.	Coordination mechanism is in place.	A.2.1 - A coordination mechanism has been established.	N				Score 6 means inputs from different government agencies are properly coordinated, roles are clear and line of command is unique. 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 inexistent.	
		A.2.2 - Degree of effectiveness of coordination among the institutions participating in PIM/IMT program.	N					
		A.2.3 - Roles and responsibilities of the actors involved are clearly defined with respect to PIM/IMT.	N					
							he indicator value is 2 the output1 has been achieved. If the value is 0 the output has t been achieved.	
							e proposed scoring system for indicators A.3.2 and A .3. 3 is related to the age of the M/IMT process. An annual decreasing trend in the allocation of financial and human sources is positive after 5-10 years of the PIM/IMT program, since the more area is nsferred the less governmental resources should be allocated. However this may not 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 nd during a period of at least 3 to 10 years to have a more proper evaluation. The pring system may be modified according to local experience.	
							core of 6 points means that the annual budget with the human resources is allocated cording to the needs of the PIM/IMT program. Lower points indicated that the trend it not as expected and reasons should be investigated.	
							Sector A.3.4 tries to verify the continuity of funds for rehabilitation works in the nsferred areas. A score between 2 and 1 indicates that the budget allocated is ntained within reasonable limits but a 0 indicates an abrupt decline that should be rified. In some countries the PIM/IMT process could be slow, and the budget increase ght continue beyond 5 years. It is therefore important to read the trends based on the edfic country's PIM program lifetime.	The rehabilitation needs may have a growing trend at the beginning but after few years (5-10), the trend should be decreasing. As we know the area transferred every year, we can also calculate the cost per ha of the rehabilitation and assess the trend.