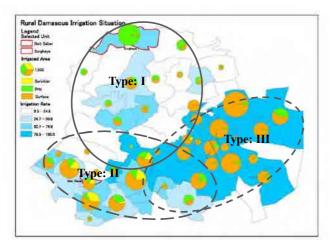
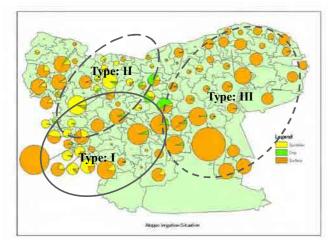
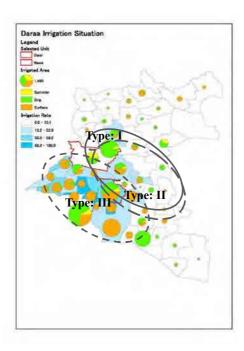
## 図 表



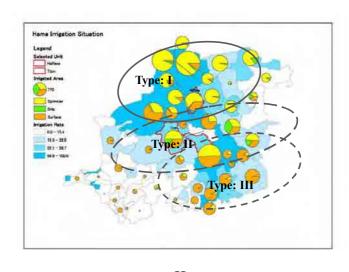
Rural Damascus



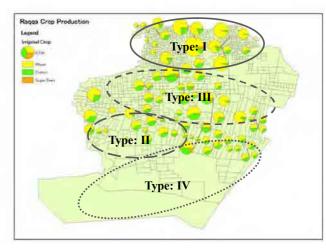
<u>Aleppo</u>



<u>Daraa</u>

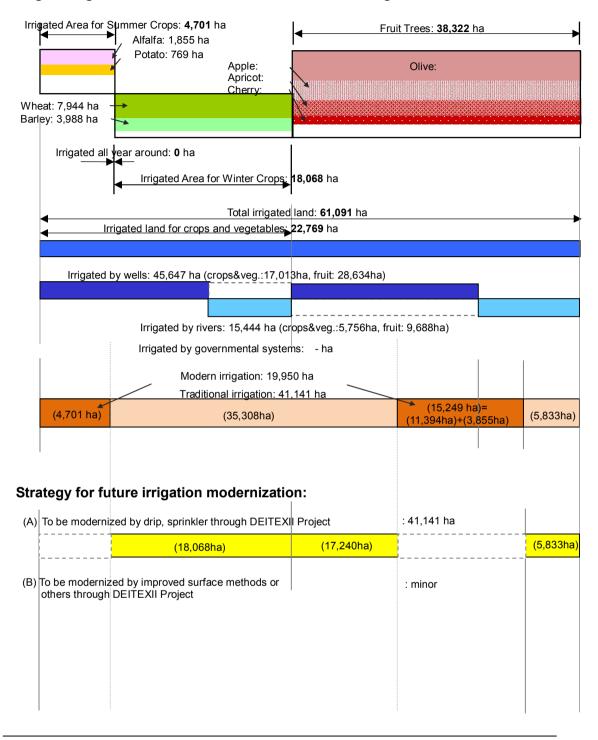


<u>Hama</u>



Ragga

図 4.2.1 対象各県の灌漑農業類型の区分図

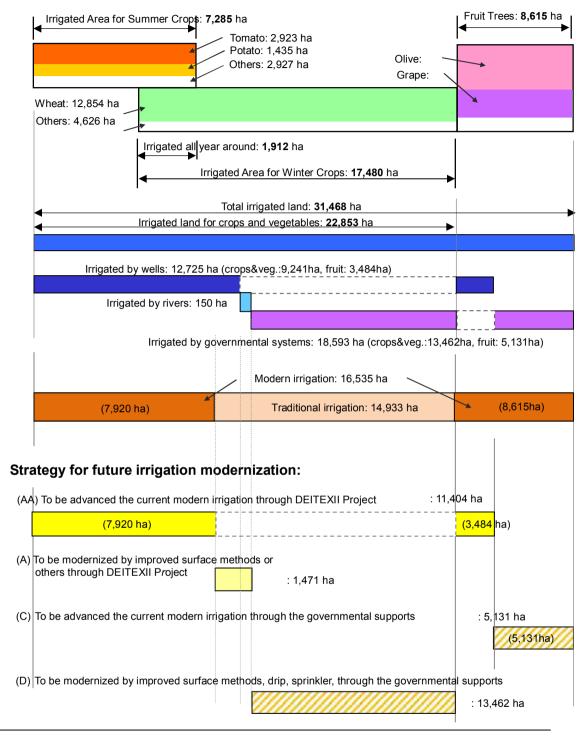


As to the area categorized into (A), irrigation modernization should be promoted at the first priority.

As to the area categorized into (B), it is minor. However, some part of (A) might be proposed to apply improved surface method.

### 図 5.1.2 各県及び各年の詳細な灌漑農業の実態分析

(1 of 15: 2008 年 ダマスカス郊外県)



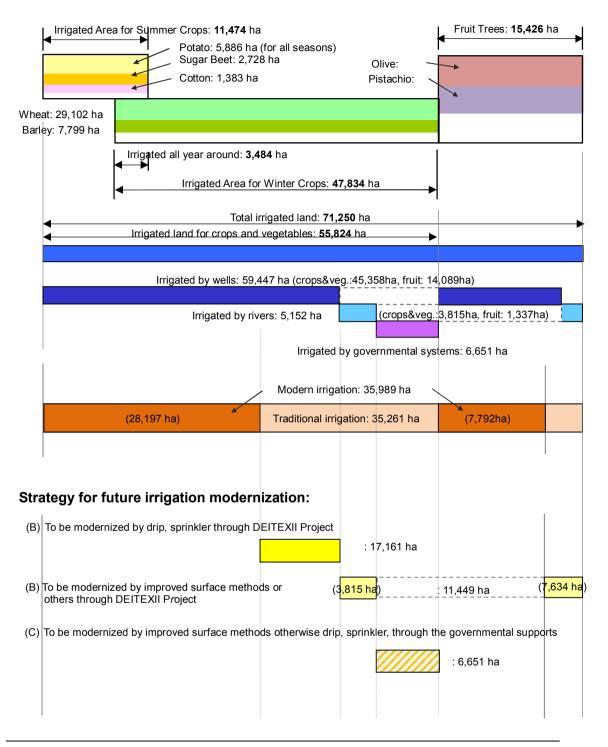
As to the area categorized into (AA), more efficient irrigation should be pursued while those were modernized as the first stage.

As to the area categorized into (A), irrigation modernization should be promoted according to water availability.

As to the area categorized into (D), drip or sprinkler as well as improved surface irrigation is applicable under the support of the government.

### 図 5.1.2 各県及び各年の詳細な灌漑農業の実態分析

(2 of 15: <u>2008</u> 年 ダラア県)



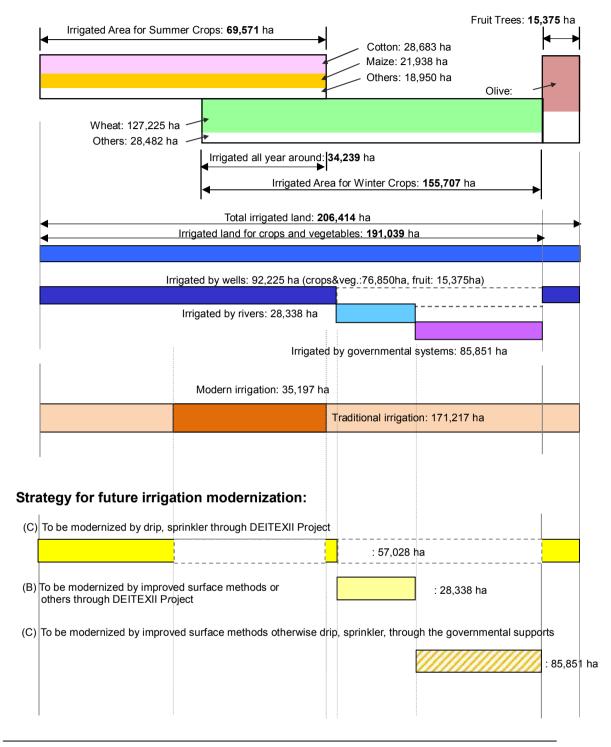
As to the area categorized into (A), irrigation modernization should be promoted at the first priority.

As to the area categorized into (B), drip or sprinkler as well as improved surface method is applicable if booster pump could be installed by farmers' efforts.

As to the area categorized into (C), drip or sprinkler as well as improved surface method is applicable if booster pump could be installed under the support of the government.

### 図 5.1.2 各県及び各年の詳細な灌漑農業の実態分析

(3 of 15: 2008 年 ハマ県)



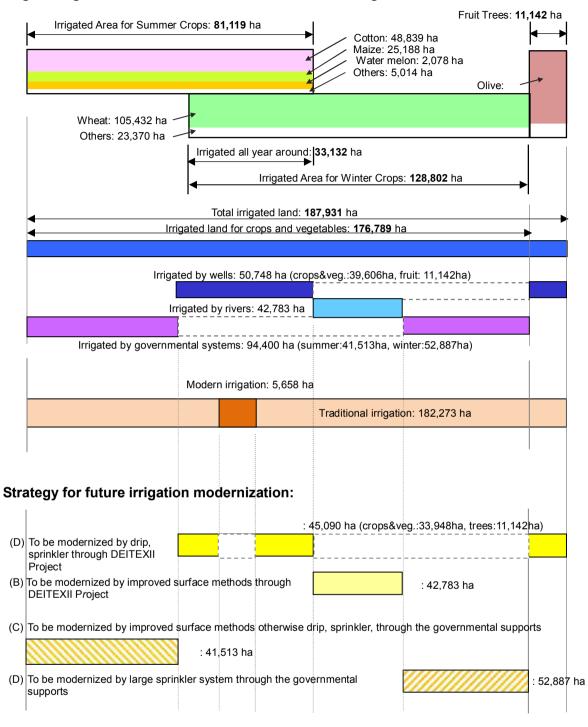
As to the area categorized into (A), irrigation modernization should be promoted at the first priority.

As to the area categorized into (B), drip or sprinkler as well as large sprinkler system is applicable if booster pump could be installed by farmers' efforts.

As to the area categorized into (C), drip or sprinkler as well as large sprinkler system is applicable if booster pump could be installed under the support of the government.

### 図 5.1.2 各県及び各年の詳細な灌漑農業の実態分析

(4 of 15: 2008 年 アレッポ県)



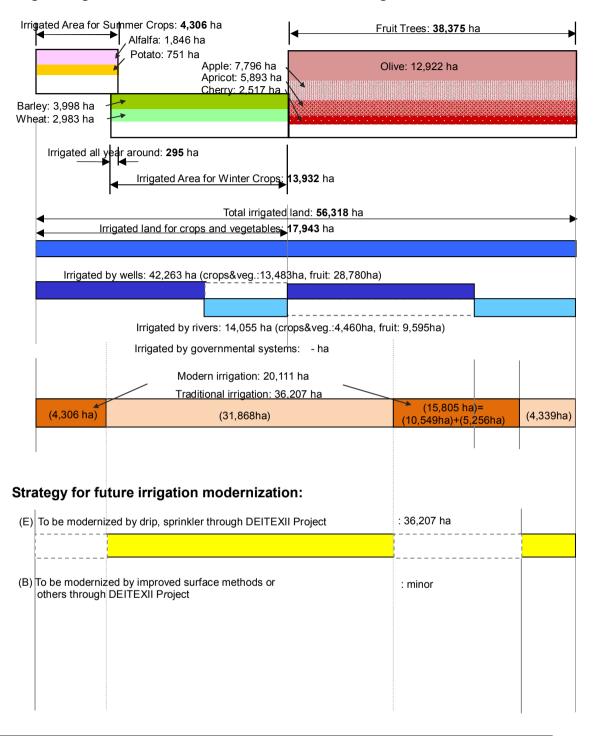
As to the area categorized into (A), irrigation modernization could be progressed by stages in which improved surface irrigation will be introduced at first.

As to the area categorized into (B), drip or sprinkler as well as large sprinkler system is applicable if booster pump could be installed by farmers' efforts.

As to the area categorized into (C), drip or sprinkler as well as large sprinkler system is applicable if booster pump could be installed under the support of the government.

### 図 5.1.2 各県及び各年の詳細な灌漑農業の実態分析

(5 of 15: 2008 年 ラッカ県)

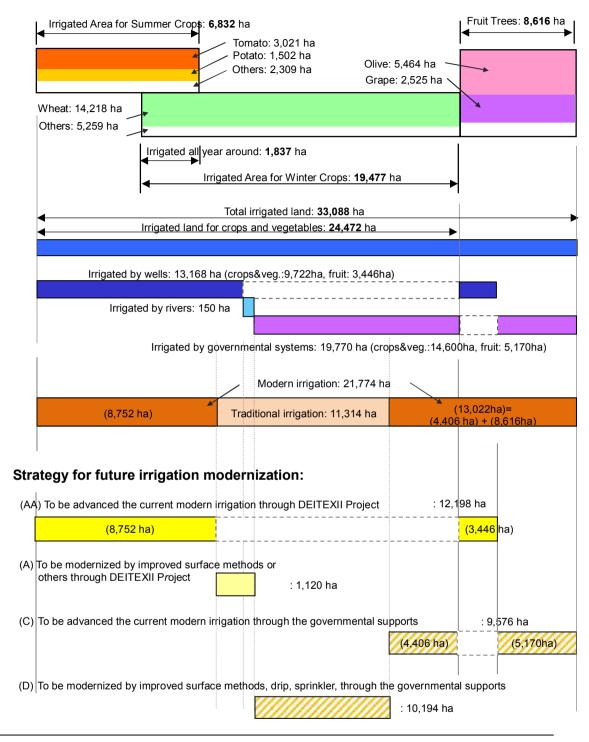


As to the area categorized into (A), irrigation modernization should be promoted at the first priority.

As to the area categorized into (B), it is minor. However, some part of (A) might be proposed to apply improved surface method.

### 図 5.1.2 各県及び各年の詳細な灌漑農業の実態分析

(6 of 15: 2009 年 ダマスカス郊外県)



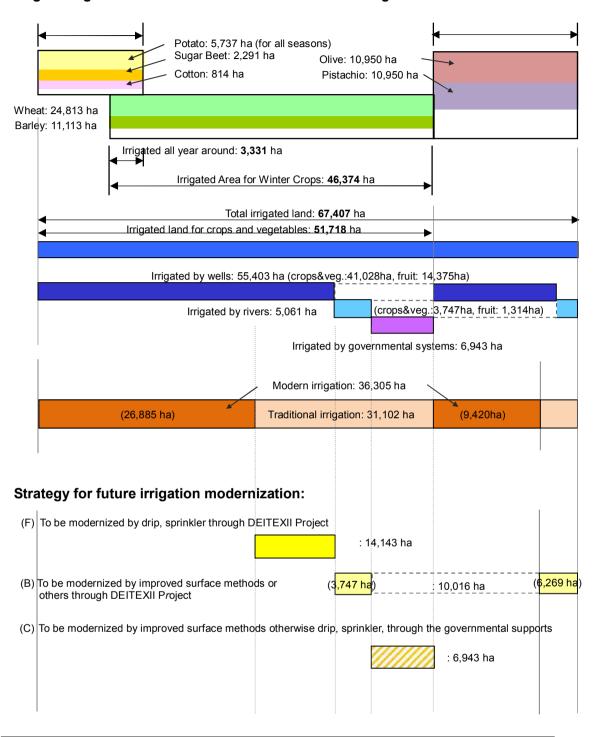
As to the area categorized into (AA), more efficient irrigation should be pursued while those were modernized at first stage.

As to the area categorized into (A), irrigation modernization should be promoted according to water availability.

As to the area categorized into (D), drip or sprinkler as well as improved surface irrigation are applicable under the support of the government.

### 図 5.1.2 各県及び各年の詳細な灌漑農業の実態分析

(7 of 15: 2009 年 ダラア県)



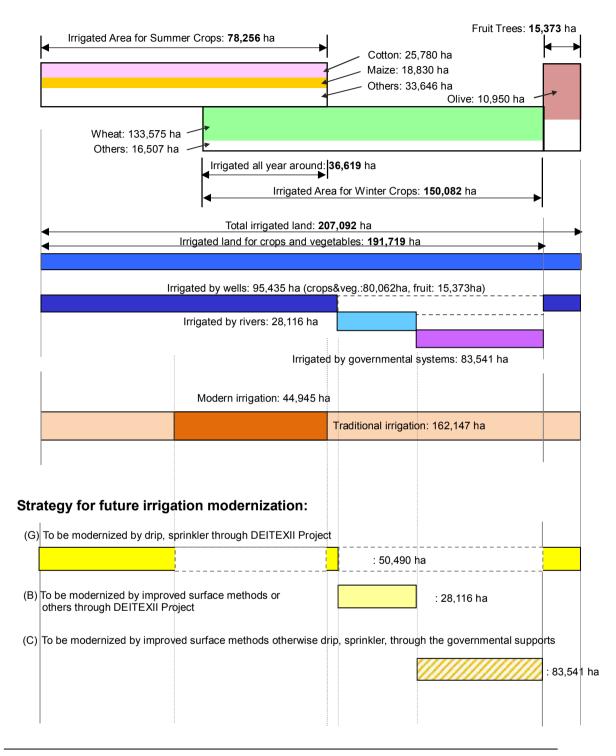
As to the area categorized into (A), irrigation modernization should be promoted at the first priority.

As to the area categorized into (B), drip or sprinkler as well as improved surface method is applicable if booster pump could be installed by farmers' efforts.

As to the area categorized into (C), drip or sprinkler as well as improved surface method is applicable if booster pump could be installed under the support of the government.

### 図 5.1.2 各県及び各年の詳細な灌漑農業の実態分析

(8 of 15: <u>2009</u> 年 <u>ハ</u>マ県)



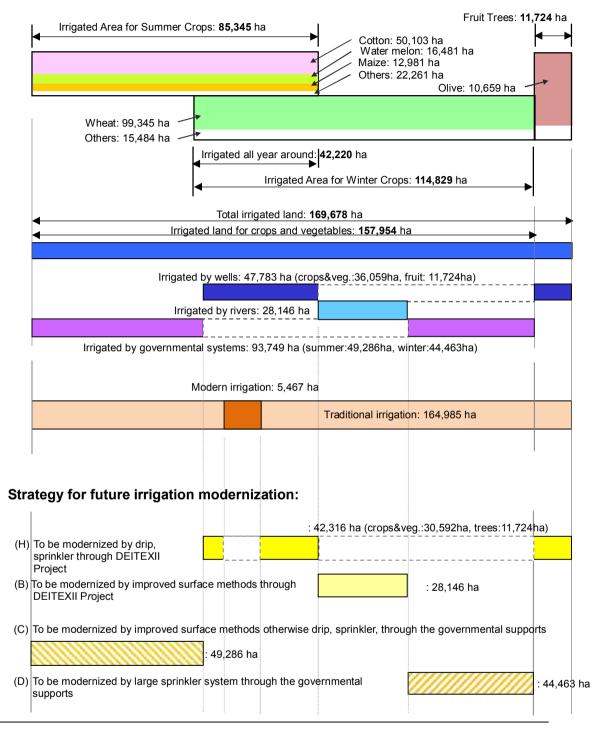
As to the area categorized into (A), irrigation modernization should be promoted at the first priority.

As to the area categorized into (B), drip or sprinkler as well as large sprinkler system is applicable if booster pump could be installed by farmers' efforts.

As to the area categorized into (C), drip or sprinkler as well as large sprinkler system is applicable if booster pump could be installed under the support of the government.

### 図 5.1.2 各県及び各年の詳細な灌漑農業の実態分析

(9 of 15: 2009 年 アレッポ県)



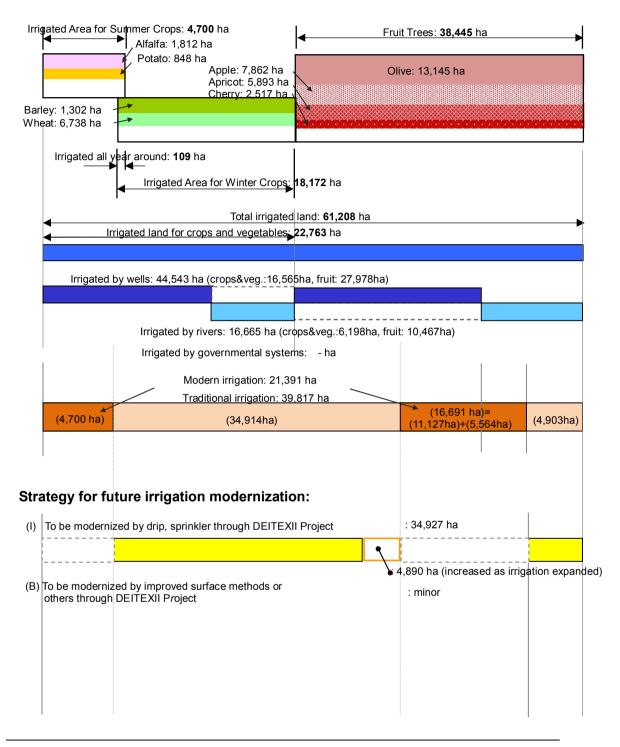
As to the area categorized into (A), irrigation modernization could be progressed by stages in which improved surface irrigation will be introduced at first.

As to the area categorized into (B), drip or sprinkler as well as large sprinkler system is applicable if booster pump could be installed by farmers' efforts.

As to the area categorized into (C), drip or sprinkler as well as large sprinkler system is applicable if booster pump could be installed under the support of the government.

### 図 5.1.2 各県及び各年の詳細な灌漑農業の実態分析

(10 of 15: 2009 年 ラッカ県)

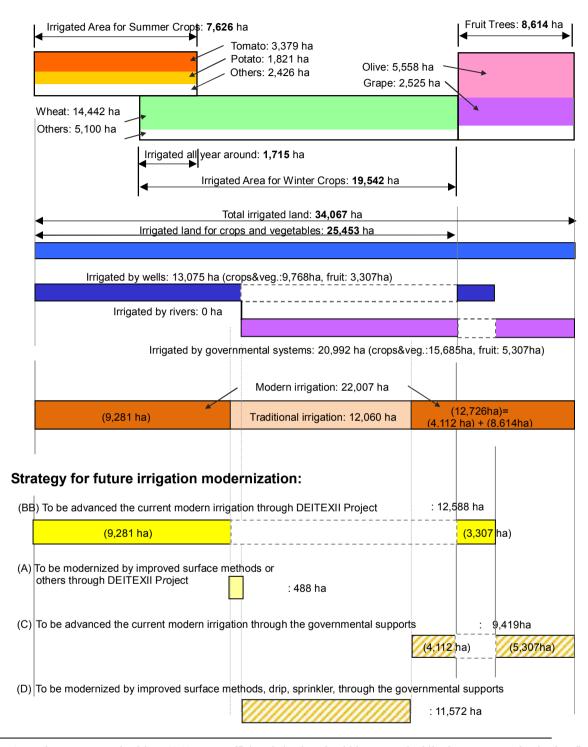


As to the area categorized into (A), irrigation modernization should be promoted at the first priority.

As to the area categorized into (B), it is minor. However, some part of (A) might be proposed to apply improved surface method.

### 図 5.1.2 各県及び各年の詳細な灌漑農業の実態分析

(11 of 15: <u>2010</u>年 ダマスカス郊外県)



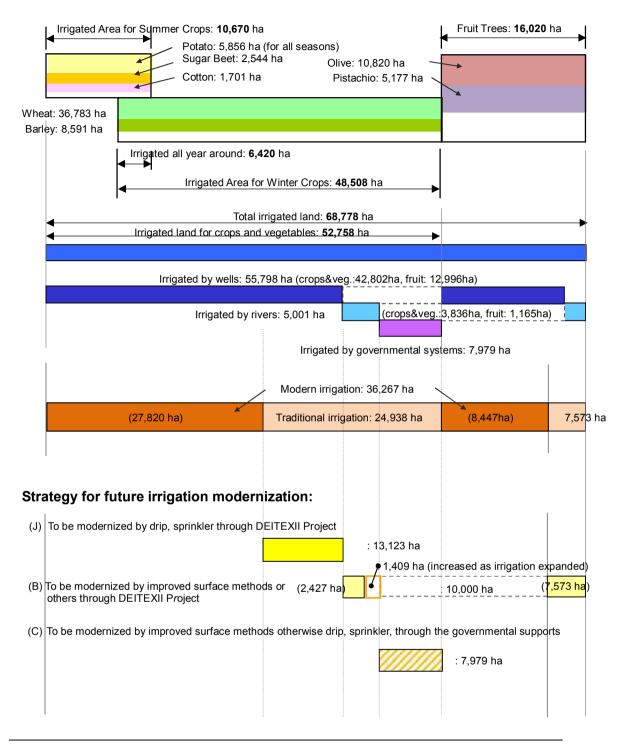
As to the area categorized into (AA), more efficient irrigation should be pursued while those were modernized at first stage.

As to the area categorized into (A), irrigation modernization should be promoted according to water availability.

As to the area categorized into (D), drip or sprinkler as well as improved surface irrigation are applicable under the support of the government.

### 図 5.1.2 各県及び各年の詳細な灌漑農業の実態分析

(12 of 15: <u>2010</u>年 ダラア県)



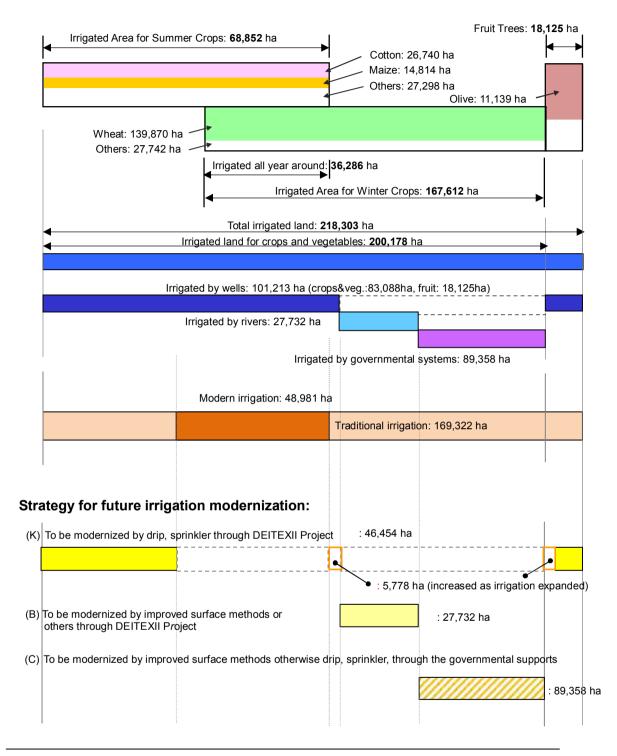
As to the area categorized into (A), irrigation modernization should be promoted at the first priority.

As to the area categorized into (B), drip or sprinkler as well as improved surface method is applicable if booster pump could be installed by farmers' efforts.

As to the area categorized into (C), drip or sprinkler as well as improved surface method is applicable if booster pump could be installed under the support of the government.

### 図 5.1.2 各県及び各年の詳細な灌漑農業の実態分析

(13 of 15: 2010年 ハマ県)



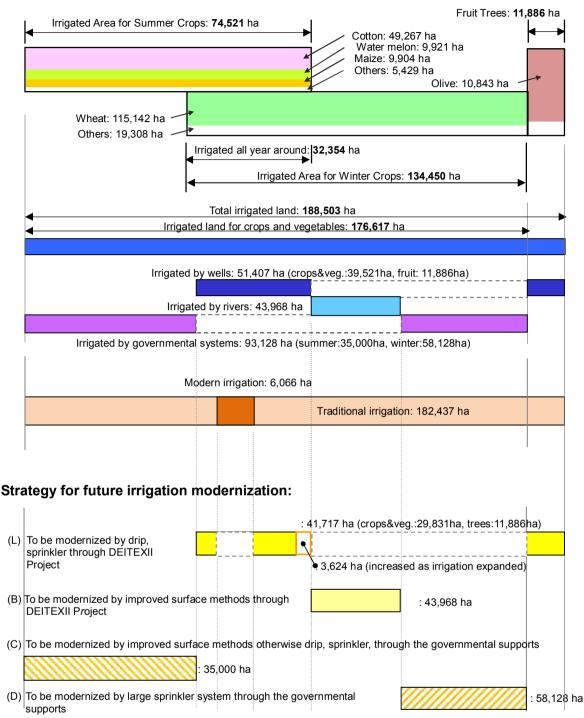
As to the area categorized into (A), irrigation modernization should be promoted at the first priority.

As to the area categorized into (B), drip or sprinkler as well as large sprinkler system is applicable if booster pump could be installed by farmers' efforts.

As to the area categorized into (C), drip or sprinkler as well as large sprinkler system is applicable if booster pump could be installed under the support of the government.

### 図 5.1.2 各県及び各年の詳細な灌漑農業の実態分析

(14 of 15: 2010年 アレッポ県)



As to the area categorized into (A), irrigation modernization could be progressed by stages in which improved surface irrigation will be introduced at first.

As to the area categorized into (B), drip or sprinkler as well as large sprinkler system is applicable if booster pump could be installed by farmers' efforts.

As to the area categorized into (C), drip or sprinkler as well as large sprinkler system is applicable if booster pump could be installed under the support of the government.

### 図 5.1.2 各県及び各年の詳細な灌漑農業の実態分析

(15 of 15: <u>2010</u>年 <u>ラ</u>ッカ県)

### 表2.4.2 プロジェクトの実施工程表(PO)

: 2012年2月

	_																				: 2012		
			200	)8年度		2009年	9年度				2010年	度		<u> </u>	2011年	2011年度			2012 <sup>©</sup>	2012年度 F	シリア	実施: JICA	E体 ■関係機関
PDM上の成果		PDM上の活動内容	12 1	2 3	4	5 6 7 8 9	10 11	12 1	2 3		6 7 8 9 1	0 11 1 2	1 2 3		6 7 8	9 10	11 1 2	1 2		5 6 7	侧	9-A	DQ DY IMPO
_				<b>.</b>					_	ш		ш				Ш	4	第	五次	見地作	1		
成果 1:	1-1	プロジェクト対象地域における灌漑運	第一	次現	地作	第二次	<b>以現地作</b>	作業		$\blacksquare$	第三次現地	作		次現地f	第 第	四次国	内作業	#	五次原	国内作業			全カウン
成未 1:	1-1	用上の問題点の検討を進めながら ベースライン調査を実施する。	- T	[4][6]	[10						*		業								0	0	ターパー
アレッポ県、ラッカ県 において適切な節水 灌漑技術が提案さ	1-2	プロジェクト対象地域の現状に基づいて、適正な節水灌漑手法を明確にする。	-	[6]	[10			[15											П		0	0	GCSAR, 試験機 関., 大学,
れ、同2県のプロジェ クトサイトにおいて節 水灌漑技術の活用方	1-3	上述した(1)-1項及び(1)-2項の結果に 基づいて、ガイドラインやマニュアルを 作成する。		$\parallel$	i	_		] [14	-	+	[21	#	-	[29	-	[30		12:2	[\$3		0	0	全カウンターパー機関
法が普及される。さら に同2県のその他の地 域でも節水灌漑に向 けた研修・普及システ	1-4	プロジェクト対象地域内にプロジェクト サイトを選定し、各サイト内にそれぞれ		[7]		[11 [12	-	1			]			1					_i	+	0	0	全カウン ターパー
ムが整備される。	1-5-	の灌漑農業特性に応じたデモ圃場を 設置する ・別項(1)-5-4に示した普及活動計画に 基づいて研修活動計画を策定する。		[/]	+	] ]	6			-	[23	<del>     </del>									0	0	機関 DoE, DTQ,
	1-5-	プロジェクト対象地域の現状に基づいて、フェーズ1期間中に作成した技術		H	$\parallel$	]		[14	_	+	[21	-		[29		E) [3	01 ]		[83		0	0	DMIC 全カウン ターパー
	1-5-	マニュアルを改定する。 関連機関と連携しながら小規模圧力 式灌漑技術に係る研修コースを実施		$\parallel$				ì	-	+	1			1	- I				]	+	0	0	機関 GCSAR, DoE,
	1-5-	する。 ・別項(1)-1及び(2)-3の成果に基づい		H		[16				-	[23		84000	[29 ]	7.7	[30				+			DTQ, DoE, DTQ,
	1-5-	て、普及活動計画を策定する。				]	7				]			[29		(l- 10	10]		[t5 ]	+	0	0	DMIC, 関 <del>東京の関</del> DoE, 関連
	1-6-	講普及員が実施する普及活動を支援 する。 節水に有効な地表灌漑技術ならびに		$\parallel$	$\parallel$	[1 ]	.7			$\bot$	[24		$\prod$	[29		[3	0]		[t5 ]	$\perp$	0	0	政府機関 GCSAR,
	1-6-	関連技術を追究する。 - 別項(1)-5-1の研修活動計画と(1)-6-6					[1	5		T	[22		T	[29 ]		[3	0]		[33 ]		0	0	DMIC, 試 験機関, 上尚 DoE,
	1-6-	項の普及活動計画に基づいて研修活動計画を策定し、研修ツールを整備す ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・		$\parallel$		[16	6			П	[23					-1	]		[33 ]		0	0	DTQ, DMIC GCSAR,
		/マニュアルを作成する。 ・別項(1)-6-2の成果を活用しながら、関			1	[15][:	16			-	[22][23]				C	I I	30		[33 ]		0	0	DMIC, 試 験機関., 上端 GCSAR,
		係機関とともに地表灌漑にかかる研修コースを実施する。 -{(1)-6-6項の普及活動計画に基づい		Ц	1	[16	5				[23		_	[29 ]	====	1	iΤ		Ш	Ш	0	0	DoE, DTQ, DMGC GCSAR,
		で、普及活動に必要な普及ツールを準 備する。		Ц		[1 ]	7			-	[24		_	[29 ]		[3	0]		[33 ]		0	0	DoE, DMIC
		(別項(1)-1、(1)-6-1、及び(2)-3の成果を 活用しながら普及活動計画を策定す る。			[10	[1:	5][1			-	[23	+				[-1			[-]	Ш	0	0	DoE, DMIC, 関 連政府機
	1-6-	上述の普及活動計画に沿って研修受 講普及員が実施する普及活動を支援 する。				[1	7			+	[23		+	[29			80		[-]		0	0	DoE, 関連 政府機関
成果 2:	2-1	節水灌漑の推進に当たる各関係機関 との定期会合を設け、推進活動を支 援・調整する。			+					+		-		-	++	+		•	[-]		0	0	GCSAR, DoE, DTQ,DM
ダマスカス郊外県、ダ ラ県、ハマ県におい て、小規模圧力式灌 漑技術の活用方法が	2-2	関係3県において、フェーズ1時にプロ ジェクトサイトとされた地区以外を対象 にベースライン調査を実施する。	•	[4][6]	[10																0	0	GCSAR, DoE, DMIC, 関 事动动工器
普及される。	2-3	フェーズ1終了後のプロジェクト稼働状 況をレビューするとともに、灌漑運用上 の問題点についても検討する。	[-	4][5]																	0	0	MAAR, SPC, 全カ ウンターハー 総用用 用用
	2-4	別項(2)-2及び(2)-3の成果に基づい て、フェーズ1対象プロジェクトサイト以 外の地区にサテライトプロットを設立す		[7]		[11][1	•														0	0	GCSAR, DoE, DMIC, 関
	2-5	別項(2)-6の普及活動計画に沿って研修活動を実施する。		П	+	[1	.6		_	+	[23				c	(-10	30]				0	0	GCSAR, DoE, DTQ, 関
	2-6	フェーズ1期間中に作成した"筋水灌 漑推進"に向けた普及活動計画を改新 する。		[5]		[17					[24										0	0	DoE, DTQ, 関 連政府機
	2-7	既存の普及手法や普及ツールに改善 を加えて改新する。		[5]		[17	-				[24		-	[29	- 0	1-1	30		[33	===	0	0	DoE, GCSAR, DMIC, 関
	2-8	上述の普及活動計画に沿って研修受 講普及員が実施する普及活動を支援 する。		$\parallel$		[17				-	[24			[29		[3	0]		[-]		0	0	DoE, 関連 政府機関
成果 3:	3-1	節水灌漑技術に関して、シリア国内の 大学や国際研究機関と連携すべき内 容につき調査・検討を進める。	[4	41	$\dagger$	1 1		[18	_		[25		+	[29	+				$\parallel$	$\parallel$	0	0	GCSAR, 大学, ICARDA
(3) 国際研究機関や 大学との連携により、 節水灌漑の技術や運	3-2	(プロジェクト目標の達成に関連する範囲内で、)大学や国際研究機関と共同で節水灌漑技術に関するワークショッ		$\dagger \dagger$	$\parallel$		-	[18	-	1	[25		-	[29	-				[-]		0	0	ACSAD GCSAR, 大学, ICARDA
営がシリア国内及び 近隣諸国に波及され る。	3-3	プを機能士ス 別項(3)-1及び(3)-2の成果を中心に、 節水灌漑技術の広報活動を行う。		$\parallel$	$\parallel$			[18	-		[25]		-	[29		[-10	30]		$\parallel$	$\parallel$	0	0	GCSAR, 大学, ICARDA
	3-4	要請に応じて、他機関が実施する節 水灌漑関連研修コースの研修員を受 け入れる(関係内容の研修実施に協		$\parallel$	$\parallel$			[18			[25		-	[29		[3	0]		$\parallel$	$\parallel \parallel$	0	0	ACSAD GCSAR, 大学, ICARDA
	3-5	カオス)		$\parallel$	$\parallel$			[18			[25				67	[-][	30]		$\parallel$	$\parallel$	0	0	GCSAR, 大学, ICARDA,

アネックス

## Annex 1

プロジェクトの投入

Table A Lost of Japanese Experts

No.	Name of JICA	Field of Expert	Total M/M	Total	2008		2009			2010		Z	2011		2012
<u>ம</u> ி	Expert		(Man-Month)	Days	10 11 12	1 2 3 4	5 6 7 8	9 10 11	12 1 2 3	4 5 6 7	8 9 10 11	12 1 2 3 4 5 6	8 2 9	9 10 11 12	1234567
Mr. Shuichi MATSUSHIMA**	chi SHIMA**	Leader/ Irrigation	19 77	503		02		G	09	2	T.	05	45	20 10 30 2	30 8
2 Mr.Akira	Mr.Akira KOTO**	Training/ Sub-leader				2	3	3							
			23.77	713	5	70	130	117		105	09	63 35		50	30 18 30
3 Mr. Hiroyasu OHNUMA**	ıyasu IA**	Extension							-						
			16.03	481	2	02	75		89	09	45	63 35		15 15	15 15
Mr. Nac	4 Mr. Naoki KOGA*	Socio-economy/ Farmers Organization													
			8.50	255		30		75	45	45	09				
Mr. Ton	noki HOTTA	5 Mr. Tomoki HOTTA* Irrigation System Designing													
			13.00	390		55	105	30		75	30	. 09		15 5	15
Mr. Ma	Mr. Masakazu NAKAYAMA*	Farming Management/ Coordinator										-			
			5.77	173		20	09				5	30			15 18 15
		Sub-total	86.83	2,605	- No. 2000 h . 14/00										
Legend:		Work in Syria (or Third Country)	untry)												
		,													

Work in Japan

\*\*: Long -Term Japanese Experts
\*: Short-Term Japanese Experts

Table B Equipment provided by JICA

Tab	le B Equip	Table B Equipment provided by JICA		Note:	R/P: R	oute of Pr	R/P: Route of Procurement (J	l: From Japan, L:	(J: From Japan, L: Local, E: With Expert)			
					Freque	Frequency of Use		k: Always, B: Ofte	(A: Always, B: Often, C: Sometimes)			
					Condition	on	4)	(A: Good, B: Fair,	C: Bad)			
2	Date of		Description			Quantity	Unit Price	Sub-total	Place of	Frequency	Condition	Remarks
<u> </u>	Arrival	ltem	Manufacture	Model Number/ Specification	R/P				Storage	of Use		
_	Jan. 2010	Pick up track	Mitsubishi	7500	۰	က	US\$21,500	US\$64,500	GCSAR	∢	⋖	
7	Jan. 2010	4WD	Mitsubishi	PAJERO GLS3.2L	۰	<u> </u>	US\$29,500	US\$29,500	GCSAR	∢	⋖	
က	Jan. 2009	Copy machine	Canon	Copier IR 2230		7		¥721,069	Project office	∢	⋖	
4	Feb. 2009	Fax machine	Panasonic	KX-FL402	۔	2		¥63,964	Project office	∢	∢	
5	Dec. 2009	Irrigation equipment for demonstration famrs	Mais (Syria)	composing of many parts of irrigation equipment		~		¥10,048,500	Demonstration Farms	∢	∢	
9	Sep. 2010	Laser levelling equipment (without tractor)	Leica	420GD		<del>-</del> '	000°02\$SN	US\$70,000	Irrigation Staion (ANRR)	O	⋖	
7	Sep. 2010	Laser levelling equipment (with tractor)	Leica (Lazar eq.) New Holland (Tractor)	420GD (Lazar eq.) TS-6020 (Tractor)	٦	·	US\$123,800	US\$123,800	Irrigation Staion (ANRR)	U	∢	
∞	Jul. 2009	Projector/ OHP	Acer	2,000 lumen	_	က	:	¥220,720	Project office	В	∢	
<u>ი</u>	Jul. 2009	Screen	Acer	2m x 2m	ر	က		¥131,859	Project office	В	∢	·
10	Jul. 2009 Feb. 2010	Digital camera	Olympus	3 million pixel		56		¥287,797	C/Ps	Ф	а	Т
=	Jul.2009	Digital Video Camera	Panasonic	ПП	۲	က		¥190,909	Project office	Ш	∢	
12	Feb. 2009	Computer (desktop type)	Acer	Windows, Microsoft Office		5		¥831,244	Project office	∢	<	
13	Mar. 2009	Laser Printer	Canon	A4 paper	_	က		₹94,039	Project office	∢	∢	,
14	Mar. 2009	Inkjet Printer	Hewlett-Packard	A3 paper, Color	_	က		¥64,811	Project office	∢	⋖	
15	Mar. 2009	Inkjet Printer	Canon	A4 paper, Color	_	က		¥99,440	Project office	∢	∢ ′	
16	Mar. 2009	Flow meter	Fuji electric	for conduit (Ultrasound type)	ш	7		¥1,966,000	Project office	O	∢	
17	Dec. 2008	Flow meter	Climatec	for open channel (low velocity of flow)	ш	_	: : : : : : : : : : : : : : : : : : : :	¥150,000	Project office	ပ	⋖	
18	Dec. 2008	Flow meter	Climatec	for open channel (high velocity of flow)	Ш	-		¥160,000	Project office	ပ	4	
						Tot	Total (US\$ portion):	US\$287,800				
						Tota	Total (Yen portion):	¥15,030,352				

Table C Counterpart Training in Japan and Third Country Training

(1) T	(1) Training in Japan			
No.	Name	Position and organization	Name of Training Course	Period
-	Mr. Mhammad Bahari	Engineer of Extension Directorate (Damascus)	Study on agricultural extension and training by the central	
2	Mr. Rateb Raja	Training Officer of Rurla Damascus Agr. Directorate	government, prefectural government and local government	From Oct 3 to Nov 1 2009
က	Mr. Mahmmad Shahadat	Chief of Extension, Daraa Agr. Directorate	including training on PDM workshop and Coaching Presentation	- 1011 Oct. 5 to 1404. 1, 2009
4	Mr. Hikmat Jarah	Extension Officer of Hama Agr. Directorate	memods.	
2	Mr. Mazen Doughot	Engineer of ANRR		
ဖ	Ms. Hanan Mosalkh	Engineer of ANRR		
	Mr. Husam Qattan	Engineer of DMIC	Filed visit to major irrigation schemes in Japan and manufactures of irrigation equipment. Also included methods on DDM	From Sep. 24 to Oct. 25,
∞	Mr. Abed Al-Ghani	Engineer of ANRR, Aleppo	workshop and coaching presentation.	2010
တ	Mr. Ahmad Hafez	Engineer of ANRR, Aleppo		
10	Mr. Othman Al-Ali	Head of DMIC, Raqqa		
1	Mr. Ahammad Al-Kadri	Director of DMIC, MAAR	Learn management of irrigation schemes, training, extension activities in Japan through field visit to major irrigation schemes	From Oct 2 to Oct 10 2010
12	Mr. Mahamod Al-Taba	Director, Training Center, Training Directorate	(Kasumigaura and Toyokawa yosui) and agricultural research stations.	
13	Ms.Rahaf Shakko	Engineer of ANRR		
14	Mr.Hasan Al-Rachi	Head of Extension Directorate		
15	Mr.Ziad Al-Zaharaa	Engineer of Training Directorate	Study on agricultural extension and training by the central	
16	Mr.Ghassan Ziyada	Director of Human Resources, Aleppo Agr. Directorate	government, prefectural government and local government including training on PDM/CUDBAS workshop and Coaching	From Oct. 01 to Oct. 30, 2011
17	Mr.Ahamad Al-Hamdan	Chief of Training, Aleppo Agr. Directorate	Presentation methods.	
18	Mr.Saleh Al-Shabli	Chief of Extension, Raqqa Agr. Directorate		
19	Ms.Mnaour Tayar	Chief of Training, Raqqa Agr. Directorate		
(2) T <sub>1</sub>	(2) Training in third countries			
Š	Name	Position and organization	Name of Training Course	Period
_	Mr. Bassam Al-Husein	Irrigation Engineer of ANRR, GCSAR		
2	Mr. Samer Al-Ahmad	Irrigation Engineer of ANRR, GCSAR		
က	Mr. Ahmad Zalita	Chief of CWR section, ANRR, GCSAR	F 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
4	Mr. Abdulhamid AlChara	Deputy Director of DMIC	Study Visit to Tunisia on modernized inigation management and water resource management	From Jul. 31 to Aug. 8, 2009
2	Mr. Najib Hassoun	Head of DMIC, Rural Damascus	,	
မ	Mr. Ahmad Zouikli	Head of DMIC, Hama		
7	Mr. Mahmoud Al-Shahadat	DMIC, ANNR		

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No Name of Counterpart	Field for the Project	Present Post	Working Place		Period of Assignment	signment
		Post at assignment time	)	From	70	2008 2009 2010 2011 2012
1 Dr. Walid Tawil	Project Director	Director General of GCSAR, MAAR	Damascus	Dec. 2008	April 2011	
2 Dr. Nayef Al-Salty	Project Director	Director General of GCSAR, MAAR	Damascus	May 2011	Present	
3 Dr. Awadis Arslan	Project Manager	Director of ANRR, GCSAR	Damascus	Dec. 2008	Present	
4 Dr. Mohammad Abdallah	Project Manager	Director of Extension, MAAR	Damascus	Dec. 2008	Feb. 2012	
5 Mr. Bassam Al-Bunni	Project Manager	Director of Extension, MAAR	Damascus	Mar.2012	Present	
6 Mr. Ahmad Al-Qadri	Project Manager	Director of DMIC, MAAR	Damascus	Dec. 2008	Dec. 2011	
7 Mr. Abed Al-Hamed Al-Sharaa	Project Manager	Director of DMIC, MAAR	Damascus	Apr. 2012	Present	
8 Mr. Bassam Al-Husein	Project Coordinator	Engineer of ANRR	Damascus	Dec. 2008	Present	
9 Mr. Samer Al-Ahmad		Engineer of ANRR	Damascus	Dec. 2008	Present	
10 Mr. Naser Koki		Engineer of ANRR	Damascus	Dec. 2008	Present	
11 Ms. Rahaf Shakko		Engineer of ANRR	Damascus	Dec. 2008	Present	
12 Ms. Hanan Mosalkh		Engineer of ANRR	Damascus	Dec. 2008	Present	
13 Mr. Mazen Doughot		Engineer of ANRR	Damascus	Dec. 2008	Present	
14 Mr. Abed Al-Salam Hosen		Engineer of ANRR	Damascus	Dec. 2008	Present	
15 Mr. Mahmmod Taba		Director, Sabra Training Center, Training Directorate	Damascus	Dec. 2008	Present	
16 Mr. Ziad Zahra		Engineer of Training Directorate	Damascus	Dec. 2008	Present	
17 Mr. Mohammad Bahry		Engineer of Extension Directorate	Damascus	Dec. 2008	Present	
18 Mr. Hasan Al-Rashy		Engineer of Extension Directorate	Damascus	Dec. 2008	Present	
19 Ms. Najwa Diab		Engineer of Extension Directorate	Damascus	Dec. 2008	Present	
20 Mr. Samer Al-Qadi		Engineer of Extension Directorate	Damascus	Dec. 2008	Present	
21 Mr. Salah Othman		Engineer of Extension Directorate	Damascus	Dec. 2008	Present	
22 Mr. Abed Al-Hamed Al-Sharaa		Deputy Director of DMIC	Damascus	Dec. 2008	Present	
23 Ms. Sahar Toban		Engineer of DMIC	Damascus	Dec. 2008	Present	
24 Mr. Husam Qattan		Engineer of DMIC	Damascus	Jan. 2010	Present	
Ĩ		Director of Agricultural Research Center, Hama	Hama	Dec. 2008	Present	
26 Mr. Yaser Al Mohammad		Engineer of Agricultural Research Center, Hama	Hama	Dec. 2008	Present	
27 Mr. Mohammad Jazar		Head of Irrigation Research Station, Hama	Hama	Dec. 2008	Present	
28 Mr. Bassam Al-Bunni		Director of Human Resource Division, Hama Agricultural Directorate	Hama	Dec. 2008	Feb.2012	
29 Mr. Husam Obaysi	- Mary - The	Extension Officer of Hama Agr. Directorate	Hama	Dec. 2008	Present	
30 Mr. Adnan Khder		Training Officer of Hama Agr. Directorate	Hama	Dec. 2008	Present	
31 Mr. Mohammad Kreim		Head of DMIC, Hama	Hama	Dec. 2008	Jun.2010	
32 Mr. Khudr Hamoud		Engineer of DMIC, Hama	Ната	Dec. 2008	Present	

			Present Post			Period of Assignment	signment
Š	Name of Counterpart	Field for the Project	Post at assignment time	Working Place	From	To	2008 2009 2010 2011 2012
33	Mr. Ayman Hijazi		Head of Irrigation Research Station, Rural Damascus	Rural Damascus	Dec. 2008	Present	
34	Mr. Marwan Shikh Fatoh		Chief of Extension, Rural Damascus Agr. Directorate	Rural Damascus	Dec. 2008	Present	
35	Mr. Zahr Al-Abdallah		Extension Officer of Rurla Damascus Agr. Directorate	Rural Damascus	Dec. 2008	Present	
36	Mr. Rateb Rajah		Training Officer of Rurla Damascus Agr. Directorate	Rural Damascus	Dec. 2008	Present	
37	7 Mr. Najeeb Hason		Head of DMIC, Rural Damascus	Rural Damascus	Dec. 2008	Present	
38	Mr. Deab Al-Hanash		Engineer of DMIC, Rural Damascus	Rural Damascus	Dec. 2008	Present	
39	Mr. Husein Kottuma		Director Agr. Research Center, Daraa	Daraa	Dec. 2008	Present	
4	Mr. Mohammad Al-Hayak		Engineer of Irrigation Research Station, Daraa	Daraa	Dec. 2008	Present	
4	Mr. Fabi Abo Rokba		Head of Irrigation Research Station, Daraa	Daraa	Dec. 2008	Present	
42	Mr. Mohammad Shahadat		Chief of Extension, Daraa Agr. Directorate	Daraa	Dec. 2008	Present	
43	Mr. Husain Shinwan		Extension Officer of Daraa Agr. Directorate	Daraa	Dec. 2008	Present	
4	Mr. Mahmmod Al-Namah		Chief of Training, Daraa Agr. Directorate	Daraa	Dec. 2008	Present	
45	Mr. Mahmmod Shahadat		Head of DMIC, Daraa	Daraa	Dec. 2008	Present	
46	Mr. Adham Abo Jiash		Engineer of DMIC, Daraa	Daraa	Dec. 2008	Present	
47	7 Dr. Bader Jalab		Director Agr. Research Center, Aleppo	Aleppo	Dec. 2008	Present	
48	3 Mr. Abed Al-Ghani Al-Khaldi		Engineer of ANRR, Aleppo	Aleppo	Dec. 2008	Present	
49	Mr. Trad Dandal		Head of Irrigation Research Station, Aleppo	Aleppo	Dec. 2008	Present	
20	Mr. Mohammad Al-Kahel		Engineer of ANRR, Aleppo	Aleppo	Dec. 2008	Present	
51	I Mr. Ghasan Ziada		Director of Human Resource Division, Aleppo Agr. Directorate	Aleppo	Dec. 2008	Present	
52	2 Mr. Ibraheem Bridy		Extension Officer of Aleppo Agr. Directorate	Aleppo	Dec. 2008	Present	
53	3 Mr. Ahmmad Al-Hamdan		Chief of Training, Aleppo Agr. Directorate	Aleppo	Dec. 2008	Present	
54	t Mr. Hammid Falah		Head of DMIC, Aleppo	Aleppo	Dec. 2008	Sep.2010	
55	5 Mr. Saheeb Brijawi		Engineer of DMIC, Aleppo	Aleppo	Dec. 2008	Present	
26	Mr. Mahmmod Al-Naif		Director Agr. Research Center, Raqqa	Raqqa	Dec. 2008	Present	
57	7 Mr. Omar Naser		Engineer of Agr. Research Center, Raqqa	Raqqa	Dec. 2008	Present	
58	3 Mr. Salm Al-Hasan		Head of Irrigation Research Station, Raqqa	Raqqa	Dec. 2008	Present	
59	Mr. Salah Al-Shably		Chief of Extension, Raqqa Agr. Directorate	Raqqa	Dec. 2008	Present	
09	Mr. Amar Khder		Extension Officer of Raqqa Agr. Directorate	Raqqa	Dec. 2008	Present	
61	1 Ms. Mnoar Tiar		Engineer of DMIC, Raqqa	Raqqa	Dec. 2008	Present	
62	2 Mr. Othman Al-Ali		Head of DMIC, Raqqa	Raqqa	Dec. 2008	Present	
63	3 Mr. Abed Al-Hamud Al-Shadid		Engineer of DMIC, Raqqa	Raqqa	Dec. 2008	Present	

Table E-1 Local Operation Cost Allocated by Japanese Side

							Unit: Japanese Yen
S.	Category	JFY.2008	JFY.2009	JFY.2010	JFY.2011	JFY.2012	Total
	1 Travel expenses	9,314,000	23,269,000	17,114,000	7,916,000	2,822,000	60,435,000
7	2 Expenses for general administration	3,241,000	7,434,000	7,100,000	6,394,000	4,387,000	28,556,000
က	3 Procurement of equipment	4,380,000	11,880,000	0	0	0	16,260,000
4	4 Printing	150,000	2,000	0	0	423,000	575,000
	Total	17,085,000	42,585,000	24,214,000	14,310,000	7,632,000	105,826,000

Remark: JFY: Japanese Fiscal Year from April to March

Data of JFY 2008-2011 are amount used. Data of JFY2012 are planned amount.

Table E-2 Project Operation Cost Allocated by Syrian Side

No.         Category         2008         2009         2010         2011         2012         Total           1         Expences for maintenance         0         400,000         600,000         360,000         50,000         1,410,000           2         Expences for training activities         0         180,000         180,000         180,000         730,000         730,000           3         Expences for extension activities         0         150,000         180,000         0         0         0         100,000           4         Expences for office establishment         100,000         730,000         980,000         910,000         275,000         2,995,000								UIII. Japanese Len
t         400,000         600,000         360,000         50,000           t         180,000         200,000         250,000         100,000           t         150,000         180,000         300,000         125,000           t         100,000         0         0         0           100,000         730,000         980,000         910,000         275,000	S. O.		2008	2009	2010	2011	2012	Total
t 100,000 730,000 980,000 910,000 100,000		Expences for maintenance	0	400,000	900,000	360,000	20,000	1,410,000
t 100,000 730,000 180,000 300,000 125,000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7	Expences for training activities	0	180,000	200,000	250,000	100,000	730,000
100,000         0         0         0         0           100,000         730,000         980,000         910,000         275,000	က	Expences for extension activities	0	150,000	180,000	300,000	125,000	755,000
100,000 730,000 980,000 910,000 275,000	4	Expences for office establishment	100,000	0	0	0	0	100,000
		Total	100,000	730,000	000'086		275,000	2,995,000

Annex 2

PDM の改訂

プロジェクト・デザイン・マトリックス(PDM) プロジェクト名: シリア国節水灌漑農業普及計画フェーズ2 対象地域:ダマスカス郊外県、ダラ、ハマ県、アレッポ県及びラッカ県

2009. 01

Ver. 1.0

**協力期間**: 2008 年 12 月~2012 年 6 月 (3.5 年間) **ターゲットグループ**: **直接受益者**; 農業農地改革省の関係職員及び研修対象普及員、ならびに同普及員の普及活動所轄權納農家 間**独会社表**: 社会地誌の議典書家 (約.98 万百) 及7K一般在民

プロジェクトの要約	描標	標準は関係の入手手段	外部条件
上位目標	1) プロジェクト対象地域における単位面積当た	ー関係流域に関する水資	・灌漑に必要な水源量が減少しな
節水灌漑の普及により、プロジェクト対象地域で適	り灌漑使用水量が、収量の減少を生じることな	源・水利用報告	
切な量の灌漑水量が使用されるようになる。さらに、	く 2017 年までに XX1%減少する。	一現地調査による情報	・灌漑面積が違法な水源開発によ
その他の地域でも節水灌漑に係る理解が進む。	2) シリア国内他地域でも、節水灌漑の重要性・必	- 関係者への調査/インタ	り拡大しない。
	要性に関する意識が高まる(XX2%)。	ビュー結果	
プロジェクト目標	1) プロジェクトサイトにおける灌漑用水の使用	ー現地調査による情報	・プロジェクト対象地域内の営農
関係機関の職員の節水灌漑を普及する能力が向上	量が、農産物収量は維持しつつ、プロジェクト	- 関係者への調査/インタ	環境が想定外に悪化しない。
し、プロジェクトサイトでは、農作物に対して適切	で奨励する量に減少する(X1%)。	ビュー結果	・プロジェクト対象地域内の農家
な量の灌漑用水が使用されるようになる。	2) プロジェクト地域関係機関職員の節水灌漑を		が必要な質と量の節水灌漑施設
	普及する能力が向上する(X2%)。		の整備を支障なく行える。
成果	(1)-1:アレッポ県、ラッカ県に設置されたデモ圃場に	ー現地調査による情報	
(1)アレッポ県、ラッカ県において適切な節水灌漑技	おける各作物の灌漑水量が X3%減少する。	- 関係者への調査/インタ	・研修普及員の活動環境に大きな
術が提案され、同2県のプロジェクトサイトにお	(1)-2:アレッポ県、ラッカ県のプロジェクトサイトに	ビュー結果	変化がない(普及員が普及活動を
いて節水灌漑技術の活用方法が普及される。さら	おいて、X4%の灌漑農家が節水灌漑技術を導入		持続できる)。
に同 2 県のその他の地域でも節水灌漑に向けた	する。		少なくとも、プロジェクトサイト
研修・普及システムが整備される。	(1)-3:アレッポ県、ラッカ県において、研修済み普及		の営農環境が想定外に悪化しな
	員によって定期的な普及活動が行われる		°/1
	(X5%)°		・プロジェクトサイトの農家が必
(2) ダマスカス郊外県、ダラ県、ハマ県において、小	(2)-1:フェーズ1プロジェクト終了後の課題が解明		要な質と量の節水灌漑施設の整
規模圧力式灌漑技術の活用方法が普及される。	され、改善策が施される (X6 件以上)。		備を支障なく行える。
	(2)-2:ダマスカス郊外県、ダラ県、ハマ県のプロジェ		
	クトサイトにおいて X7%の灌漑農家が小規模		
	圧力式灌漑運用を導入する。		
	(2)-3:ダマスカス郊外県、ダラ県、ハマ県において、		
	シリア側関係機関によって定期的な普及活動		
	が行われる(X8%)。		
(3) 国際研究機関や大学との連携により、より一般	(3)-1:研究機関・大学と本プロジェクトが合同で、節		
的な節水灌漑手法の整備が進み、その成果がプ	水灌漑技術に関して X9 件以上の提言が為され		
ロジェクトに反映される。さらに、同成果がシ	, Ko		
リア国内及び近隣諸国に液及される。	(3)-2:同提言のうち、X10 件以上が本プロジェクト		
	あるいはその他(国内・国外)に活用される。		

<b>対象地域</b> :ダマスカス郊外県、ダラ、ハマ県、アレッポ県及	びラッカ県	<b>ターゲットグループ:</b> <b>直接受益者:</b> 農業農地改革省の関係職員及び研修対象普及員、ならびに同 戦み島の戦及活動品権機動動象	2009. 01
	自体員が目がに	冒灰呉ジョベロシル)智祉配成なる <b>間接受益者</b> ;対象地域の灌漑農家(約 28 万戸)及び一般住民	Ver. 1. 0
	敬	投入	
(1)-1 ノロンェクト対象地域における灌漑連用上の・問題点の検討を進めながらベースライン調査・エエニ	<b>日本側</b> 総額約 3.8 億円	シリア側	
. ,	1. 専門家派遣 (1) 長期専門家 3名 *終括/遊遊	1. カウンターパートの配置	
(1)-3 上述した(1)-1 頃及び(1)-2 頃の結果に基づいて、ガイドラインやマニュアルを作成する。(1)-4 プロジェクト対象地域内にプロジェクトサイ	* 研修 * 普及 * 普及	<ol> <li>プロジェクト事務所スペースの提供</li> <li>中央レベル: MAAR 本省の建物内</li> </ol>	
トを選定し、各サイト内にそれぞれの灌漑農業 特性に応じたデモ圃場を設置する。	<ul><li>(2) 短期専門家 農村社会調本</li></ul>	2)地万レベル:フロシェクト対象地 域の件農業局の建物内	
(1)-5 <小規模圧力式灌漑> (1)-5-1 別項(1)-5-4 に示した普及活動計画に基づい	1   1   1   1   1   1   1   1   1   1	3. プロジェクト運営経費1) カウンターパートの活動に係る	
て研修活動計画を策定する。 (1)-5-2 プロジェクト対象地域の現状に基づいて、フェーズ・1 盟盟由に作品) ** 井徐ッ・・アッタ	2. 機材供与	<ul><li>経費</li><li>2)プロジェクト事務所の光熱費</li></ul>	
エーベーを回上に下及った状で、コメングを投げする。	アーザーレベリングコニット	3)セミナー開催費用等	
(1)-5-3 関連機関と連携しながら小規模圧力式灌漑技術に係る研修コースを実施する。 (1)-5-4 別項(1)-1 及び(2)-3 の成果に基づいて、普及活動計画を第定する。	デモ圃場設置機材 計測機材 研修用機材 車両等	4. 資機材(サテライトプロット設置のための資機材、フェーズ 1 で供与さ	
(1)-5-5 上述の普及活動計画に沿って研修受講普及員が実施する普及活動を支援する。	<ol> <li>プロジェクト経費</li> <li>セミナー開催費等</li> </ol>	れた車両等) 	
(1)-6 <地表灌漑> (1)-6-1 節水に有効な地表灌漑技術ならびに関連技術	4. 本邦研修·第三国研修		
を追究する。 (1)-6-2 別項(1)-5-1 の研修活動計画と(1)-6-6 項の普及活動計画に基づいて研修活動計画を策定し、			
呼修シールを整備する。 (1)・6-3 地表灌漑方法に係る技術ガイドライン/~ニ			

プロジェクト・デザイン・マトリックス (PDM) プロジェクト名:シリア国節水灌漑農業普及計画フェーズ2対象地域:ダマスカス郊外県、ダラ、ハマ県、アレッポ県及びラッカ県

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プロジェクト名: シリア国筋水灌漑農業普及計画フェーズ2 対象地域:ダマスカス郊外県、ダラ、ハマ県、アレッポ県及びラッカ県	<b>協力期間</b> : 2008 年 12 月~2012 年 6 月(3.5 年間) ターゲットグループ:	2009. 01
	直接受益者;農業農地改革省の関係職員及び研修対象普及員、ならびに同普及員の普及活動所轄灌漑農家 間接受益者;対象地域の灌漑農家(約 28 万戸)及び一般住民	Ver. 1. 0
<ul> <li>ュアルを作成する。</li> <li>(1)-6-4 別項(1)-6-2 の成果を活用しながら、関係機関とともに地表灌漑にかかる研修コースを実施する。</li> <li>(1)-6-5 (1)-6-6 項の普及活動計画に基づいて、普及活動に必要な普及ツールを準備する。</li> <li>(1)-6-6 別項(1)-1、(1)-6-1、及び(2)-3 の成果を活用しながら普及活動計画を策定する。</li> <li>(1)-6-7 上述の普及活動計画に沿って研修受講普及員が実施する普及活動を支援する。</li> </ul>		
(2)-5 別頃(2)-6 の音及店動計画に行う C 研修店動を 実施する。 (2)-6 フェーズ 1 期間中に作成した "節水灌漑推進" に向けた普及活動計画を改新する。 (2)-7 既存の普及手法や普及ツールに改善を加えて 改新する。 (2)-8 上述の普及活動計画に沿って研修受講普及員 が実施する普及活動を支援する。		

<ul> <li>2 協力期間: 2008 年 12 月~2012 年 6 月 (3.5 年間)</li> <li>びラッカ県 ターゲットグループ: 直接受益者;農業農地改革省の関係職員及び研修対象普及員、ならびに同普及員の普及活動所轄權制農家 (約 28 万戸)及び一般住民 Ver. 1.0</li> </ul>	<b>前提条件</b> 関係普及員がプロジェクト活 に参加する。
プロジェクト・デザイン・マトリックス (PDM) プロジェクト名: シリア国節水灌漑農業普及計画フェーズ2 対象地域:ダマスカス郊外県、ダラ、ハマ県、アレッポ県及びラ	(3)-1 節水灌漑技術に関して、シリア国内の大学や国際研究機関と連携すべき内容につき調査・検討を進める。 (3)-2 (プロジェクト目標の達成に関連する範囲内で、) 大学や国際研究機関と共同で節水灌漑技術に関するワークショップを開催する。(3)-3 別項(3)-1 及び(3)-2 の成果を中心に、節水灌漑技術の広報活動を行う。(3)-4 要請に応じて、他機関が実施する節水灌漑関連研修コースの研修員を受け入れる(関係内容の研修実施に協力する)。 (3)-5 (プロジェクト目標の達成に関連する範囲内で、) 節水灌漑をテーマにした国際会議に共同で、(3)-5 (プロジェクト目標の達成に関連する範囲内で、) 節水灌漑をテーマにした国際会議に共同

# プロジェクト・デザイン・マトリックス (PDM)

プロジェクト名: シリア国節水灌漑農業普及計画フェーズ2 対象地域:ダマスカス郊外県、ダラ、ハマ県、アレッポ県及びラッカ県

2010.3

**協力期間**:2008年12月~2012年6月(3.5年間) **ターゲットグループ**: 直接受益者:農業農地改革省の関係職員及び研修対象普及員、ならびに同普及員の普及活動所轄灌漑農家

	普及員の普及活動所轄灌漑農家間接受益者:対象地域の灌漑農家	農家 衛農家(約 28 万戸)及び一般住民	Ver. 2. 0
プロジェクトの要約	布	指標の入手手段	外部条件
上位目標	1) プロジェクト対象地域における単位面積当た	- 関係流域に関する水資	・灌漑に必要な水源量が減少しな
節水灌漑の普及により、プロジェクト対象地域で適	り灌漑使用水量が、収量の減少を生じることな	源・水利用報告	0
切な量の灌漑水量が使用されるようになる。さらに、	く 2017 年までに 10%以上減少する。	一現地調査による情報	・灌漑面積が違法な水源開発によ
その他の地域でも節水灌漑に係る理解が進む。	2) 沙7国内他地域でも節水灌漑の重要性・必要性	- 関係者への調査/インタ	り拡大しない。
	に関する意識が高まる(高揚農家数 50%以上)。	ビュー結果	
プロジェクト目標	1) プロジェクトサイトにおける灌漑用水の使用	一現地調査による情報	・プロジェクト対象地域内の営農
関係機関の職員の節水灌漑を普及する能力が向上	量が、農産物収量は維持しつつ、プロジェクト	- 関係者への調査/インタ	環境が想定外に悪化しない。
し、プロジェクトサイトでは、農作物に対して適切	で奨励する量に減少する(現状だり10-20%減少)。	ビュー結果	・プロジェクト対象地域内の農家
な量の灌漑用水が使用されるようになる。	2) プロジェクト地域関係機関職員の節水灌漑を		が必要な質と量の節水灌漑施設
	普及する能力が向上する(基準を上回る普及員数メッカーよって無効がもの異数の140/をあって)		の整備を支障なく行える。
	ル必安Cられる衛航音及員数が 40mを向んの。		
成果	(1)-1:アレッポ県、ラッカ県に設置されたデモ圃場に	一現地調査による情報	
(1)アレッポ県、ラッカ県において適切な節水灌漑技	おける各作物の灌漑水量が10-15%減少する。	- 関係者への調査/インタ	・研修普及員の活動環境に大きな
術が提案され、同2県のプロジェクトサイトにお	(1)-2:アレッポ県、ラッカ県のプロジェクトサイトに	ビュー結果	変化がない(普及員が普及活動を
いて節水灌漑技術の活用方法が普及される。さら	おいて、節水灌漑技術を導入する灌漑農家数が		持続できる)。
に同 2 県のその他の地域でも節水灌漑に向けた	現状の80-100%分増加する。		少なくとも、プロジェクトサイト
研修・普及システムが整備される。	(1)-3:アレッポ県、ラッカ県において、研修済み普及		の営農環境が想定外に悪化しな
	員によって定期的な普及活動が行われる(10回		٥١,
	を下回らない 50%以上)。		<ul><li>プロジェクトサイトの農家が必</li></ul>
(2) ダマスカス郊外県、ダラ県、ハマ県において、小	(2)-1:7 ±		要な質と量の節水灌漑施設の整
規模圧力式灌漑技術の活用方法が普及される。	され、改善策が施される (5件以上)。		備を支障なく行える。
	(2)-2:ダマスカス郊外県、ダラ県、ハマ県のプロジェ		
	クトサイトにおいて小規模圧力式灌漑運用を		
	導入する灌漑農家数が現状の30-40%分増加。		
	(2)-3:ダマスカス郊外県、ダラ県、ハマ県において、		
	シリア側関係機関によって定期的な普及活動		
	が行われる(現状頻度より25%以上増加)。		
(3) 国際研究機関や大学との連携により、より一般	(3)-1:研究機関・大学と本プロジェクトが合同で、節		
的な節水灌漑手法の整備が進み、その成果がプ	水灌漑技術に関して3件以上の提言が為され		
ロジェクトに反映される。さらに、同成果がシ	ĸŷ		
リア国内及び近隣諸国に液及される。	(3)・2:同提言のうち、2件以上が本プロジェクトある		
	いはその他(国内・国外)に活用される。		

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巡 **対象地域**:ダマスカス郊外県、ダラ、ハマ県、アレッポ県及びラッカ プロジェクト名: シリア国節水灌漑農業普及計画フェーズ2

汨酆

直接受益者;農業農地改革省の関係職員及び研修対象普及員、ならびに同 **協力期間**:2008年12月~2012年6月 (3.5年間) 普及員の普及活動所轄灌漑農家 ターゲットグループ

間接受益者:対象地域の灌漑農家

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Ver. 2. (

2010.3

(約28万戸)及び一般住民

### 4. 資機材 (サテライトプロット設置の 2)地方レベル:プロジェクト対象地 1) 中央レベル: MAAR 本省の建物内 1) カウンターパートの活動に係る フェーズ 1 で供与さ プロジェクト事務所スペースの提供 2)プロジェクト事務所の光熱費 1. カウンターパートの配置 域の件農業局の建物内 3. プロジェクト運営経費 3)セミナー開催費用等 ための資機材、 れた車両等) シリア側 投入 フーナーフ<br /> バーンイーシャ<br /> コーシャ<br /> コーシャ<br/> コーシャ<br /> コーシー<br /> コーシー<br /> コーシャ<br /> コーシー<br /> コーシー<br /> コーシー<br /> コーシー<br /> コーシー<br/> コーシー<br /> コーシー<br/> コーシー<br /> コーシー<br /> コーシー<br /> コーシー<br /> コーシー<br /> コーシー<br/> コーン<br/> コーン<b 4. 本邦研修・第三国研修 3.2 3. プロジェクト経費 1) セミナー開催費等 デモ圃場設置機材 農村社会調査 (1) 長期専門家 \*総括/灌漑 総額約3.8億円 短期専門家 研修用機材 1. 専門家派遣 圃場整備 機材供与 計測機材 その他 車而等 \*研修 阿爾 日本側 3 κi (1)-6-1 節水に有効な地表灌漑技術ならびに関連技術 問題点の検討を進めながらベースライン調査 ェーズ1期間中に作成した技術マニュアルを (1)-5-3 関連機関と連携しながら小規模圧力式灌漑 (1)-5-5 上述の普及活動計画に沿って研修受講普及員 (1)-6-3 地表灌漑方法に係る技術ガイドライン/マニ プロジェクト対象地域における灌漑運用上の プロジェクト対象地域の現状に基づいて、適正 上述した(1)-1 項及び(1)-2 項の結果に基づい トを選定し、各サイト内にそれぞれの灌漑農業 (1)-5-2 プロジェクト対象地域の現状に基づいて、フ (1)-5-4 別項(1)-1 及び(2)-3 の成果に基づいて、普及 (1)-6-2 別項(1)-5-1 の研修活動計画と(1)-6-6 項の普 (1)-5-1 別項(1)-5-4 に示した普及活動計画に基づい プロジェクト対象地域内にプロジェクトサイ 及活動計画に基づいて研修活動計画を策定し、 て、ガイドラインやマニュアルを作成する。 技術に係る研修コースを実施する。 特性に応じたデモ圃場を設置する。 が実施する普及活動を支援する。 な節水灌漑手法を明確にする。 て研修活動計画を策定する。 研修シールを整備する。 (1)-5 < 小規模压力式灌漑> 活動計画を策定する。 (1)-6 <地表灌漑> を追究する。 を実施する。 改定する。 (1)-3(1)-4(1)-2(1)-1

<b>ン・マトリックス (PDM)</b> ア国節水灌漑農業普及計画フェーズ2 外県、ダラ、ハマ県、アレッポ県及びラッカ県	<b>協力期間</b> : 2008 年 12 月~2012 年 6 月 (3.5 年間) <b>ターゲットゲループ</b> : <b>直接受益者</b> ; 農業農地改革省の関係職員及び研修対象普及員、ならびに同普及員の普及活動所轄灌漑農家 間接受益者; 対象地域の灌漑農家 (約 28 万戸)及び一般住民	2010. 3 Ver. 2. 0
3.7ルを作成する。 (1)-6-4 別項(1)-6-2 の成果を活用しながら、関係機関 する。 (1)-6-5 (1)-6-6 項の普及活動計画に基づいて、普及活 動に必要な普及ツールを準備する。 (1)-6-6 別項(1)-1、(1)-6-1、及び(2)-3 の成果を活用 しながら普及活動計画を発定する。 (1)-6-6 別項(1)-1、(1)-6-1、及び(2)-3 の成果を活用 しながら普及活動計画を交接する。 (2)-1 節水灌漑の推進に当たる各関係機関との定期 会合を設け、推進活動を支援・調整する。 (2)-2 関係3 県において、フェース 1 時に可以でインター トピイトとされた地区以外を対象にベースラ イン調査を実施する。 (2)-3 月本のプロジェクト稼働状況を レビューするとともに、灌漑運用上の問題点に ついても、検討する。 (2)-3 フェーズ 1 終了後のプロジェクト稼働状況を フェーズ 1 数 7 後のプロジェクト稼働状況を (2)-5 別項(2)-2 及び(2)-3 の成果に基づいて、フェー ズ 1 対象プロジェクトサイト以外の地区にサ デライトプロットを設立する。 (2)-4 別項(2)-6 の普及活動計画に沿って研修活動を 実施する。 (3)-5 別項(2)-6 の普及活動計画に沿って研修受講普及員 に向けた普及活動計画に沿って研修受講普及員 が実施する普及活動計画に沿って研修受講書及員		

/ 対   条   当	<b>プロジェクト名:</b> シリア国節水灌漑農業普及計画フェーズ2 <b>対象地域</b> :ダマスカス郊外県、ダラ、ハマ県、アレッポ県及びラッカ県	協力期間:2008年12月~2012年6月(3.5年間) ターゲットグループ: 直接受益者:農業農地改革省の関係職員及び研修対象普及員、ならびに同普及員の普及活動所轄灌漑農家 間接受益者:対象地域の灌漑農家 (約28万戸)及び一般住民	2010. 3 Ver. 2. 0
(3)-2	(3)-1 節水灌漑技術に関して、シリア国内の大学や国際研究機関と連携すべき内容につき調査・検討を進める。 を進める。 (プロジェクト目標の達成に関連する範囲内で、) 大学や国際研究機関と共同で節水灌漑技術に関するワークショップを開催する。		
(3)-3 5 (3)-4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	別項(3)-1 及び(3)-2 の成果を中心に、節水灌漑技術の広報活動を行う。要請に応じて、他機関が実施する節水灌漑関連研修コースの研修員を受け入れる (関係内容の研修実施に協力する)。	<b>前提条件</b> 関係普及員がプロジェクト活動 に参加する。	ロジェクト活
(3)-5	(プロジェクト目標の達成に関連する範囲内で、) 節水灌漑をテーマにした国際会議に共同参加する。		

# プロジェクト・デザイン・マトリックス (PDM)

プロジェクト名: シリア国節水灌漑農業普及計画フェーズ 2 対象地域: ダマスカス郊外県、ダラ、ハマ県、アレッボ県及びラッカ県

2010.12

Ver. 3.0

**協力期間**:2008 年 12 月~2012 年 6 月 (3.5 年間) **ターゲットグループ**: **直接受益者**:農業農地改革省の関係職員及び研修対象普及員、ならびに同普及員の普及活動所轄灌漑農家 間接受益者:対象地域の灌漑農家

<ul> <li>1) プロジェクト対象地域で 10 でのジェクト対象地域で 10 が常機の重要化にあてとなく 2017 ・</li></ul>	ブロジェクトの要約	<b>加</b>	指標の入手手段	外部条件
第0番及により、プロジェクト対象地域で 量の灌漑水量が使用されるようになる。さ エクト目標 エクト目標 関の職員の筋水灌漑を普及する能力が向上 野の職員の筋水灌漑を普及する能力が向上 関の職員の筋水灌漑を普及する能力が向上 野の職員の筋水灌漑を普及する能力が向上 野の職員の筋水灌漑を普及する能力が向上 最産物収量は維持しつ、プロジェクトで奨励する 最に物かする。 1) プロジェクトサイトにおける灌漑用水の使用量が、	(1)		1) - シリア国年間統計	・灌漑に必要な水源量が減少し
<ul> <li>昼の灌漑水量が使用されるようになる。さ かり面内他地域でも簡水灌漑の重要性に関 2) かり面内他地域でも簡水灌漑の重要性に関 2) かり面内他地域でも簡水灌漑の重要性に関 2) かり面内他地域でも簡水灌漑の重要性に関 2) カマジェクトサイトにおける灌漑用水の使用量が、 1) フロジェクトサイトにおける灌漑用水の使用量が、 1) フロジェクトサイトでは、農作物に対して適 2 アロジェクトサイトでは、農作物に対して適 2 アロジェクトサイトでは、農作物に対して適 2 アロジェクトサイト (1)・1:アレッが県、ラッカ県に設置され、同 2 県のプロジェクトサイト (1)・1:アレッが県、ラッカ県に設置され、市 2 県のプロジェクトサイト (1)・1:アレッが県、ラッカ県に設置され、市 2 県のプロジェクトサイト (1)・1:アレッが県、ラッカ県に設置され、市 2 県のプロジェクトサイト (1)・2:アレッが県、ラッカ県に設置され、市 80・100% 4型がする。 (1)・3: アレッが県、ラッカ県に対いて、研修済み普及員において、研修済み普及員によいて、研修済み普及員において、研修済み普及員において、研修済み普及員において、研修済み普及員によって実施される普及活動の質的な・2・アカス郊外県、グラ県、ハマ県において、シリア側関係機関により、25%以上増加。 (2)・3:ゲマスカス郊外県、グラ県、ハマ県において、ジリア側関係機関により、55%以上増加。 (2)・3:ゲマスカス郊外県、グラ県、ハマ県において、ジリア側関係機関により、55%以上増加。 た (3)・1: 節水灌漑の技術や運営に関する連携活動が進めら (3)・1: 節水灌漑の技術や運営に関する連携活動が進めら (3)・1: 節水灌漑の技術や運営に関する連携活動が進めら (3)・1: 節水灌漑の技術や運営に関する連携活動が進めら (3)・1: 節水灌が水準の大体や運営に関する連携活動が進めら (3)・1: 節水灌漑の技術や運営に関する連携活動が進めら (3)・1: 節水灌漑の技術や運営に関する運貨に関する運貨に関する関東</li> </ul>	9普及により、プロジェクト対象地域で		- 農業省の灌漑水量推定資	がい、
<ul> <li>その他の地域でも節水灌漑に係る理解が進 2) が10国内他地域でも節水灌漑の重要性・必要性に関 2 する意識が高まる (高揚農家数 50%以上)。</li> <li>カロジェクト目機 5 数 5 が 2 が 2 が 3 が 3 が 3 が 3 が 3 が 3 が 4 が 4 が 4 が 4</li></ul>	灌漑水量が使用されるようになる。さ	年までに10%以上減少する。	京	・灌漑面積が違法な水源開発に
1) プロジェクト日標 別の職員の筋水灌漑を普及する能力が向上 ロジェクトサイトにおける灌漑用水の使用量が、1 ロジェクトサイトでは、農作物に対して適 ロジェクトサイトでは、農作物に対して適 コジェクトサイトでは、農作物に対して適 フロジェクトサイトでは、農作物に対して適 サイトでは、農作物に対して適 フロジェクト地域関係機関職員の節水灌漑を登支 もの推案され、同2県のプロジェクトサイト (1)・1:アレッポ県、ラッカ県に設値されたデモ園場において適切な簡水灌漑 けるをに同2県のプロジェクトサイト (1)・2:アレッポ県、ラッカ県に設値されたデモ園場において 1)・1:アレッポ県、ラッカ県のプロジェクトサイトにおいて (1)・1:アレッポ県、ラッカ県に設値を超える。 (1)・2:アレッポ県、ラッカ県に設値がから、中イトにおいて (1)・3:アレッポ県、ラッカ県に設値が表現が10・20%域が10・20 によって定期的な普及活動が行われる(年間で 10 同以上)。 (1)・3:アレッポ県、ラッカ県において、研修済み普及員 によって定期的な普及活動の (1)・3:アレッポ県、ラッカ県において、研修済み普及員 によって定期的な普及活動の (1)・4:研修済み普及日よって実施される音及活動の (1)・4:研修済み普及日よって実施される音及活動の (1)・4:研修済み普及日よって実施される音及活動の (1)・5・インスカス郊外県、ダラ県、ハマ県のプロジェクト トサイトにおいて小規模圧力式灌漑運用を導入す カルイトにおいて小規模圧力式灌漑運搬運用を導入す トサイトにおいて小規模圧力式灌漑運搬が行われる (2)・2:ダマスカス郊外県、ダラ県、ハマ県のプロジェクト トサイトにおいて小規模圧力式灌漑運搬が行わがでで (2)・3:ダマスカス郊外県、ダラ県、ハマ県のガロジェクト トサイトにおいて小規模圧力式灌漑運搬運搬運搬が行わ もの関係機関によって実施される音を入す カルイトにおいて小規模圧力式灌漑運搬運搬運搬が行わ は、カースのの登録が行わ が一度の発売を運営がシリア国内及び近隣諸国に れる。 (3)・3:ダマスカス郊外県、ダラ県、ハマ県のプロジェクト は、カースに対しな普及活動が活動が行わ もの関係機関によって実施をあれる (3)・3:ダースカス郊外県、ダラ県、ハマ県のブロジェクト トサイトにおいて小規模圧力式灌漑活動が行わ は、カースに対しな普及活動が行わ がるの表別を発展を通過がよりで国内及び近隣諸国に れる。 (3)・3:ダースカス郊外県、ダラ県、ハマ県は行い、シェクト カースの機関を発展を通過が行わ は、カースを表がが開発を表が通過が行わ は、カースを表がが開発を表が通過が行わ を選びを通過がたり、簡水灌 (3)・3: ダースカス郊外県、ダラ県、ハマ県のブロジェクト カースのの大術や運営がシリア国内及び近隣諸国に れる。 (3)・3: ダースカス郊外県、ダラ県、ハマ県のブロジェクト カースのの大術や運営がシリア国内及び近隣諸国に れるの表別を表が通過が行わ ものの表別を表が通過により、 は、20・3・3・3・3・3・3・3・3・3・3・3・3・3・3・3・3・3・3・3	_			より拡大しない。
<ul> <li>(1) プロジェクトサイトにおける灌漑用水の使用量が、 1</li></ul>			茶	
機関の職員の節水灌漑を普及する能力が向上 量に減少する(現状が10-20%減少)。 量の灌漑用水が使用されるようになる。 量の灌漑用水が使用されるようになる。 する能能等を員数の40%を超える)。 たとッボ県、ラッカ県において適切な節水灌漑 がが提案され、同2県のプロジェクトサイト において節水灌漑技術の活用方法が普及され (1)-2:アレッポ県、ラッカ県のプロジェクトサイトにおいて、節水灌漑技術を導入する灌漑農家数が現状の いて、節水灌漑技術の活用方法が普及され。 80-100%分増加する。 (1)-3:アレッポ県、ラッカ県のプロジェクトサイトにおいて、 は模圧力式灌漑技術の活用方法が普及され。 (1)-4: 研修済み普及員によって実施される普及活動の 質的なレベルが維持される。 (2)-3:ダマスカス郊外県、ダラ県、ハマ県において、 2)-1:フェーズ1プロジェクト終了後の課題が解明さ れ、改善策が施される(5 件以上)。 質的なレベルが維持される。 (2)-3:ダマスカス郊外県、ダラ県、ハマ県において、シリア側関係機関によって定期的な普及活動が行わ もの技術や運営に関する連携活動が進めら (3)-3: ヴァスカス郊外県、ダラ県、ハマ県において、シリア側関係機関によって定期的な普及活動が行わ れ、改善策が施される(5 件以上)。 10-3:ダマスカス郊外県、ダラ県、ハマ県において、シリア側関係機関によって定期的な普及活動が行わ れるの技術や運営に関する連携活動が進めら れるの技術や運営に関する連携活動が進めら れるの。 (3)-1: 節水灌漑の技術や運営に関する連携活動が進めら れる。			1) - ベースライン調査及びインパート	・プロジェクト対象地域内の営
■ 量に減少する(現比り10-20%減少)。  3) プロジェクトサイトでは、農作物に対して適 まる能力が向上する(基準を上回る普及員数が必要とき れる灌漑者及(製作がと考える)。  7 レッボ県、ラッカ県において適切な館水灌漑 (1)・1:アレッボ県、ラッカ県に設度とおいてデモ圃場において (1)・2:アレッボ県、ラッカ県に設めする。 またいて (1)・2:アレッボ県、ラッカ県において (1)・3:アレッボ県、ラッカ県において (1)・3:アレッボ県、ラッカ県において (1)・3:アレッボ県、ラッカ県において (1)・3:アレッボ県、ラッカ県において (1)・3:アレッボ県、ラッカ県において (1)・3:アレッボ県、ラッカ県において (1)・3:アレッボ県、ラッカ県において (1)・3:アレッボ県、ラッカ県において (1)・3:アレッボ県、フッカル県において (1)・3:アレッボ県、フッカルのではでは (10) 回以上)。 (1)・3:アレッボ県、フッカルのでは (10) 回以上)。 (2)・3:アンスカス郊外県、ダラ県、ハマ県において、 (2)・1:フェーズ 1 プロジェクト (1)・3:アンスが (1)・3:アンスが (1)・4:アンエクト (1)・4: 研修済み普及員によって実施 (1)・4:アンエクト (2)・4:アンカス郊外県、ダラ県、ハマ県において、シーザイトにおいて小規模圧力式灌漑技術の活用方法が普及され (2)・1:アーズ 1 プロジェカト (2)・4・ボルン (2)・1:アーズ 1 プロジェカト (2)・4・ボルン (2)・4・ボルン (2)・4・ボルン (2)・4・ボルン (2)・4・ボルン (2)・4・ボルン (2)・4・ボルン (3)・1: 節水灌漑の技術や運営に関する連携活動が進めら (1)・5・カーの (2)・5・カーの (2)・5・カーの (2)・5・カーの (2)・5・カーの (2)・5・カーの (2)・5・カーの (2)・5・カーの (2)・5・カーの (2)・5・カーの (2)・5・ガーが (2)・5・カーの (2)・カーの	職員の節水灌漑を普及する能力が向上	農産物収量は維持しつつ、プロジェクトで奨励する	調査の農家化化、ユー結果	農環境が想定外に悪化しない。
<ul> <li>量の灌漑用水が使用されるようになる。 する能力が向上する(基準を上回る普及員数が必要とされる能力が信息を見るのものを超える)。</li> <li>(1)・1:アレッボ県、ラッカ県において適切な節水灌漑 (1)・2:アレッボ県、ラッカ県において適切な節水灌漑 (1)・2:アレッボ県、ラッカ県において適切な節水灌漑 (1)・3:アレッボ県、ラッカ県において、研修済な普及され、同2県のその他の地域でも筋水灌漑 (1)・3:アレッボ県、ラッカ県において、研修済な普及目のその他の地域でも筋水灌漑 (1)・3:アレッボ県、ラッカ県において、研修済な普及目のによいて、銀模圧力式灌漑技術の活用方法が普及され、(1)・3:アレッボ県、ラッカ県において、研修済な普及目のによいて、(1)・4:研修済み普及員によって実施される(年間で 10回以上)。</li> <li>(1)・4:研修済み普及員によって実施される普及目動の質的なビスカス郊外県、ダラ県、ハマ県において、(2)・1:フェーズ 1 プロジェクト終了後の課題が解明される(年間で 10回以上)。</li> <li>(2)・2:グマスカス郊外県、ダラ県、ハマ県のプロジェクトを表別を表別が進入する準拠度を表が、(2)・3:グマスカス郊外県、ダラ県、ハマ県のプロジェクトを表別を表別が、(2)・3:グマスカス郊外県、ダラ県、ハマ県のプロジェクトを表別を表別が、(2)・3:グマスカス郊外県、ダラ県、ハマ県のプロジェクトを表別を表別が、(2)・3:グマスカス郊外県、ダラ県、ハマ県のプロジェクトを表別を表別が、(2)・3:グマスカス郊外県、ダラ県、ハマ県のブロジェクトにおいて小規模圧力式灌漑運用を導入する機の技術や運営がシリア側関係機関によって正期的な普及活動が作われる(現状規度より、25%以上増加)。れる(現状規度より、25%以上増加)。れる(現状規度より、25%以上増加)。れる(3)・1: 節水灌漑の技術や運営に関する連携活動が進めら、100%が増加</li> </ul>	シェクトサイトでは、農作物に対して適	量に減少する(現状が10-20%減少)。		・プロジェクト対象地域内の農
する能力が向上する(基準を上回る普及員数が必要ときれる権機管及員数の40%を超える)。  「1)・1:アレッボ県、ラッカ県に設いて適切な節水灌漑 ける各作物の権能水量が10・15%酸少する。 こおいて節水灌漑技術の活用方法が普及され いて、節水灌漑技術を導入する灌漑農家数が現状の5。さらに同2 県のその他の地域でも節水灌漑 10・12・アレッボ県、ラッカ県のプロジェクトサイトにおいて、節水灌漑技術の活用方法が普及されて、前水灌漑技術を導入する灌漑農家数が現状の5。 さらに同2 県のその他の地域でも節水灌漑 10・10・10・10・10・10・10・10・10・10・10・10・10・1		プロジェクト地域関係機関職員の節水灌漑を普及	2)- プロジェクトの内部資料	家が必要な質と量の節水灌漑
(1)・1: アレッボ県、ラッカ県において適切な節水灌漑 を構造を含む、同2 県のプロジェクトサイト (1)・2: アレッボ県、ラッカ県に設置されたデモ圃場において適切な節水灌漑 5. さらに同2 県のその他の地域でも節水灌漑 (1)・3: アレッボ県、ラッカ県において、研修済み普及員によって定期的な普及活動が行われる(年間で 10 回以上)。 (1)・3: アレッボ県、ラッカ県において、研修済み普及員によって実施される普及活動の (1)・4: 研修済み普及員によって実施される普及活動の (1)・4: 研修済み普及員によって実施される普及活動の (1)・4: 研修済み普及員によって実施される普及活動の (2)・2: ダマスカス郊外県、ダラ県、ハマ県において、(2)・1: フェーズ 1 プロジェクト終了後の課題が解明されてカス郊外県、ダラ県、ハマ県において、シリア側関係機関によって定期的な普及活動が行われる(株関や大学との連携により、節水灌漑の技術や運営に関する連携活動が進めら れる。 (3)・1: 節水灌漑の技術や運営に関する連携活動が進めら れる。		する能力が向上する(基準を上回る普及員数が必要とさい。 ************************************		施設の整備を支障なく行える。
<ul> <li>アレッボ県、ラッカ県において適切な節水灌漑</li> <li>(1)・2:アレッポ県、ラッカ県のプロジェクトサイト はる作物の灌漑大量が 10・15%減少する。ことが心提案され、同2県のプロジェクトサイトにおいて節水灌漑技術の活用方法が普及され 80・100%分増加する。</li></ul>	1)	治及貝数の40%を超えるがます。 はい 中国 にいる おいりん はんしん はんしん はんしん はんしん はんしん はんしん はんしん はん	(1)1 ご・間長元の観測法里	
	_	42代、7~7年代100年2017年1日後にお存在で発音を申述10-16の海が大		・研修等及目の活動環境に大き
# 15 日本が普及され		作成が、単か、TO TO volg ショップ・カル中のプロジェクトサイトにお	(1)-2 関連普及エットからの収	な変化がない(普及員が普及活
80-100%分増加する。 が整備される。 (1)-3: アレッポ県、ラッカ県において、研修済み普及員によって定期的な普及活動が行われる(年間で 10 回以上)。 (1)-4: 研修済み普及員によって実施される普及活動の質的なレベルが維持される。 (2)-1:フェーズ1プロジェクト終了後の課題が解明され、改善策が施される (5 件以上)。 れ、改善策が施される (5 件以上)。 たサイトにおいて小規模圧力式灌漑運用を導入する灌漑農家数が現状の 30-40%分増加。 (2)-3:ダマスカス郊外県、ダラ県、ハマ県において、シリア側関係機関によって定期的な普及活動が行われる(3)-1: 節水灌漑の技術や運営に関する連携活動が進められる。		ずんだいでは、これでは、これでは、これでは、これでは、これでは、これでは、これでは、これ		動を持続できる)。
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(1)-4: 研修済み普及員によって実施される普及活動の 質的なレベルが維持される。 ハマ県において、(2)-1:フェーズ1プロジェクト終了後の課題が解明さ れ、改善策が施される (5 件以上)。 (2)-2:ダマスカス郊外県、ダラ県、ハマ県のプロジェクトサイトにおいて小規模圧力式灌漑運用を導入する灌漑農家数が現状の 30-40%分増加。 (2)-3:ダマスカス郊外県、ダラ県、ハマ県において、シリア側関係機関によって定期的な普及活動が行われる(現状頻度より 25%以上増加)。 れる(現状頻度より 25%以上増加)。 カ及び近隣諸国に れる。		回以上)。	2 3-拾米	・プロジェクトサイトの農家が
(2)-1:フェーズ1プロジェクト終了後の課題が解明された法が普及され (2)-2:ダマスカス郊外県、ダラ県、ハマ県のプロジェクトとでは上)。 (2)-2:ダマスカス郊外県、ダラ県、ハマ県のプロジェクトサイトにおいて小規模圧力式灌漑運用を導入する灌漑農家数が現状の30-40%分増加。 (2)-3:ダマスカス郊外県、ダラ県、ハマ県において、シリア側関係機関によって定期的な普及活動が行われる(3)-1: 節水灌漑の技術や運営に関する連携活動が進めらする。	(1	4: 研修済み普及員によって実施される普及活動の		必要な質と量の節水灌漑施設
<ul> <li>ハマ県において、(2)-1:フェーズ1プロジェクト終了後の課題が解明され、改善策が施される(5 件以上)。</li> <li>(2)-2:ダマスカス郊外県、ダラ県、ハマ県のプロジェクトサイトにおいて小規模圧力式灌漑運用を導入する灌漑農家数が現状の30-40%分増加。</li> <li>(2)-3:ダマスカス郊外県、ダラ県、ハマ県において、シリア側関係機関によって定期的な普及活動が行われる(現状頻度より25%以上増加)。</li> <li>株(3)-1: 節水灌漑の技術や運営に関する連携活動が進められる。</li> </ul>		質的なレベルが維持される。		の整備を支障なく行える。
小規模圧力式灌漑技術の活用方法が普及され れ、改善策が施される (5 件以上)。 5。 (2)-2:ダマスカス郊外県、ダラ県、ハマ県のプロジェクトサイトにおいて小規模圧力式灌漑運用を導入する灌漑農家数が現状の 30-40%分増加。 (2)-3:ダマスカス郊外県、ダラ県、ハマ県において、シリア側関係機関によって定期的な普及活動が行われる(現状頻度より 25%以上増加)。 国際研究機関や大学との連携により、節水灌(3)-1: 節水灌漑の技術や運営に関する連携活動が進めら れる。	ハマ県において、		(2)-1 プロジェクトの内部資	
5。	_			
トサイトにおいて小規模圧力式灌漑運用を導入する灌漑農家数が現状の30-40%分増加。 (2)-8:ダマスカス郊外県、ダラ県、ハマ県において、シリア側関係機関によって定期的な普及活動が行われる(現状魔度より25%以上増加)。 和る(現状魔度より25%以上増加)。 和の技術や運営がシリア国内及び近隣諸国に れる。	(2		(2)-2 関連普及エットからの収	
		トサイトにおいて小規模圧力式灌漑運用を導入す	集資料、インパル調金のサービー・バー・バー・デー・バー・バー・デー・バー・デー・バー・デー・バー・デー・バー・デー・バー・デー・バー・デー・バー・デー・バー・デー・バー・デー・バー・デー・バー・デー・バー・デー・バー・デー・バー・デー・バー・デー・バー・デー・バー・デー・バー・デー・バー・バー・デー・バー・バー・バー・バー・バー・バー・バー・バー・バー・バー・バー・バー・バー	
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リア側関係機関によって定期的な普及活動が行わ れる(現状頻度より 25%以上増加)。 国際研究機関や大学との連携により、節水灌(3)-1: 節水灌漑の技術や運営に関する連携活動が進めら 親の技術や運営がシリア国内及び近隣諸国に れる。	(2)	٧٠		
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			(3)-1 フロシェクトの内部資産	
被及注孔名。	(術や連官がシリア国内及び近隣諸国にれる。	115°	<del>\</del>	

プロジェクト名: シリア国節水灌漑農業普及計画フェ 対象地域:ダマスカス郊外県、ダラ、ハマ県、アレッポ	ーズ2 県及びラッカ県	<b>協力期間</b> :2008 年 12 月~2012 年 6 月(3.5 年間) <b>ターゲットグループ</b> : <b>6 抹受益者</b> ・豊業農地改革名の闊係聯昌及777研修対象華及昌一から7777「同
	ー 放入 二 一 ・ 平 単 及 員 の 普 及 活 及 音 の 普 及 活 関 接 受 益 者 ;	<b>ニアスニョ・欧米欧治状キョン</b> の水神スメウザライダョスス、普及員の普及活動所轄灌漑農家 <b>間接受益者</b> ;対象地域の灌漑農家(約 28 万戸)及び一般住民
田島、東海のサンチの共和の中では、「「「「「「」」		投入
(1)・1 ノロンエクト対象地吸にわける確概連用上の問題点の検討を進めながらベースライン= ==**********************************	<b>日本側</b> 総額約 3.8 億円	シリア側
mlaで天処りる。 (1)-2 プロジェクト対象地域の現状に基づいて、適正な節水灌漑手法を明確にする。	1.	1. カウンターパートの配置
(1)-3 上述した(1)-1項及び(1)-2項の結果に基づいて、ガイドラインやマニュアルを作成する。		2. プロジェクト事務所スペースの提供からサイン・ジャー・ジョン・コールの音楽
(1)・4 プロジェクト対象地域内にプロジェクトサイトを選定し、各サイト内にそれぞれの灌漑農業特性に応じたデモ圃場を設置する。	" 曾 及	<ul><li>1) サスレベル:MAAK 4台の建物内</li><li>2)地方レベル:プロジェクト対象地域の件農業局の建物内</li></ul>
<ul><li>(1)-5 &lt;小規模圧力式電概&gt;</li><li>(1)-5-1 別項(1)-5-4 に示した普及活動計画に基づいて研修活動計画を策定する。</li></ul>		3. プロジェクト運営経費 1) カウンターパートの活動に係る経 む
(1)-5-2 プロジェクト対象地域の現状に基づいて、フェーズ 1 期間中に作成した技術マニュアルを改定する。	2. 機材供与 レーザーレベリングユニット	g 2)プロジェクト事務所の光熱費 3)セミナー開催費用等
(1)-5-3 関連機関と連携しながら小規模圧力式灌漑技術に係る研修コースを実施する。 (1)-5-4 別項(1)-1 及び(2)-3 の成果に基づいて、普及活動計画を策定する。	デモ 圃場設置機材 計測機材 研修用機材 車両等	<ol> <li>資機材(サテライトプロット設置のための資機材、フェーズ1で供与されたままが、</li> </ol>
(1)・5・5 上述の普及活動計画に沿って研修受講普及 員が実施する普及活動を支援する。	<ol> <li>プロジェクト経費</li> <li>セミナー開催費等</li> </ol>	(
(1)-6 <地表灌漑> (1)-6-1 節水に有効な地表灌漑技術ならびに関連技 ※キュゥホナス	4. 本邦研修·第三国研修	
がを担先する。 (1)-6-2 別項(1)-5-1 の研修活動計画と(1)-6-6 項の 普及活動計画に基づいて研修活動計画を策		
たし、奸修ノーアを発漏する。(1).6-3 批表灌漑方法に係る技術ガイドライン/マ		

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<b>ノロンエクト・イサイン・ペトリック人(トレル)</b> <b>プロジェクト名:</b> シリア国節水灌漑農業普及計画フェーズ2 <b>対象地域</b> :ダマスカス郊外県、ダラ、ハマ県、アレッポ県及びラッカ県 <b>タ</b> -	<b>協力期間</b> : 2008 年 12 月~2012 年 6 月(3.5 年間) ターゲットグループ:	2010.12
	<b>を受益者;</b> 農業農地改革省の関係職員及び研修対象普及員、ならびに アロシャロシャロシャー	
· · · · · · · · · · · · · · · · · · ·	2員の当及活動別報権制農家 <b>発受益者</b> ;対象地域の灌漑農家(約 28 万戸)及び一般住民	Ver. 3. 0
(3)・1 節水灌漑技術に関して、シリア国内の大学や		
国際研究機関と連携すべき内容につき調		
査・検討を進める。		
(3)・2 (プロジェクト目標の達成に関連する範囲		
内で、)大学や国際研究機関と共同で節水灌		
(3)・3 別項(3)・1 及び(3)・2 の成果を中心に、節水灌		
뽽技術の広報活動を行う。		
(3)・4 要請に応じて、他機関が実施する節水灌漑関	前提条件	
連研修コースの研修員を受け入れる(関係内	関係普及	関係普及員がプロジェクト活
容の研修実施に協力する)。	動に参加する。	する。
(3)-5 (プロジェクト目標の達成に関連する範囲内		
で、)節水灌漑をテーマにした国際会議に共		
同参加する。		

Annex 3

議事録

Minutes of Meeting

for

Kick-Off Meeting

of

The Project on Development of Efficient Irrigation Techniques and Extension Phase II

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The Japan International Cooperation Agency (JICA) dispatched the Project

Team (hereinafter referred to as "JICA Team") on Development of Efficient

Irrigation Techniques and Extension Phase II to Syria in accordance with the

"Record of Discussions" that was signed on October 15, 2008. After arriving in

Syria the JICA Team is going to commence the Field Work of the Project. Prior to

implementing the substantial project activities, Kick-off Meeting was held in the

conference room of Administration of Natural Resource Research (ANRR) on

January 12, 2009.

As a result of the discussion, the JICA Team and the Syrian officers

concerned exchanged their opinions and agreed on the matters referred to in the

document attached hereto. The names of attendants on the Kick-Off Meeting are

shown within the document hereinto.

Damascus, January 12, 2009

Dr.Shuichi MATSUSHIMA

Team Leader

JICA Project Team on

Development of Efficient Irrigation

Techniques and Extension Phase II

Dr.Mohammad Walid Tauil

Director General

General Commission for Scientific

Agricultural Research

Ministry of Agriculture and Agrarian

Reform, The Syrian Arab Republic

### Discussed and agreed points during the Kick-off Meeting

- Dr. Walid, Project Director of DEITEX II Project, welcomed all participants of the meeting and emphasized that a kind of link between the Phase I and the Phase II Projects are very important, in order to make full use of the results of the Phase I for sustainable implementation of Project activities.
- 2. Dr. Matsushima, Japanese team leader of the Project, explained contents of Inception report of the Project, including purpose, major expecting outputs, and major activities of the Project.
- 3. After Dr. Matsushima's explanation of the Inception report, comments, suggestions and questions were suggested/raised and were discussed by the participants.
- 4. Dr. Abdullah, the Director of Extension, suggested importance and necessity to learn from previous projects and to make use of the results, such as Ras Al Ain Project in Hassake.
- 5. Mr. Kadiri, the Director of DMIC, pointed out that research results shall be fully utilized in Project activities, and more farmers' involvement is crucial to improve their irrigation agriculture. Further, the Director also suggested TOT (Training of Trainers) in irrigation has big needs and shall be implemented more.
- 6. Before closing the meeting, Dr. Awadis concluded the major discussed points during the meeting, and added that the Phase II Project will be expanded by using the same techniques applied in the Phase I, in addition to modernized surface irrigation.
- 7. Dr. Walid reminded the three points as follows; a) selection and procurement of equipment for the Project shall be discussed later in details, b) results of the Phase I shall be fully utilized in the Phase II Project, and c) results of Ras Al Ain project may also be applicable in Aleppo and Raqqa.
- 8. All the participants agreed the contents of the Inception report. Dr. Walid suggested all concerned organizations will make comments on the report within ten days, in order to make some adjustment, if necessary.
- 9. It was agreed that 1<sup>st</sup> Steering Committee of the Project will be held by the end of February. The Japanese Project team will visit concerned organizations to explain the Inception report in order to get consent on the report from the concerned parties.

### Attendants of the Kick-Off Meeting for DEITEX II Project

Monday, January 12, 2009 at the Conference Room in ANRR, GCSAR

Name	Position
Dr.Mohammad Walid Tauil	General Director of GCSAR
Dr. Awadis Arslan	Director of ANRR, GCSAR
Dr.Ahamed Al Abdallah	Director of Extension
Mr.Mohammad Al Kadiri	Director of DMIC
Eng. Ziad Zahraa	Directorate of Training and Qualification
Dr.Ahamed Zlita	Deputy Director of ANRR
Eng.Ali Kaisi	Deputy Director of ANRR
Eng.Bassam Al Huscin	ANRR
Eng.Samer Al Ahmed	ANRR
Eng.Nasr Koki	ANRR
Eng. Abd Alsalam Hussain	ANRR
Eng.Mazen Dougouz	ANRR
Eng.Rahaf Shakjo	ANRR
Eng.Hanan Almsalakh	ANRR
Eng. Abdallah Khabaz	Directorate of Extension
Eng.Najeeb Hassoun	DMIC
Eng.Sahar Touban	DMIC
Eng.Ghasan Zeiadeh	Head of Extension Department, Aleppo Governorate
Eng. Abd Al Ghani Alkhalidi	Aleppo Governorate
Eng.Omar Naser	Deputy Director of Raqqa Research Center, Raqqa
Eng. Abd Alrazaq Aldarwish	Head of Extension Department, Raqqa Governorate
Ms.Mayumi Murakami	Assistant Resident Representative, JICA Syria Office
Mr.Hider Hider	Program Oficer, JICA Syria Office
Dr.Shuichi Matsushima	Team Leader, DEITEX II Project Team
Mr.Akira Koto	Deputy Team Leader, DEITEX II Project Team
Mr.Hiroyasu Ohnuma	Team member, DEITEX II Project Team
Mr.Naoki Koga	Team member, DEITEX II Project Team
Mr.Tomoki Hotta	Team member, DEITEX II Project Team

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### Minutes of Meeting

for

### 1st Steering Committee Meeting

of

### The Project on Development of Efficient Irrigation Techniques and Extension Phase II

The Japan International Cooperation Agency (JICA) dispatched the Project Team (hereinafter referred to as "JICA Team") on Development of Efficient Irrigation Techniques and Extension Phase II to Syria in accordance with the "Record of Discussions" that was signed on October 15, 2008. After arriving in Syria for the JICA Team, Field Work of the Project was started. completion of the 1st Field Work, 1st Steering Committee Meeting was held in the conference room of Administration of Natural Resource Research (ANRR) on February 26, 2009.

As a result of the discussion, the JICA Team and the Syrian officers concerned exchanged their opinions and agreed on the matters referred to in the document attached hereto. The names of attendants on the Steering Committee Meeting are shown within the document hercinto.

Damascus, February 26, 2009

Dr.Shuichi MATSUSHIMA

Team Leader

JICA Project Team on

Development of Efficient Irrigation

Isushima

Techniques and Extension Phase II

Dr.Mohammad Walid Tauil

Director General

General Commission for Scientific

Agricultural Research

Ministry of Agriculture and Agrarian Reform, The Syrian Arab Republic

### Discussed and agreed points during the 1st Steering Committee Meeting

- 1. Dr. Awadis Arslan, Project Manager of the DEITEX Phase II, opened the meeting and welcomed all participants.
- Ms. Tomita, Resident Representative of JICA Syria Office, emphasized importance of the DEITEX Project since drought years have been continued in Syria recently, and expressed anticipation of more fruitful results from the DEITEX Phase II.
- 3. Dr. Matsushima, Japanese team leader of the Project, explained progress of the 1<sup>st</sup> field work, including review results of the Phase I, tentative results of the baseline survey, and possible approach to collaborate with international organizations. Dr. Matsushima emphasized that contribution of the Syrian side was great even after the termination of the Phase I, and the concerned people tried their best to continue training and extension activities by following the DEITEX system which was developed during the Phase I period. He also mentioned that the Phase II will aim more systematic or institutional development in addition to individual capacity development, and will include improved surface irrigation as well as pressurized irrigation system.
- 4. After Dr. Matsushima's explanation on the progress of the 1<sup>st</sup> field work, comments, suggestions and questions were suggested/raised and were discussed by the participants under the chairmanship of Mr. Qadri, the Director of DMIC. The major points discussed included importance of introduction of group irrigation, expansion of Projects outcomes to other governorates, and applying participatory approach in conducting project activities.
- 5. Before closing the meeting, Dr. Awadis summarized major discussed points during the meeting, and Ms. Tomita provided closing speech with emphasizing participation of all concerned people is crucial to implement the Project activities successfully.
- 6. All the participants understood and agreed the progress of the 1st field work.

### Attendants of 1st Steering Committee Meeting for DEITEX $\Pi$ Project

Thursday, February 26, 2009 at the Conference Room in ANRR, GCSAR

Name	Position
Dr.Awadis Arslan	Director of ANRR, GCSAR
Mr.Mohammad Al Kadiri	Director of DMIC
Dr.Ahamed Zlita	Deputy Director of ANRR
Eng.Ali Kaisi	Deputy Director of ANRR
Dr.Mohammad Barakat Al-Dager	Representative of Ministry of Irrigation
Eng. Mohammad Ziad Zahraa	Representative of Directorate of Training and Qualification
Ms.Maissa Al-Awa	Representative of SPC
Dr.Mahmoud Oudeh	Head of Sustainable Management and Water Use Program, ASCAL
Ms.Samaher Al-Salah	Head of Project Division, International Cooperation, MAAR
Eng.Bassam Al Husein	ANRR
Eng.Samer Al Ahmed	ANRR
Eng.Nasr Koki	ANRR
Eng.Abd Alsalam Hussain	ANRR
Eng.Mazen Dougouz	ANRR
Eng.Rahaf Shakjo	ANRR
Eng.Hanan Almsalakh	ANRR
Eng.Mohammad Al-Bahri	Representative of Directorate of Extension
Ms.Akiko Tomita	Resident Representative, JICA Syria Office
Ms.Mayumi Murakami	Assistant Resident Representative, JICA Syria Office
Mr.Hider Hider	Program Officer, JICA Syria Office
Dr.Shuichi Matsushima	Team Leader, DEITEX II Project Team
Mr.Akira Koto	Deputy Team Leader, DEITEX II Project Team
Mr.Hiroyasu Ohnuma	Team member, DEITEX II Project Team
Mr.Tomoki Hotta	Team member, DEITEX II Project Team
Mr.Masakazu Nakayama	Team member, DEITEX II Project Team
Ms.Razan Al-Kanani	Secretary of the Project Team

### Minutes of Meeting

for

2<sup>nd</sup> Steering Committee Meeting

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The Project on Development of Efficient Irrigation Techniques and Extension Phase II

The Japan International Cooperation Agency (JICA) dispatched the Project Team (hereinafter referred to as "JICA Team") on Development of Efficient Irrigation Techniques and Extension Phase II to Syria in accordance with the "Record of Discussions" that was signed on October 15, 2008. After arriving in Syria for the JICA Team, Field work of the Project was started. In succession of 1st Field Work which was completed on Mach 2009, 2nd Field Work has been implemented since April 2009. On the halfway of 2nd Field Work, 2nd Steering Committee Meeting was held in the conference room of Administration of Natural Resource Research (ANRR) on October 8, 2009.

As a result of the discussion, the JICA Team and the Syrian officers concerned exchanged their opinions and agreed on the matters referred to in the document attached hereto. The names of attendants on the 2<sup>nd</sup> Steering Committee Meeting are shown within the document hereinto.

Damascus, October 8, 2009

Dr.Shuichi MATSUSHIMA

Team Leader

JICA Project Team on

Development of Efficient Irrigation

Techniques and Extension Phase II

Dr.Mohammad Walid Tauil

Tren

Director General

General Commission for Scientific

Agricultural Research

Ministry of Agriculture and Agrarian

### Discussed and Agreed matters in the 2nd Steering Committee Meeting

- 1. At the opening of the 2<sup>nd</sup> Steering Committee meeting, Dr.Walid Tauil expressed satisfaction to the successful implementation of the Project. Dr.Walid also expressed an appreciation to JICA for adequately procuring necessary equipment within the Project.
- 2. The Project Team explained about the results of Baseline Survey. The explanation was especially focused on the subjects of "Classification of irrigated agriculture" and "quantification of PDM indicators". Through the explanation, the proposal on the PDM indicators given in the Baseline Survey Report was basically approved.
- 3. Counterparts explained about the progress of the project activities in training, extension and establishment of demonstration fields (including the selection of the sites) being taken by the Project during 2nd Field Work. It is also stated that the project is going to make agreement of cooperation with ICARDA, ACSAD, Damascus University and Aleppo University, and keeping collaboration with the rural women development scheme in Subeen, Hama.
- 4. Dr. Ihab Jnad mentioned to apply research resources and insert it into the extension materials more to the project activities.
- 5. Dr. Bachar pointed out importance of farmer's activities and farmer's behavioral changes as well as evaluation of training and extension works. He also emphasized the necessities of long span monitoring for the environmental effects including negative ones to be affected by the introduction of modern irrigation. He also roused attention so that the private sector in irrigation is apt to disregard the quality of irrigation equipment.
- 6. Mr.Kadiri appreciated the project activity for activating group irrigation in Arne. He is eager to expand the success in Arne to the other areas, e.g. Idrib, Raqqa and Hassake. Also he states the needs for training farmers within the scope of extension activities.
- 7. Dr. Barakat pointed out that extension units are confronted with lack of numbers of qualified staff and shortage of skills. Dr. Abudullah explained the constraints of extension activities due to the fact that the units have shifted from pure extension units to agriculture units. Extension Directorate has made efforts to overcome those situations by establishing support units under the control of Minster of MAAR.
- 8. Mr.Suhara inquired about the effects of decentralization of governance to the project implementation. The Project team replayed so that the Project could become more attractive by strengthening the relation between central counterparts and local counterparts of the Project.
- 9. Dr.Awadis summarized the discussions given in the meeting.
- 10. Mr. Suhara gave a closing word with satisfactory about this meeting, and requested to every attendance to keep on this cooperative relation among every organization concerned in order to achieve the project purpose.

### 11. Attendants of the 2<sup>nd</sup> Steering Committee Meeting of the DEITEX II Project

Thursday, October 8, 2009 At the Conference Room in ANRR, GCSAR

	At the Conference Room in ANRR, GCSAR
Name	Position
Dr.Mohammad Walid Tauil	Director General of GCSAR
Dr.Awadis Aralan	Director of ANRR, GCSAR
Eng. Ahamed Al Kadiri	Director of DMIC
Dr.Mohammad Abdallah	Director of Extension
Eng. Ali Kaisi	Deputy Director of ANRR
Eng.Ziad Zahra	Training Directorate
Dr.Bachar Ibrahim	Department of Rural Engineering, Damascus
	University
Dr.Ihab Jnad	ACSAD
Eng.Noura Imam	ACSAD
Dr.Barakat Dagher	Ministry of Irrigation
Eng. Bassam Al Husein	ANRR
Eng. Naser Koki	ANRR
Eng. Samer Al Ahmad	ANRR
Eng. Hanan Mosalkh	ANRR
Eng. Mazen Doughouz	ANRR
Eng. Abudsalam Hussain	ANRR
Mr.Takayuki Baba	Secretary of Japan Embassy
Mr.Ghassan Habbal	Assistant, Japan Embassy
Mr.Yasuhiro Suhara	Representative, JICA Syria Office
Mr. Hider Hider	Program Officer, JICA Syria Office
Dr.Shuichi Matsushima	DEITEX II Project
Mr. Naoki Koga	DEITEX II Project
Ms. Razan Alknani	Secretary of DEITEX II Project

## THE PROJECT ON DEVELOPMENT OF EFFICIENT IRRIGATION TECHNIQUES AND EXTENSION PHASE II IN SYRIA THE MID-TERM REVIEW REPORT ON THE STEERING COMMITTEE FOR MINUTES OF MEETING ON

referred to as "Syria") from November 20th to December 3rd, 2010, for the purpose of The Japanese Mid-term Review Team, organized by the Japan International Cooperation conducting the Mid term Review of the Project on Development of Efficient Irrigation Agency (hereinafter referred to as "JICA") visited the Syrian Arab Republic (hereinafter Techniques and Extension Phase II (hereinafter referred to as "the Project"). The Joint Evaluation Team (hereinafter referred to as "the Team"), which consists of 4 members of JICA and 4 members from Syria, was jointly organized for the purpose of conducting the mid-term review and proparation of necessary recommendations to the respective governments.

the Team prepared the mid-term review report (hereinafter referred to as "the Report"), which was presented to the Steering Committee for the Project (hereinafter referred to as "the After intensive study, analysis, discussions of the activities and achievements of the Project, Committee"). The Committee discussed the major issues pointed out in the Report, and agreed to recommend to the respective governments the matters hereto. Damascus, December 2, 2010

Chief Representative, Mr. Kaoru IWASAKI

Japan International Cooperation Agency

Syria Office

Dr. M. W. TAWIL

Director General,

General Commission

Scientific

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Agricultural Research,

Ministry of Agriculture and Agrarian Reform

Main points of discussions and agreement at the Committee

1. The Team presented the Report to the Committee

2. The Committee accepted the Report and took notes of the recommendations by the Team.

3. The Committee decided to revise Project Design Matrix (PDM) which proposed by the Team as the PDM Version 3.

Attachment 1: PDM Version 3

Attachment 2: The Mid-term Review Report

Annex3 13 /50

Activities Conduct a baseline survey reviewing the problems of irrigation practice in the Target Areas.
 Clarify appropriate water-saving irrigation methods/appliances according to the situation of the Target Areas.
 Prepare guideline and manuals based on the result of the item (1)-1 and (1)-2 mentioned above. <Janan> Syria: 1. Personnel I. Personnel (1) Long-Term Experts: 3 Counterpart personnel of the (1)-4 Select suitable Project Sites in the Target Areas, and establish the demonstration farms selected within the Project Sites as Phase 1 Project, in general. sons \*Project In addition, new personnel will (1)-5 <Small Scale Pressurized Irrigation> Leader/Irrigation be added as counterparts from (1)-5 | Prepare a plan of training activities in accordance with the extension plan of the item (1)-5-4.
(1)-5-2 Revise the Technical Manual which were prepared by the Phase I Project according to the situation of the Target Areas (1)-5-3 Implement the training courses on small pressurized irrigation techniques in collaboration with related agencies (1)-5-4 Prepare the extension plan on the basis of the outcomes of item (1)-1 and (2)-3. Training the implementation agencies. \*Extension 2 Facilities Office space
 Main Office within the building (2) Short-Term Experts [Pre-conditions] (1)-5-5 Support extension activities to be done by the trained extensionists in line with the extension plan above. Rural Community (1)-6 < Surface Irrigation >
(1)-6-1 Advance efficient surface irrigation technique and its related technology for water-saving.
(1)-6-2 Prepare a plan of training activities and training tools in accordance with the training plan of the item (1)-5-1 and the extension Irrigation Facilities Farm Management in ANRR. GCSAR. Local Project Office within the extensionists take Others (according to the concerned offices in the related part in the project plan of the item (1)-6-6.

(1)-6-3 Prepare the technical guideline and materials on surface irrigation technique.

(1)-6-4 Implement the training courses on water- saving surface irrigation techniques in collaboration with related agencies in Governorates activities Equipment Laser Leveling Units Satellite Plots in Rural accordance with the item (1)-6-2, (1)-6-5 Prepare tools for extension activities in accordance with the extension plan of item (1)-6-6. Equipment for Damascus, Daraa and Hama Demonstration Farms (1)-6-6 Prepare extension plan on the basis of the outcomes of item (1)-1, (1)-6-1 and (2)-3.
(1)-6-7 Support extension activities to be done by the trained extensionists in line with the extension plan above. for the demonstration activities of the efficient water-saving and research activities irrigation. Telephone line and telephone (2)-1 Hold regular meetings on promotion of water-saving irrigation among the related agencies. water-saving irrigation (2)-2 Conduct a baseline survey in the districts excluding the concerned districts which were covered by the Phase I Project.

(2)-3 Review the current performance of Phase I Project including the problems of irrigation practice in the Target Areas.

(2)-4 Establish satellite plots in the districts excluding the concerned districts which were covered by the Phase I Project on the basis Equipment for for each Project Office. measurement Necessary furniture in the Project Office. Equipment for training of the outcomes of item (2)-2 and (2)-3. and extension activities (2)-5 Implement the training activities in line with the extension plan of item (2)-6.

(2)-6 Revise the plan of extension for "modern irrigation promotion" prepared during Phase I Project.

(2)-7 Improve extension tools and methods. Vehicles 3) Vehicles Others (according to the Three project cars which were procured by JICA for the implementation of the Phase 1 requirement) (2)-8 Support extension activities to be done by the trained extensionists in line with the extension plan above 3. Local costs 1) Seminar etc (3)-1 Study on the collaboration with universities and international research organizations in Syria, regarding water-saving irrigation 3 Local Costs (3)-2 Hold workshops on water-saving irrigation techniques with universities and international research organizations as far as holding relation with attainment of the project purpose. Available for stationary, 4. Training supplies and small equipment Training in Japan
 Training in the third (3)-3 Promote public relations on water-saving irrigation technique on the basis of the outcomes of item (3)-1 and (3)-2.
(3)-4 Accept trainees of the training courses arranged by other organizations. for project activities (including countries a part of cost for seminars etc.) (3)-5 Participate in the international conference on efficient water-saving irrigation as far as holding relation with attainment of the project purpose.



### Attachment 1: PDM Version 3

Project Title: Project on Development of Efficient Irrigation Techniques and Extension Phase II (DEITEX II)

Target Area: Rural Damascus, Daraa, Hama, Aleppo and Ragga Governorates

Target Group :

Direct Beneficiaries; Staff of MAAR (GCSAR, DMIC, DAE, DTQ), Extensionists to be trained and Irrigated Farmers serviced by the Extensionists

Narrative Summary	Veriflable Indicator	Means of Verification	Important Assumption
[Overall Goal] Proper amount of irrigation water is used by means of adopting efficient water-saving Irrigation in the Target Areas. And, awareness of efficient water-saving irrigation is expanded to other areas in Syria.	Total amount of irrigation water per unit area decreases more than 10% without yield decrease in Target Area by the end of 2017.     More than 50% of total farmers in the other governorates in Syria also recognize the importance and the necessity of water-saving in irrigation.	Annual Agricultural Statistics of Syria and data on irrigation water amount estimated by MAAR     Survey on relevant agencies/interviews to farmers	Available amount of water resource for irrigation purpose dose not reduce.     Irrigated land is not expanded by illegal water source development.
Project Purpose] The capability of extensionists and staff of related agencies on extension of water-saving irrigation are improved, and proper amount of irrigation water is used for each crop in the Project Sites.	<ol> <li>The usage of irrigated water for the crops in the Project Sites is reduced by the Project (10 -20%).</li> <li>The capability of extensionists and staff of related agencies on extension of water-saving irrigation are improved (number of certified extentionists become more than 40% to the required number of water extensionists).</li> </ol>	Results of baseline survey and impact survey (interview to farmers)     Record of the Project	Farming environment in the Target Areas is not deteriorated unexpectedly.     Farmers in the Target Areas can establish and operate water-saving irrigation system easily as required in terms of quality and quantity.
Proper water-saving irrigation technique is devised, and the new water-saving irrigation technique is disseminated in the Project Sites in Aleppo and Raqqa Governorates. And, the training and extension system for the dissemination of the water-saving irrigation technique is established for the other areas in Aleppo and Raqqa Governorates.	(1)-1: Amount of irrigation water used for each crop in the Demonstration Farms in Aleppo and Raqqa Governorates are reduced by 10-15%. (1)-2: The number of farmers adopting water-saving irrigation technique in the Project Sites in Aleppo and Raqqa Governorates increased by 80 - 100%. (1)-3: The frequency of regular extension activities implemented by the trained extensionists in Aleppo and Raqqa Governorates is more than 10 times a year. (1)-4: Quality of extension activities by the trained extensionists is at a suitable level.	(1)-1: Field measurement at the demonstration farms and results of baseline survey (1)-2: Collected data from relevant extension units, results of impact survey (interviews to farmers), and number of farmers who received DMIC's loan (1)-3: Data of Directorate of Agriculture in Aleppo and Raqqa governorates (1)-4: Impact survey (interview to farmers)	There is no major change in the working environment of extensionists, at least, farming environment in the Target Areas is not deteriorated unexpectedly.  Farmers in the Project Sites can establish and operate water-saving irrigation system easily as required in terms of quality and quantity.
irrigation is disseminated widely in Rural Damascus, Harna and Dara Governorates.	Daraa Governorates increases by 25%	(2)-1: Record of the Project     (2)-2: Collected data from relevant extension units, results of impact survey (interviews to farmers), and number of farmers who received DMIC's loan     (2)-3: Collected data from Directorates of Agriculture of Darna, Harna and Rural Darnascas governorates	
3) Measures to improve and operate water-saving imigation techniques are extended to the rest of Syria and to neighboring countries, through the cooperation with universities and international research oreanizations in Syria.	(3)-1: Cooperated activities on dissemination of measures to improve and operate water-saving irrigation techniques are increased.	(3)-1: Records of the Project	

### Attachment 2

THE MID-TERM REVIEW REPORT

ON THE PROJECT ON DEVELOPMENT OF EFFICIENT IRRIGATION TECHNIQUES

AND EXTENSION PHASE II IN SYRIA

Damascus, December 2nd, 2010

Japan International Cooperation Agency, Japanese Mid-term Review Team,

Dr. M. W. TAWIL

Ministry of Agriculture and Agrarian Reform, Syrian Mid-term Review Team,

Syrian Arab Republic

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- 1. Introduction
- 1-1 Objectives of the Mid-term Review
- (1) To review the progress and achievements of project activities and to exchange opinions with the Syrian authorities concerned through visiting the project sites,
- (2) To evaluate the Project from the view points of 5 evaluation criteria (Relevance, Effectiveness, Efficiency, Impact and Sustainability),
- (3) To modify PDM (Project Design Matrix) in order to properly monitor the progress and activities of the Project, if necessary,
- necessary recommendation on the project activities in the remaining period of the (4) To formulate the Joint Mid-term Review Report with Syrian Evaluation Team and make Project to both governments,
- (5) To participate in the Joint Coordinating Committee in order to present and discuss the results of Mid-term Review on the Project with the Syrian authorities concerned and sign on the Minutes of Meeting.
- 1.2 Member of the Joint Evaluation Team
- 1-2-1 Japanese Mid-term Review Team

Š.	Field	Name	Present Occupation
,		Mr. Masayuki	Director, Field Crop Based Farming Division 2,
4	Leader	TAKAHASHI	Rural Development Department, JICA
c	Dry-land	Prof. Dr. Shinobu	Chairperson, JICA Support Committee for Dry-land
4	Farming	INANAGA	Farming in Middle East
0	Cooperation	Mt. VI ACAT/AWA	Program Officer, Field Crop Based Farming Division
0	Planning	MB. IUKZ ADANAWA	2, Rural Development Department, JICA
*	Evaluation	MITTOG COST -W	The state of the s
,	and Analysis	IME. 1880 DOGOIN	Consulate, Ondo Namace Corporation

# 1-9-9 Svrian Mid-term Review Team

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Š	Field	Маше	Present Occupation
			Director General, General Commission for Scientific
_	1 Leader	Dr. M. W. TAWIL	Agricultural Research (GCSAR), Ministry of
			Agriculture and Agrarian Reform (MAAR)
	Team	24 1004	Director, Administration of Natural Resources
N	Мешрег	Dr. Awadis Archaly	Research (ANRR), GCSAR, MAAR
	Теаш	Amyada I a a	Assoc. Professor, Department of Rural Engineering,
0	Member	Or. basnar ibranim	Faculty of Agricultural, Damascus University
	Team	h. 11121 CRID	Professor, Water Engineering Division, Faculty of
4,	Member	Ur. waen obir	Civil Engineering, Damascus University



1.3 Schedule of Evaluation

The schedule is attached as Annex 1.

1-4 Methodology of the mid-term review

1-4-1 Method of evaluation

surveys, and interviews with staff of the Ministry of Agriculture and Agrarian Reform, staff of project target areas and other concerned personnel in the Project. Mid-term review was Directorate of Agriculture of governorates concerned, JICA experts, irrigated farmers in the Team) based on materials showing the framework of the Project such as the Project Design Matrix (PDM) and the R/D. The evaluation activities included analysis on reports, field The Project was evaluated jointly by the Syrian and Japanese mid-term review teams (the conducted based on the following Five Evaluation Criteria.

1-4-2 Evaluation Criteria (Five Evaluation Criteria)

(1) Relevance

connection with the development policy of the Government of Syria as well as the needs of Relevance refers to the validity of the Project Purpose and the Overall Goal in beneficiaries.

(2) Effectiveness

Effectiveness refers to the extent to which the expected benefits of the Project have been achieved as planned. It also examines whether these benefits have been brought about as a result of the Project.

(3) Efficiency

Efficiency refers to the productivity of the implementation process. It examines whether the inputs of the Project have been efficiently converted into outputs.

(4) Impact

Impact refers to direct and indirect, positive and negative impacts caused by the implementation of the Project, including the extent to which the overall goal has been attained.

(5) Sustainability

Sustainability refers to the extent to which the Project can be further developed by the Government of Syria, and the extent to which the benefits generated by the Project can be sustained under national policies, technology, systems and financial state.

2. Outline of the Project

2-1 Background of the Project

N

to other areas in Syria.

gross domestic product (GDP). Agriculture is also important for Syria as a source of Agriculture is one of the important economic sectors in Syria which provides nearly 25% of

preferable in terms of the crop production, because of the uncertainty and the fluctuation of employment and export earnings. Rainfed agriculture is still prevailing in Syria, which covers more than 75% of the total cultivated area but irrigated agriculture is regarded more

rainfed agriculture production. However, irrigated agriculture consumes water more than 90% of the total water use in Syria, hindering to provide water resource to other sectors such as industry and domestic water use. Therefore, the necessity and importance of water saving irrigation has been emphasized. The 10th Five Year National Development Plan

(2006-2010) is one of the simplest examples showing such policy.

of Efficient Irrigation Techniques and Extension was implemented as a Technical Cooperation Project of JICA from March 2005 for three years in order to accelerate the shift from

Based on the request of the Government of Syrian Arab Republic, the Project on Development

conventional water consuming irrigation to the modem water saving irrigation

The project (phase 1)attained its project purpose with certain amount of reduction of water use with the same level of crop yield in the project sites in Rural Damascus, Daraa and Hama process accomplished by the efforts of the staff contributed to establishing simple but essential model of changing farmers' awareness of water saving in Syria, and pointed out that The terminal evaluation study team for this project suggested that the he expansion of the activities to other districts in Rural Damascus, Daraa and Hama governorates, furthermore, to other governorates are to be accomplished.

technical cooperation project in order that proper amount of irrigation water is used through expanding the outcome of phase 1 project to the remaining areas in Rural Damascus, Daraa, and Hama governorates and new target area (Aleppo and Raqqa), improving surface irrigation techniques and cooperating with international research organizations. Syrian and Japanese sides agreed and signed on R/D of the project implementation of the phase 2 project To address these issues, the Government of the Syrian Arab Republic requested Japan a and the Project started in December 2008

# 2-2 Summary of the Project

Project Design Matrix for the Project was modified (version 2) in March 2010. summary described in PDM version 2 is as follows: (For more details, see Annex 2).

### (1) Overall Goal

Proper amount of irrigation water is used by means of adopting efficient water-saving irrigation in the Target Areas. And, awareness of efficient water saving irrigation is expanded

(2) Project Purpose

The capability of extensionists and staff of related agencies on extension of water-saving irrigation are improved, and proper amount of irrigation water is used for each crop in the Project Sites.

### (3) Outputs

Governorates. And, the training and extension system for the dissemination of Proper water saving irrigation technique is devised, and the new water saving the watcr saving irrigation technique is established for the other areas in Aleppo irrigation technique is disseminated in the Project Sites in Aleppo and Raqqa and Raqqa Governorates.

The appropriate utilization of small scale pressurized irrigation is disseminated widely in Rural Damascus, Hama and Daraa Governorates. Output 2:

Project activities. And, the outcomes are disseminated to the other areas in Water-saving irrigation techniques developed under the cooperation with universities and international research organizations in Syria are reflected upon Syria and neighboring countries. Output 3:

### (4) Activities

- (1)-1 Conduct a baseline survey reviewing the problems of irrigation practice in the Target
- (1)-2 Clarify appropriate water saving irrigation methods/appliances according to the situation of the Target Areas.
- (1)-3 Prepare guideline and manuals based on the result of the item (1)-1 and (1)-2 mentioned above.
- (1)-4 Select suitable Project Sites in the Target Areas, and establish the demonstration farms selected within the Project Sites as required.
  - < Small Scale Pressurized Irrigation>
- (1)-5-1 Prepare a plan of training activities in accordance with the extension plan of the item (1)-5-4.
- (1)-5-2 Revise the Technical Manual which were prepared by the Phase I Project according to the situation of the Target Areas.
- (1)-5-3 Implement the training courses on small pressurized irrigation techniques in collaboration with related agencies
- (1)-5-4 Prepare the extension plan on the basis of the outcomes of item  $(1)\cdot 1$  and  $(2)\cdot 3$ .
- (1)-5-5 Support extension activities to be done by the trained extensionists in line with the extension plan above.
- (1)-6 <Surface Irrigation>



- (1)-6-1 Advance efficient surface irrigation technique and its related technology for
- (1)-6-2 Prepare a plan of training activities and training tools in accordance with the training plan of the item (1)-5-1 and the extension plan of the item (1)-6-6.
- (1)-6-3 Prepare the technical guideline and materials on surface irrigation technique.
- (1)-6-4 Implement the training courses on water saving surface irrigation techniques in collaboration with related agencies in accordance with the item (1)-6-2.
- (1)-6-5 Prepare tools for extension activities in accordance with the extension plan of item
- (1)-6-6 Prepare extension plan on the basis of the outcomes of item (1)-1, (1)-6-1 and (2)-3.
- (1)-6-7 Support extension activities to be done by the trained extensionists in line with the extension plan above.
- (2)-1 Hold regular meetings on promotion of water-saving irrigation among the related agencies.
- (2)-2 Conduct a baseline survey in the districts excluding the concerned districts which were covered by the Phase 1 Project.
- (2)-3 Review the current performance of Phase I Project including the problems of irrigation practice in the Target Areas.
- (2)-4 Establish satellite plots in the districts excluding the concerned districts which were covered by the Phase 1 Project on the basis of the outcomes of item (2)-2 and (2)-3.
- (2).5 Implement the training activities in line with the extension plan of item (2).6.
- (2)-6 Revise the plan of extension for "modern irrigation promotion" prepared during Phase I Project.
- (2)-7 Improve extension tools and methods.
- (2)-8 Support extension activities to be done by the trained extensionists in line with the extension plan above.
- (3)-1 Study on the collaboration with universities and international research organizations in Syria, regarding watersaving irrigation techniques.
- (3)-2 Hold workshops on water-saving irrigation techniques with universities and international research organizations as far as holding relation with attainment of the project purpose.
- )-3 Promote public relations on water-saving irrigation technique on the basis of the outcomes of item (3)-1 and (3)-2.
- -4 Accept trainees of the training courses arranged by other organizations.
- (3)-5 Participate in the international conference on efficient water-saving irrigation as far as holding relation with attainment of the project purpose.

6

- 3. Achievement of the Project
- 3-1 Inputs
- 3-1-1 Japanese side
- (1) Dispatch of JICA experts

JICA experts were dispatched to the project site in the following fields: 1) Leader/Irrigation, 2) Training/Sub-leader, 3) Extension, 4) Socio-economy/ Farmers Organization, 5) Irrigation

Iraining' Sub-Icader, 3) Extension, 4) Socio-economy/ Farmers Organization, 5) Irrigatio
 System Designing, and 6) Farming Management/ Coordinator. For details, see Annex 3.

# (2) Training in Japan and third countries

By the time of the Mid-term Review, 12 counterparts were participated in the training in Japan and 13 counterparts were participated in the training in third countries (Tunisia and Egypt). For details, see Annex 4.

# (3) Provision of equipment

Equipments such as pick up tracks, 4WDs, copy machines, irrigation equipments for demonstration farms and other office equipments have been provided for the project activities. Cost for procurement of equipment is 15 million yen and 287 thousand US dollars. Por details, see Annex 5.

# (4) Local cost allocated by Japanese side

Local cost allocated by JICA for the implementation of the project activities is 82.7 million yen as of first semester of 2010. For details, see Annex 6.

# 3-1-2 Syrian side

(1) Assignment of Syrian counterparts

Currently, 58 counterparts are assigned (21 persons of central level organizations, 7 persons from Hama governorate, 6 persons from Rural Damascus governorate, 8 persons from Daraa governorate, 8 persons from Aleppo governorate, and 8 persons from Raqqa governorate). For details, see Annex 7.

# (2) Project operation cost allocated by Syrian side

Amount of budget allocated by Syrian side is 930,000 Syrian Pound at the time of mid-term review. For details, see Annex 8.

### 3-2 Outputs

3.2.1 Output 1: Proper water-saving irrigation technique is devised, and the new water-saving irrigation technique is disseminated in the Project Sites in Aleppo and Raqqa Governorates. And, the training and extension system for the dissemination of the water-saving irrigation technique is established for the other areas in Aleppo and Raqqa Governorates.

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cases. It is expected that all indicators of the Output 1 will be achieved by the end of the The current degree of achievement of the following 3 indicators is more than expected in most Project as the project activities progress further.

Indicator (1)-1: Amount of irrigation water used for each crop in the Demonstration Farms Aleppo and Raqqa Governorates are reduced by 10 ·15%.

The following table shows location, land area, irrigation methods, main crops, and water Demonstration farm is established in a site in Aleppo and Raqqa Governorates respectively. source of the demonstration farms.

Governorate	Site	Area	Irrigation method introduced	Main crops	Water
Aleppo	Jine	7 ba	Movable type sprinkler, drip tube, improved surface irrigation (with gated pipe) (previous irrigation method was	Wheat, cotton and sugar beet	Well (ground water)
Raqqa	Sukkarie	11 ba	Surface ungabon/ Movable type sprinkler, drip tube,	Wheat,	Well
			improved surface irrigation (with gated pipe) (previous irrigation method was surface irrigation)	sugar beet	(ground water)

(a) Name of extension unit

The following table shows amount of irrigation water used for each crop at the demonstration farms in 2010 (measured data by the Project). Reduction rates of irrigated water are calculated as compared with amounts of irrigated water which obtained by the baseline survey conducted in 2009 by the Project.

Governorate	Crop	Area (ha)	Amount of irrigated water (m3/ha) before the Project (a)	Amount of irrigated water (m3/ha) monitored in 2010	Reduction rate	Introduced irrigation method	Remark (yield)
Aleppo	Sugar beet	2	10,960	7,805	28.8%	Sprinkler	
	Cotton	1	15,625	8,670	44.5%	Gated pipe	410 kg/donum
	Cotton	1		7.800	50.1%	Drip tube	480 kg/donum
Raqqa	Cotton	0.64	15,625	9,917	36.5%	Gated pipe	362 kg/donum
	Cotton	8.0		8,188	47.6%	Drip tube	381 kg/donum

(a) Data obtained by the baseline survey (2009) through interview with farmers in the selected extension units including the extension unit where the demonstration farms are located. This survey was conducted in 2 extension units in the both Governorates respectively.

(b) donum: 0.1ha

rates of irrigation water used for sugar beet and cotton recorded between 28.8% and 50.1%.  $\bigcap_{i} \ \ \bigcap_{i} \ \ \bigcap_$ Water-saving irrigation was commenced in 2010 at the demonstration farms introducing various kinds of irrigation methods (gated pipe, sprinkler, and drip tube, etc.). Reduction

The rate of water saving is more than targeted reduction rates (10-20%). According to the project team's analysis, one of the factors of this higher reduction rate is farmer's positive engagement in the activities at the demonstration farms. As for yield of cotton at demonstration farms, 4.1 tons/ha with gated pipe and 4.8 tons/ha with drip tube in Aleppo are recorded this year (in average 4.5 tons/ha). 3.6 tons/ha with gated pipe and 3.8 tons/ha with drip tube are recorded in Raqqa (in average 3.7 tons/ha). There is certain difficulty on yield comparison with the average yield of normal year because of general tendency of yield reduction due to unusual high temperature in this summer, 2010. However, according to the Project, these yields of cotton at the demonstration farms are 50% higher than average yield of neighboring farmers.

Indicator (1)-2: The number of farmers adopting water saving irrigation technique in the Project Sites in Aleppo and Raqqa Governorates increased by 80 - 100%.

Project Sites: Areas in charge of the extension upit where the demonstration farm is established)

situation before and after the Project starts, and presume the degree of contribution of the Official statistical information on number of irrigated farmers and number of irrigated farmers with modern irrigation system is not available. Therefore, in order to compare the Project on expansion of water-saving irrigation techniques, data on irrigated area and irrigated area with modern irrigation system is used instead of number of farmers adopting water-saving irrigation technique.

situation in 2008) and data of the impact survey conducted on October 2010 (sample survey). The following table shows data collected by the project team in 2009 (this data represent

	Survey by t	he project t	Survey by the project team (data on 2008)	(800)	Imp	act survey (	Impact aurvey (October 2010)	
Project Site	Number of irrigated farmers in extension unit	Total irrigate d arca	Irrigated area with water savin g irrigation system	Ratio	Number of surveyed irrigated farmers	Total irrigated area	Irrigated area with water-saving irrigation system	Ratio
	(household)	(ha)	(ha)	(%)	(househol	(ha)	(ha)	(%)
Jine Extension Unit Area	335	941	159	16.9	30	252	893	36.9
Sukkarie Extension Unit Area	309	1,910	15	0.8	31	557	77	13.8

(increased 217%) in the Project Site in Aleppo and from 0.8% to 13.8% (increased 1,725%) in Raqqa. In case of Raqqa, the ratio of increase is quite high but this is because the area with According to the results of the impact survey in October 2010, ratios of irrigated area with water-saving irrigation system in the Project Sites are changed from 16.9% to 36.9%

water saving irrigation before the commencement of the Project was very small (only 15 ha).

By conducting the training courses for water extensionists and increasing extension activities on water-saving techniques by the trained water extensionists, it is anticipated that the number of farmers who adopt water saving irrigation technique will be increased further in the Project Sites in these 2 Governorates. Indicator (1)-3: The frequency of regular extension activities implemented by the trained extensionists in Aleppo and Raqqa Governorates increases by 50% and is more than 10 times a year.

Governorates. Training on water extensionists was started in May 2009 for Aleppo and week each) and ended in November (the number of trained water extensionists are 22 persons in Aleppo and 22 persons in Raqqa). Therefore, extension activities in 2009 were conducted implemented by the trained extensionists and general extensionists in Aleppo and Raqqa Raqqa Governorates. This training course in 2009 was conducted in 4 separated periods (one The following table shows frequency of extension activities on water-saving irrigation only by non Water Extensionists.

Governorate	In 2009	•	In 2010	0	Increase rate (2	(2010/2009)
	By general Extensionists	By WE	By general Extensionists	By WE	By general Extensionists	By WE
Aleppo	46	0	06	99	100 %	%-
Raqqa	36	0	Z	9	% 09	%-

Water Extensionist WE: Extension activities on water-saving irrigation techniques by trained water extesionists started in 2010. The number of extension activities are 65 times and 5 times in Aleppo and Raqqa governorates respectively. Frequency of extension activities by trained water And collaboration between extensionists in Raqqa in 2010 is less than 10 times. extensionists and DMIC staff is not sufficient in Aleppo.

PDM which can evaluate the quality of extension activities. A proposed indicator is of extension activities but also their quality. Therefore, it is better to add an indicator in The Joint Evaluation Team considered that it is important to evaluate not only the frequency explained in Chapter 6 as recommendation.

Watersaving Irrigation	
for	
: Guideline/Manual	
Other outcomes:	

This guideline/manual is under revision reflecting some instructive lessens obtained through A guideline/manual for water-saving irrigation was produced during the phase 1 project.

( all )

the project activities and also considering opinions of the Syrian counterparts and researchers of the cooperative external research organizations. Methods and techniques on improved Preparation of the guideline/manual will be completed by autumn 2011. Produced surface irrigation which is under experiment will be added in the guideline/manual. guideline/manual will be distributed to trainees of Water Extensionist course and extension units where water extensionist exist. 3-2-2 Output 2: The appropriate utilization of small scale pressurized irrigation is disseminated widely in Rural Damascus, Hama and Daraa Governorates. The current degree of achievement of the following 3 indicators is more than expected in most cases. It is expected that all indicators of the Output 2 will be achieved at a very satisfactory level by the end of the Project as the project activities progress further.

the Indicator (2)-1: The difficulties after the phase 1 Project are clarified and countermeasures are established (more than 5 cases).

project were surveyed and the following 11 issues were identified by the project team. They The following table shows At the beginning of the Project, difficulties or issues raised after the completion of the phase 1 are 5 issues on training and 6 issues on extension. countermeasures on each issue taken by the Project.

Area		Issues identified	Countermeasures/improvement taken by the Project
Training	-	Duration of training differs by the Governorates.	There is a case that the duration of training on design, operation and maintenance of modern irrigation system has increased from 5 days to 10 days in some governorates. However, this chango has been made according to their necessity to make the training better, and this is not a big problem.
	83	It is necessary to grow out of dependence to the project.	Training courses are conducted with the initiative of Syrian C/Fe in each governorate (in Daraa, Hama and Rural Damascus)
	က	It is necessary to modify a part of training curriculum and training materials.	Contents on better methods of extension activities have been introduced
	4	It is necessary to utilize water extensionist (WE) and SMS more effectively.	WE and SMS are participating to the training courses as trainer or training facilitator.
	മ	Follow up training for existing WE and SMS is necessary.	Various follow up trainings are planed and conducted.  Details are described as remark (1) below.
Extension	9	It is necessary to confirm effectiveness of farmers' competition events.	Competition events were implemented in collaboration with governmental agencies. See details in remark (2).
	7	Competition events for persons in charge of extension are necessary.	Preparation of an evaluation method on extension activities is underway. It is expected that capability of water extensionists can be enhanced thorough utilization of this evaluation method.
	80	It is necessary for WE to	Identification of farmers needs is considered as an

	identify needs of irrigated farmers further.	important issue in the process of preparation of annual extension plan.
on on	It is important to monitor behavior change of extension targeted farmers.	Group extension activity which specifies extension target farmers makes it possible to monitor extension effects continuously in long-torm.
9	10 It is necessary to consider farmer to farmer extension mechanism.	The Project has started group extension activity to develop core farmers who are expected to share and disseminate water-saving irrigation methods with other farmers.
=	11 Economic aspect of farming should be considered more.	It is possible to make economic analysis of farming when farmers take records data on irrigated farming into irrigation notebook properly.

SMS: Subject Matter Specialist (in irrigation)

### Remark (1):

irrigation notebook) and explanation method to farmers. The following table shows training (a) Training on usage of extension tools (discharge measurement kit, irrigation calendar, and courses conducted in each governorate.

Governorates	Date	Participants
Aleppo	7 June,	June, Water extensionists of the model extension unit (where demonstration
	2010	farm exists) and its surrounding extension units: 5 water extensionists
Daraa	21 June,	21 June, Water extensionists of the model extension unit (where demonstration
	2010	farm exists) and SMS of supporting units: 4 persons in total
Hams	30 June,	30 June, Water extensionists of the model extension unit (where demonstration
	2010	farm exists) and SMS of supporting units: 6 persons in total
Ragga	1	4
Rural Damascus	6 July,	6 July, Water extensionists of the model extension unit (where demonstration
	2010	farm exists) and SMS of supporting units: 4 porsons in total

(b) Training on editing video movies aiming capacity development of water extensionists on

preparation of video extension material

Governorates	Date	Participants
<b>Darsa</b> , Наша,	9-11,	Selected 20 staff who are WE, SMS or DMIC staff in Daraa,
Rural Damascus	November, 2010	November, 2010   Hama and Rural Damascus Governorates and also who showed
		interest on editing video movies at the time of extension
		activities.

DMIC: Directorate of Modern Irrigation Conversion

### Remark (2)

competition, method of competition, and survey & selection results are complied in a report by 2010, and based on it result, a leaflet is under preparation and after producing this leaflet will commendations and prizes at the occasion of the project seminar in 2010. The purpose of the the project team. Interviews were conducted to the excellent farmers in summer of the year the farmers who introduced modern irrigation facilities by using loan service of DMIC as a conducted in the project targeted governorates in summer of the year 2009 by the survey team The selected farmers received official Excellent farmers who are practicing water saving irrigated agriculture were selected among result of implementation of questionnaire survey and site visit survey. composed of staff of GCSAR and DMIC. be distributed

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Indicator (2)-2: Number of irrigation farmers in the Project Sites adapting modern irrigation technique increases by 30 · 40%. The following table shows rate of irrigated farmers with modern irrigation (small-scale pressurized irrigation system) among irrigated farmers in the project sites (model extension units).

Governors	Project		Collected data by the Project (Survey in 2009)	301	Data of October 20	Data of the Impact survey in October 2010 <sample survey=""></sample>	y in	Increase
3	(extension unit)	Total number of impated farmers	Number of impated farmers with modern impation	(%)	Total number of impated farmers	Number of impated farmers with modern infigation	(%)	(%)
Dагаа	Nawa	1,043	567	53.4	44	38	86.4	61.2
Наша	Halfaya	720	399	55.3	21	14	66.7	20.6
Rural	B.Saber	410	185	45.1	31	20	64.5	43.0

Remark: The rates of irrigated farmers with modern irrigation following are more than 80% at the following 3 extension units, therefore, these 3 extension units are excluded for evaluation. 1) Surgaya extension unit in Rural Damascus (96.9%), 2) Dack extension unit in Daraa (100%), and 3) Majdal extension unit in Hama

In the case of Ame extension unit, focused project activity is capacity development of a group of irrigated farmers and there is a few extension activities for other farmers. Therefore, the Ame extension unit is also excluded for evaluation. Rate of increase at the project site (Halfaya extension unit) is 20.6% and this rate is less than Bait Saber extension unit in Rural Damascus are 61.2% and 43.0% respectively, and these the targeted rate (30-40%) yet. Rates of increase at the Nawa extension unit in Daraa and rates are more than the targeted rate. Indicator (2)-3: The frequency of regular extension activities implemented by the concerned organizations in Rural Damaecus, Hama and Daraa Governorates increases by 25% The following table shows number of extension activities related with water saving irrigation from extension related offices of the respective Directorate of Agriculture of 3 governorates). at Daraa, Hama and Rural Damascus governorates in 2008, 2009 and 2010 (data obtained

Governorate	2008	2009	(2009/2008)	2010	Increase rate (2010/2008)
Daraa	16	36	125.0%	36	125.0%
Hama	25	107	328.0%	133	432.0%
Rural Damascus	28	53	3.6%	39	39.3%

Number of extension activities in 2010 is data from January to October.
 Water extensionists trained during the phase I project have conducted extension activities on water-saving irrigation with their initiative. However, other extensionists have also conducted. Above data includes number of activities by water extensionists and non water extensionist.

Increase rates of extension activities at 3 governorates are more than 25% (comparison of number of extension in 2008 and 2010). In the case of Daraa and Hama, increase rates are

432.0% and 125.0% respectively and there is significant increase.

3.2.3 Output 3: Water saving irrigation techniques developed under the cooperation with universities and international research organizations in Syria are reflected upon Project activities. And, the outcomes are disseminated to the other areas in Syria and neighboring countries.

Cooperated activities with universities in Syria and international research organizations are progressing steadily. For example, trainees of "ICARDA's training course for irrigation techniques (co-hosted by JICA and ICARDA)" were visited to the demonstration farm in Jine extension unit in Aleppo. The project team assisted to explain about the demonstration activities (May 2010). Activities for disseminating outcomes on water-saving irrigation techniques to other areas in Syria are not conducted yet.

Indicator (3):1: More than 3 techniques on water saving irrigation are recommended by the Project under the cooperation with universities and international research organizations.

The following 8 kinds of researches related with irrigation modernization are undertaken at the irrigation stations of ANRR. These researches are considered within framework of the Project. Some researches are undertaken in cooperation with universities and international research organization

°Z.	Theme of research	Cooperated	Location of research	Period
_	Study on the effect of different irrigation methods, continuous flow and intermittent flow method	Aleppo University, Damascus University and ACSAD	Surbaya Irrigation Station of ANRR in Aleppo	2009 -
8	Study on the efficiency and adaptability of spile irrigation method		Surbaya Irrigation Station of ANRR in Aleppo	2009 -
3)	Study on the efficiency and adaptability of gated pipe irrigation method		Ebb Quien Irrigation Station of ANRR in Raqqa	2009 -
<b>æ</b>	Study on the efficient fertigation method for improved surface irrigation		Ebb Quien Irrigation Station of ANRR in Raqqa	2009 -
9	Study on water stress in deficient irrigation	Damascus University	Nashabis Irrigation Station of ANRR in Rural Damascus	2009 -
9	Proper water scheduling of group irrigation and enhancement of group irrigation activities	Damascus university	Extension field for the group irrigation project at Rural Demascus Irnah	2009 -
5	Establishment of suitable irrigation schedule by using tensiometer		Tizeen Irrigation Station of ANRR in Hama	2009 -
8	Study on the fertilizer efficiency under different fertigation treatments		Jileen Irrigation Station of ANRR in Daraa	2009 -

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Most of resoarches are ongoing and it is difficult to prospect that useful recommendations can be obtained from these researches at this moment. However, researchers in charge are conducting their researches with strong will. It is expected that useful results or useful recommendations which benefit on improvement of water-saving techniques can be obtained more than 3 subjects in future.

Indicator (3)-2: Among the above recommendations, more than 2 techniques are utilized in the Project and others (Syria and neighboring countries).

As mentioned above, 8 kinds of researches are underway and most of research activities will be completed in 2011. Most of report on research results will be made in 2011. It is expected that some useful recommendations on water-saving techniques will be adopted at field after the year 2012.

Other outcomes of the Project: Extension tools

The following new extension tools are under development by the Project through obtaining suggestions from the persons of universities and international research organizations.

Name of tool	Маіл ригрове	Cooperation with university and research organizations	Utilization (target and distribution, etc.)	Status of development
Irrigation Calendar	Guideline for farmers to identify irrigation hours for specific crop at the specific location	a in the calculation of the calc	Target for distribution will be decided based on the results of the impact survey. Target of distribution will be irrigated farmers and water extensionists.	Partially completed
Discharge Measurement Kit	Contains water measuring cup, pressure gauge and necessary connections in a portable bag. It is necessary to utilized irrigation calendar	Suggestion will be obtained from university whether this kit can measure water flow precisely.	Target for distribution will be decided based on the results of the impact survey. This tool will be used with irrigation calendar. Target of distribution will be irrigated farmers and water extonsionists.	Mostly completed
Notebook Notebook	Notebook for recording duration of duration and dirigation and quantity of fertilizer, etc.	Suggestion on improvement is obtained from ACSAD.	Revised notebook will be made based on the opinions of farmers and water extensionist. Dissemination activities will be conducted at the model extension units before the start of next irrigation season. Target of distribution will be irrigated farmers and water extensionists.	Improvement is necessary

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Digital	Computer		consadance	100	7 078	BOILWAL	2)	MILI	3	on this soliware win be improvement
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	recorded data in	9.	university	Jo	equipm	equipment is	80	available.	ė,	
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ACSAD: Arab Center for the Study of Arid Zones and Dry Lands

# 3-3 Project Purpose

Project Purpose: The capability of extensionists and staff of related agencies on extension of water-saving irrigation are improved, and proper amount of irrigation water is used for each crop in the Project Sites. Considering the favorable degree of achievement of the following 2 indicators at this stage, it is expected that the Project Purpose will be achieved at a satisfactory level at the time of completion of the Project Indicator 1) The usage of irrigated water for the crops in the Project Sites is reduced by the Project (10 -20%). The following table shows amount of irrigation water used per ha by crop and governorate. There are data obtained by the baseline survey (2009) and data obtained by the impact survey (October 2010)

Governorate	Crop	Amoun	Amount of irrigation water before project	water	Amount	of irrigation	Amount of irrigation water (impact survey)	urvey)	
		ğ	(Baseline survey)	3	Traditional irrigation	gation	Modern irrigation (Dr., Sp.)	gation	(Dr., Sp.)
		m3/ha	Irrigation Method	Number of Sample	Number m3/hs of Sample	Reduction rate %	Nu m3/ha Sa	Number of Sample	Reduction rate %
Aleppo	Sugar Beet	10,960	7.	9	(		* 3,585	20	j
	Cotton	15,625	ž	4	12,800	181	7,530	1.5	50.9
	Potato	896'9'	Mix	20	i	L	* 3,371	12	1
Daras	Tomato	.10.094	Dr.	10		1	5,027	45	50.2
	Watermelon	7,500	Dr.	10	1	,	4,553	T.	39.3
	Grape.	11,446	Mix.	10		į	7.921	25	30.8
Hama	Cotton	14,400	Mix	10	24,000 1	,	•		,
	Potato	12,600	Mix	19	,		8,247	16	34.5
	Cucumber	8,725	Sp.	15	-	į	8,952	7	-2.6
Raqqa	Cotton	.15,625	Tr.	13	14,702 18	6.9	7.817	89	60.09
	Sugar Beet	9,750	7.	-	81 261'6	5.7			1
	Watermelon	5.425	Ė	2	1	1			1
Rural	Apple	6,206	Dr.	2		1	4,051	31	34.7
Damascus	Peach	6.842	Dr.	5		1	3,943	п	42.4
	Pear	6.053	Dr	9	1	1	5.180	18	14.4

Mix: using both method (traditional and modern irrigation), Sp.: Sprinkler irrigation, Dr.: Drip irrigation, Tr.: Traditional irrigation
 \* Cultivation season of sugar beet and potato in Aleppo is autumn-winter and have effect of rainfall.
 Therefore, these crops are excluded from the analysis on water-saving.

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3) The amounts of irrigation water were surveyed in 2 extension units in each governorate. One of extension units is the extension unit where demonstration farm located and other one is extension unit which has similar agricultural condition. Although, there is one case that reduction rate is minus, most of cases of modern irrigation where farmers adopted water saving techniques, reduction rates are between 30% and 50%. This reduction rate is quite better than the targeted rate (10-20%). Indicator 2) The capability of extensionists and staff of related agencies on extension of water saving irrigation are improved (number of certified extentionists become more than 40% to the required number of water extensionists).

one person). Qualified water extensionist means person who participated in the training certification by passing examination (person who got more than 70 points at examination, full The following table shows numbers of extension units that qualified water extensionist is required and numbers of extension units that have qualified water extensionist (more than courses for water extensionist of the Project (including phase 1 project) and who got score is 100 points).

Covernorate	Number of extension units that qualified water extensionist is required (a)	Number of extension units that bave qualified water	Ratio (%)	(Reference data) Total number of units in	Number of 40% units	Insufficiency (persons)
	80	17	21.3%	111	32	15
	38	37	%1.7%	63	16	÷
	72	32	44.4%	74	29	*
	40	14	35.0%	55	16	2
Rural	62	24	46.2%	63	16	·

Romarks: (a) This numbers were decided based on the percentage of irrigated area in each extension unit (one of the selection criteria is ration of irrigated area is more than 50%). This classification was done by the Project team.

extensionist was started during the phase 1 project and trainings is continued under the Project, are exceeded targeted ratio (40%) already. Ratios of Aleppo and Raqqa governorates, is expected that this indicator (40%) can be achieved by the end of the Project by inviting more Ratios of Daraa, Hama and Rural Damascus governorates, where trainings on water where trainings started under the Project (from 2009) are 35.0% and 21.3% respectively. persons from Aleppo governorates.

4.1 Relevance

Relevance of the Project is considered high in terms of needs of beneficiaries, policies of the Government of Syria, and assistance policy of Japan.

Agriculture and water sectors are very important in Syria. Because of limited water resources and effects of climate change (less rainfall), efficient use of water resource through introduction of water saving irrigation is quite necessary not only for farmers with irrigation and also for stabilizing agricultural production in the target areas. Efficient irrigation water use can be realized not only installing modern irrigation facilities but also using proper watersaving techniques. One of the objectives of the Project is to strengthen extension of watersaving techniques to farmers through improving capability of extensionists, producing extension materials, and improving linkage among research, training and extension related organizations, etc. Therefore, this project is well consistent with needs of farmers in the target areas and also staff concerned of the Ministry of Agriculture and Agrarian Reform.

Conversion of irrigation system from traditional water consuming irrigation to modern irrigation system (water-saving irrigation system) is regarded one of the important issues in the 10th Five-Year Plan (2006-2010) of Syria. Although, the 11th Five-Year Plan is not publicized yet, it is reported that the importance of further promotion of modern irrigation becomes higher in this plan. The Ministry of Agriculture and Agrarian Reform is promoting conversion of irrigation system to modern irrigation system by proving subsidized loan for purchasing irrigation equipment. Therefore, the objective of the Project is well consistent with the policies of the Government of Syria.

One of the important issues of the assistance policy of the Government of Japan to Syria is water resources management and its effective use. The Project aims enhancement of capacity of extension on water saving irrigation. Therefore, the Project is well consistent with the assistance policy of Japan.

### 4-2 Effectiveness

Through the project activities, capacity development of water extensionists who disseminate water saving irrigation techniques is progressing as scheduled mostly in terms of number of extensionists and capacity of them. Proper amount of irrigation water for each crop is used at most of the demonstration farms in 5 governorates.

As mentioned in the previous chapter, it is expected that the Project Purpose will be achieved at a satisfactory level at the time of completion of the Project. Therefore, the effectiveness of

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the Project will be at a satisfactory level.

### 4-3 Efficiency

Both Syrian and Japanese sides have provided inputs for the project activities appropriately in terms of human resources (Japanese experts and Syrian counterparts), equipment, training in Japan and third countries, and allocation of budget. These inputs and resources have been utilized efficiently in undertaking project activities.

The outcomes of the phase 1 project, such as training materials and training curriculum for water extensionists, extonsion methods and tools, Syrian counterparts involved in the phase 1 project and water extensionists trained during the phase 1 project, etc., have been utilized or participated effectively for the project activities. This is a factor on efficient progress of the project activities.

Another important factor that contributes to the efficient progress of the project activities is good collaboration and coordination among organizations involved in the project activities, such as GCSAR, DMIC, Directorate of Extension, and Directorate of Training and Qualification of MAAR, Directorates of Agriculture of targeted 5 governorates, and also Damascus University and international research centers such as ICARDA.

In conclusion, efficiency of the Project is at a satisfactory level at this stage.

### 4-4 Impact

It is early to prospect precisely whether the Overall Goal of the Project will be achieved in future. Some positive impacts are observed.

# 4-4-1 Prospect for achieving the Overall Goal

Overall Goal: Proper amount of irrigation water is used by means of adopting efficient watersaving irrigation in the Target Areas. And, awareness of efficient watersaving irrigation is expanded to other areas in Syria.

Although it is early to prospect the possibility to achieve the indicator 1) by the end of 2017, it is considered that there is certain good possibility to attain the indicator 1). Because this project is establishing effective extension mechanism in 5 governorates, and based on this mechanism and with continuous efforts of organizations concerned of the Government of Syria after the completion of the project, irrigation water use per unit area can be reduced.

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International Center for Agricultural Research in Dry Areas

Indicator 1) Total amount of irrigation water per unit area decreases more than 10% without yield decrease in Target Area by the end of 2017.

This project is contributing reduction of irrigation water use per unit area by extending water-saving techniques to farmers. By increasing farmers adopting efficient water-saving irrigation in terms of techniques and modern irrigation facilities as results of further strengthening of extension activities by water extensionists and also DMIC loan service, it is expected that the amount of irrigation water per unit area will be decreased more than 10% without yield decrease in 5 project targeted governorates by the end of 2017.

The following tables show reference data on irrigated area, the amount of irrigation water used, and estimated amount of irrigation water used per hectare (ha) by source of water in 5 project targeted governorates.

1) Data on irrigated area by source of water in 5 project targeted governorates

(Unit: thousand ha)

Governorate	w ITV	All water sources	892	2	River water		Natio	National Irrigation systems	ation		Well	
	Crops	Trees	Total	Crops	Trees	Total	Crops	Trees	Total	Crops	Trees	Total
Aleppo	191,039	15,375	206,414	27,157	1,181		73,566	12,285	85,851	87,246	4.979	92,225
Darae	22,862	8,606	31,468	150	D	150	15,985	2,608	18,593	6,142	6,583	12,725
Нагла	55,824	15.426	71250	3,287	1,865	5,152	6,208	443	46,156	13,291	13,291	26,582
Radda	175,789	11,142	187,831	40,549	2,234	42,783	78,542	15,858	94,400	50,163	588	50,748
Rural Damascus	22,789	38,322	160,091	5,498	9,946	15,444	0	0	0	16.251	966.65	45,647
Syria	1,184,790	171.686	1,356,485	180,092	28.216	208,308	321.203	65,895	387,098	670,752	125,08	761,079

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Source: Annual Agricultural Statistics of Syria

2) Amount of irrigation water used by source of water in 5 project targeted governorates

(Unit: thousand m3)

Governorate	ΑΠΑ	All water sources	Des	×	River water	L.	National I	nel Irrigation aystems	ation		Well	
	Crops	Trees	Total	Crops	Trees	Total	Crops	Trees	Total	Crops	Trees	Total
Aleppo	1,8122	338.5	2,150.7	2320	23.8	255.8	875.9	231.4	1,107.3	704.3	83.2	787.5
Daraa	1722	136.5	308.7	0.5	0.0	92	123.3	43.2	166.5	48.4	93.4	141.8
Hama	413.0	2432	656.2	26.5	34.6	61.1	63.0	8,6	61.6	333.6	200.1	533.7
Raqqa	2,486.1	470.9	2,957.0	796.3	53.B	850.1	1,295.0	407.1	1,702.1	394.7	10.0	404.7
Rural	170.8	733.6	804.4	432	185.5	228.7	00	0.0	0.0	127.7	548.1	675.8
Svria	11,316.2	3,064,3	14,370.5	2,699.2	579.0	3,2782	3,648.0	1,085.8	4,733.8	4,969.0	1,389.5	6,358.5

Source: Data of MAAR

3) Estimated amount of irrigation water used per hectare (ha) by source of water in 5 project

targeted governorates

orate	All	water sou	COE3	Е	iver water		Desi	systems	tuon		Well	
	Crops	Trees	Total	Crops	Trees	Total	Crops	Trees	Total	Crops	Trees	Total

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(Unit: m3/ha)

Ch.

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 Aleppo
 9.486
 22.016
 10.419
 6.543
 20,152
 9.027
 11.906
 16.836
 12.839
 8.073
 16.710
 8.533

 Daraza
 7.522
 15.061
 9.810
 3.333
 - 3.333
 7.713
 16.564
 8.956
 7.800
 14.189
 11.143

 Hama
 7.286
 15,766
 9.210
 8.082
 18.552
 11,859
 8.537
 19.413
 1,335
 25.100
 15.055
 20.077

 Round
 4.306
 15,734
 19,679
 74.08
 25.872
 18,031
 7.888
 17.084
 7.975

 Parmascus
 7.501
 19,443
 164.486
 4.342
 14,809
 - 7.6478
 12,229
 7.408
 15,383
 8.355

 Syria
 9.551
 17,789
 10.559
 14,908
 20.577
 11,357
 11,478
 12,383
 12,383
 8,355

Source: Estimated data using data of the above two tables

Indicator 2) More than 50% of total farmers in the other governorates in Syria also recognize the importance and the necessity of water saving in irrigation.

For achieving this indicator, it is necessary for Syrian organizations concerned to expand extension activities on water-saving irrigation in other governorates in Syria by utilizing results of the Project.

4-4-2 Other Impacts

(1) Increased collaborative relationship among organizations concerned

This project (phase 2 project) and also phase 1 project have been implemented under good cooperation/ collaboration among organizations concerned, such as GCSAR, Directorate of Training and Qualification, Directorate of Extension, DMIC, Directorates of Agriculture of governorates concerned, and Universities in Syria. Similar good collaborative relations come to be seen among them in their regular activities and also other donor supported projects by having realized advantage of good cooperative/ collaborative relations.

(2) Dissemination of water-saving irrigation as effect of the project activities at the demonstration farms

Various extension activities on watersaving irrigation have been implemented at the project sites (model extension units) including the demonstration farms by inviting farmers of surrounding area. As the result of this, for example, farmers in Sukkarie extension unit in Raqqa understood well about advantage for introducing watersaving irrigation and farmers requested DMIC's loan. The evaluation team interviewed with a farmer who attended extension events of the Project and observed the modern irrigation facilities in the demonstration farms in Raqqa. This farmer installed drip and sprinkler irrigation facilities using DMIC loan this year and he successfully cultivated watermelon this summer with less quantity of water (less cost) and better yield. He found out that applied irrigation water under the traditional irrigation method (surface irrigation) was overirrigation and application of appropriate amount irrigation water brings higher yield.

# (3) Farmer to farmer's information dissemination

According to the farmer of the demonstration farm in Raqqa governorates, he has received many visitors (farmers) who interested in the water-saving irrigation and taught his knowledge and experience to them. Other farmer, who introduced modern irrigation facilities this year, has also received farmers and delivered such information on request as procedure on DMIC loan and installation method of modern irrigation equipment, etc. The Team observed same example in Hama, i.e. the farmers of the demonstration farm is receiving neighboring farmers and he delivers his knowledge and experience on water-saving irrigation techniques.

# 4-5 Sustainability

Policy sustainability will be secured. Although it might be early to prospect sustainability on organizational, financial and technical aspects, some proper financial and organizational arrangement will be necessary.

### (1) Policy aspect

As mentioned already, irrigation modernization is regarded important by the Government of Syria in order to use limited water resources efficiently for agricultural production. Because of negative impact of climate change (reduce of rainfall and higher temperature, etc.), stabilized agricultural production becomes more important in Syria from the view point of food security. Therefore, policy sustainability will be secured even after the completion of the

# (2) Organizational aspect

The implementing organizations of the Project within MAAR, i.e. GCSAR, Directorate of Extension, Directorate of Training and Qualification, DMIC, and the Directorate of Agriculture of the targeted 5 governorates have clear tasks on research, training, extension, and promotion of modern irrigation. These organizations have sufficient number of staff and long-experiences in respective field of tasks. Therefore, irrigation modernization including extension of water-saving irrigation techniques to farmers can be continued in sustainable manner in general. There is good collaboration and coordination among these organizations, and it seems that this good collaboration is bringing good progress of extension activities in the project target areas. In order to secure efficient and effective progress of extension activities and also other governorates, certain organization arrangement is necessary in keeping proper

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linkage among organization in charge of research, extension, training, and loan services.

# (3) Financial aspect

DMIC is providing financial support to farmers for introducing modern irrigation system. Conversion of irrigation methods will be progressing physically with this financial support. Adoption of proper water-saving techniques by farmers is also important for efficient use of limited water resources and increase profitability of agricultural production. In order to expand the extension activities on water-saving irrigation in the project areas and also other governorates after the completion of the Project, it is necessary for the Government of Syria to allocate necessary amount of budget because the target area for extension is bigger.

# (4) Technical aspect

Capacity of the Syrian counterparts and staff concerned with the Project has been further developed in the course of implementation of the project activities. The number of water extensionists with proper knowledge and skills is increasing in the 5 governorates. Through practicing extension activities at the demonstration farms or other farmers fields, and also using extension activities at the demonstration farms or other farmers fields, and also using extension tools developed by the Project and also the phase I project, their capability on extension is under strengthening. Capacity of trainers for water extensionist course is also enhancing under the Project. It is expected that their capability will be strengthened in sustainable manner by the end of the Project. It is necessary to continue these kinds of capacity development even after the completion of the Project.

### 4-6 Conclusion

The project activities have been progressing as scheduled. Most of the project's outcomes to date, such as extension of water saving irrigation techniques and training for water extensionist, etc, have been achieved as planned. Relevance of the Project is high and effectiveness of the Project will be at a satisfactory level by achieving the Project Purpose by the end of the project period. Efficiency of the Project is also as a satisfactory level and several positive impacts were observed ench as: increased collaborative relationship among organizations concerned, dissemination of water-saving irrigation as effect of the project activities at the demonstration and neighboring farms, and farmer to farmer's information dissemination.

There are some important issues in order to have better outcomes of the Project and to ensure the continued effective utilization of the outcomes of the Project after the completion of JICA cooperation. These issues are explained as recommendations.

- Recommendations
- 5-1 Recommended actions to be taken by the project team in the remaining project period
- (1) It is necessary to strengthen training on communication skills as a subject in the extensionits can deliver knowledge and skills more effectively to farmers. In this regard, it curriculum of the training course for water extensionist in order that trained water is necessary to consider farmer's mentality which differs by regions or areas.
- (2) In order to disseminate the outcomes of the Project to other governorates in Syria, it is necessary to conduct a seminar/workshop by inviting persons concerned in these areas in collaboration with regional universities and research organizations
- (3) In order to deliver the outcomes of the Project to neighboring countries, it is necessary to arrange participation to the third country training courses which conducted by ICARDA commissioned by JICA, etc., and make presentation on the project activities and outputs.
- 5.2 Recommended actions to be taken by the Syrian side
- (1) There is very good collaborative relationship among organizations involved in the project Ministry of Agriculture and Agrarian Reform in order to keep this situation and accelerate activities at present. It is necessary to create certain coordination mechanism within the dissemination of water-saving irrigation techniques to other governorates in Syria after the completion of the Project.

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Syria and ensure sustainability of training structure and function of the Project, it is (2) The project targeted areas are 5 governorates (Aleppo, Daraa, Hama, Raqqa and Rural Damascus). In order to disseminate the outcomes of the Project to other governorates in necessary to form a national training team to prepare training plan for water extensionist, extension plan for water saving irrigation techniques, and budgetary plan for implementing

# 5.3 Recommendation on revision of current Project Design Matrix (PDM version 2)

The Team conducted evaluation on achievement of the Project based on PDM. The team noticed that some modification on PDM is necessary as a result of examination of current PDM (version 2). Proposed modification and its reasons are described in the following table.

Proposed revised PDM is attached as Annex 10.

Table: Major modifications on PDM

ltem	Version 2	Proposed revision (Version 3)	Reason of change
Indicator (1)-3 of the Output 1	The frequency of regular extension activities implemented by the trained extensionists in Aleppo and Raqaa Governorates increases by 50% and is more than 10 times a vest.	The frequency of regular extension activities implemented by the trained extensionals in Aleppo and Raqqa Governorates is more than 10 times a year.	There was no trained water extonsionist before the Project in Aleppo and Raque Governorates, therefore, increase rate can not be calculated. Words "increases ealculated. Words "increases by 50% and" are deleted.
Additional indicator as (1)-4 for the Output 1	J	Quality of extension activities by the trained extensionists is at a suitable level.	It is important to evaluate not only frequency of extension activities but also it equality. Quality of extension will be surveyed before the terminal evaluation by setting proper questions to farmers.
Output 3	Water saving irrigation techniques developed under the cooperation with universities and international research organizations in Syria are reflected upon Project activities. And, the outcomes are disseminated to the other areas in Syria and the ighboring countries.	Measures to improve and operate water earing irrigation each rious are extended to the rest of Stria and to neighboring countries through the cooperation with universities and international research oversities international research oversities in Syria.	Original project plan dose not intended joint development of water saving irrigations techniques with universities and research institutes as and research institutes as shown in the Record of Discussion (RUD). Therefore, it is better to use original idea of RUD with minor modification. Obeleted words are "system", and "as ripple effect".
Indicator of the Output 3	(3)-1: More than 3 techniques on water saving irrigation are recommended by the Project under the cooperation with universities and international research organizations.  (3)-2: Among the above recommendations, more than 2 techniques are utilized in the Project and others (Syrian and and and and and and and and and a	(3)-1: Cooperated activities on dissemination of measures to dissemination of measures to improve and operate improve and operate techniques are increased, techniques are increased.	In accordance with modification of the Output 3, a modification of the Output 3, and inea indicator is proposed. Cooperated activities mean cooperated activities on trainings and seminars on water-saving irrigation techniques.
Others	and neighboring countries). Most of means of verification a	and neighboring countries).  Most of means of verification are modified more appropriate one.	e. For details, see proposed



Annex 2 Project Design Matrix (PDM)

Project Title: Project on Development of Efficient Irrigation Techniques and Extension Phase II (DEITEX II)

Target Area: Rural Damascus, Darae, Hame, Aleppo and Raqqa Governorates

Target Group:

Direct Beneficiaries: Staff of MAAR (GCSAR, DMIC, DAE, DTQ), Extensionists to be trained and Irrigated Farmers serviced by the Extensionists Indirect Beneficiaries: Irrigated Farmers and Inhabitants in the Target areas

Duration: 2008.December~2012.lune (3.5 years)

Duration: 2008.December~2012.June (3.5years)		Ver.2: 2010.03	
Narrative Summary	Verifiable Indicator	Means of Verification	Important Assumption
[Overall Goal] Proper amount of irrigation water is used by means of adopting efficient water-saving irrigation in the Target Areas. And, awareness of efficient water-saving irrigation is expanded to other areas in Syria.	Total amount of irrigation water per unit area decreases more than 10% without yield decrease in Target Area by the end of 2017.  More than 50% of total farmers in the other governorates in Syria also recognize the importance and the necessity of water-saving in irrigation.	conditions in Syria - Field measurement in the Target areas	Available amount of water resources for irrigation purpose dose not reduce.     Irrigated land is not expanded by illegal water source development.
[Project Purpose] The capability of extensionists and staffs of related agencies on extension of water-saving irrigation are improved, and proper amount of irrigation water is used for each crop in the Project Sites	The usage of irrigated water for the crops in the Project Sites is reduced by the Project (10 - 20%).     The capability of extensionists and staffs of related agencies on extension of water-saving irrigation are improved (number of certified extentionists become more than 40% to the required number of water extensionists).	Field measurement in the Target areas     Survey on relevant agencies/interviews to farmers	Farming environment in the Target Areas is not deteriorated unexpectedly.     Farmers in the Target Areas can establish and operate water-saving irrigation system easily as required in terms of quality and quantity.
Outputs     Outputs     Outputs     Proper water-saving irrigation technique is devised, and the new water-saving irrigation technique is disseminated in the Project Sites in Aleppo and Raqqa Governorates. And, the training and extension system for the dissemination of the water-saving irrigation technique is established for the other areas in Aleppo and Raqqa Governorates.    Output	(1)-1: Amount of irrigation water used for each crop in the Demonstration Parms in Aleppo and Raqqa Governorates are reduced by 10-15%. (1)-2: The number of farmers adopting water-saving irrigation technique in the Project Sites in Aleppo and Raqqa Governorates increased by 80 – 10%. (1)-3: The frequency of regular extension activities implemented by the trained extensionists in Aleppo and Raqqa Governorates increases by 50% and is more than 10 times a year. (2)-1: The difficulties after the phase 1 Project are clarified and the countermeasures are established (more than 5 cases). (2)-2: Number of irrigation farmers in the Project Sites adapting modern trigation technique increases by 30 – 40%. (2)-3: The frequency of regular extension activities implemented by the concerned organizations in Rural Damascus, Hama and Daraa Governorates increases by 25% (3)-1: More than 3 techniques on water saving irrigation are recommended by the Project under the cooperation with universities and international research organizations (3)-2: Among the above recommendations, more than 2 techniques are utilized in the Project and others (Syria and neighboring countries).	Field measurement in the Target areas     Survey on relevant agencies/interviews to farmers	There is no major change in the working environment of extensionists, at least, farming environment in the Target Areas is not deteriorated unexpectedly. Farmers in the Project Sites can establish and operate water-saving irrigation system easily as required in terms of quality and quantity.

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Place to Stay	(on board)	Damascus	of Damascus	Damascus	Damascus	Aleppo	Aleppo	Aleppo	Raqqa	Hama	Damascus	Damascus	Damascus	Damascus	(on board)	
Evaluation and Analysis	Narita to Dubai	scus	9:00 Courtesy call to Director General of GCSAR 10:00 1ª Joint Evaluation Committee 11:00 Interviews with Syrian counterparts of GCSAR 12:30 Interview with Syrian counterparts of DAE 12:30 Interview with Syrian counterparts of DMIC			8:30-9:30 Meeting at JICA Syria Office 10:00-11:00 Courtesy call to MAAR (H.E. Dr. Nabi Rasheed Mohammad, Vice-Minister, and Director of Extension, Director of DMIC, Director of ANRR) 12:00-12:30 Courtesy call to H.E. Minister of Agriculture and Agrarian Reform 13:00-14:30 Courtesy call to GCSAR, Dr. Walid Tawil, Director General 14:30-19:30 Damascus to Aleppo by land)	9:00-10:00 Interviews at Directórate of Agriculture in Aleppo 11:00-12:00 Visit to Jine Model Extension Unit 12:30-13:30 Meeting at Surbaya Irrigation Research Station 14:00-15:30 Meeting at ICARDA	lembers	(8:30-12:00 Aleppo to Raqqa Demonstration Farm) 12:00-15:30 Visit to Sukkarie Demonstration Farm in Raqqa, Interview with water extensionists and farmer of demonstration farm to Raqqa city) (15:30+16:30 Raqqa Demonstration Farm to Raqqa city)	9:00-11:30 Interviews at Ebb Quein Irrigation Research Station 11:50-13:00 Interview at Directorate of Raqqa (13:00-17:00 Raqqa to Hama by Iand)	9:00-10:00 Interviews to MAAR and Irrigation Research Center 11:00-12:00 Observation at Demonstration Farm, Interviews for farmers in Hama (13:00-17:00 Hams to Damascus by land) Internal meeting of mission members Formulation of Joint Evaluation Report	9:00 2nd Joint Evaluation Committee, Formulation of Joint Evaluation Report	9:00 Formulation of Joint Evaluation Report	10:00 Joint Coordination Committee, Explanation on Joint Evaluation Report, Signing on Minutes of Meeting 144:30 Report to Embassy of Japan		arita
Dry-land Farming				Osaka to Dubai	scus ng of mission	ing at JICA Sylurtesy call to land Director o purtesy call to ourtesy call to ourtesy call to ourtesy call to ourtesy call to damascus to Al	rviews at Dire sit to Jine Moc eeting at Surbs eeting at ICAR	g of mission m	eppo to Raqqa sit to Sukkarie od farmer of de aqqa Demonst	riviews at Ebb terview at Dire	bservation at E lama to Dama g of mission Doma	Svaluation Cor	on of Joint Ev	ordination Con nutes of Meeti to Embassy of	Jubai	a / Dubai to N
Cooperation Planning				Narits to Dubai	Dubai to Damascus Internal meeting o members	8:30-9:30 Meeting at JICA Syria Office 10:00-11:00 Courtesy call to MAAR (H.E. I Vice-Muister, and Director of Extension, D 12:00-12:30 Courtesy call to GCSAR, Dr. V 13:00-14:00 Courtesy call to GCSAR, Dr. V 14:30-19:30 Damascus to Aleppo b land)	9:00-10:00 Interviews at Directors 11:00-12:00 Visit to Jine Model E 12:30-13:30 Meeting at Surbaya I 4:00-15:30 Meeting at ICARDA	Internal meeting of mission members	(8:30-12:00 Ale 12:00-15:30 Vi; extensionists an 15:30-16:30 R	9:00-11:30 Interviews at Ebb Quein In 11:50-13:00 Interview at Directorate o (13:00-17:00 Raqqa to Hama by land)	9:00-10:00 Interviews to MAAR and Irrig (13:00-12:00 Observation at Demonstration (13:00-17:00 Hama to Damascus by land) Internal meeting of mission members Formulation of Joint Evaluation Report	9:00 2 <sup>nd</sup> Joint E	9:00 Formulati	10:00 Joint Coordination Committee Signing on Minutes of Meeting 144:30 Report to Embassy of Japan	Damascus to Dubai	Dubai to Osaka / Dubai to Narita
	Fi	Sat	Sun	Mon	Tue	Wed	Ē	Æ		Sun	Mon	Tue	Wed	udT	F.	Sat
Date	Nov/19	+		Nov/22	Nov/23	Nov24	Nov/25	Nov/26	Nov/27	Nov/28	Nov/29	Nov/30	Dec/1	Dec/2	Dec/3	Dec/4
		2	m	4	8	9	7	00	_	9	=	12	13	4	15	91



Annex 1 Schedule of the Evaluation

### Annex 3 Dispatch of JICA Experts

lo.	Name of JICA	Field of Expert	Total M/M	Total	20	008	T		200	9					1			2010	)			$\neg$			2	011							012
	Experi	132.0.230.0	(Man-Month)	Days		" "	1	1	1	1.	4 7		4 12	31 12	1	2 3	1	1	1 1	1	11 11	п	1	31	13	1 1	1	0 110	111 19	1 1	, ,	11	£1.7
	Mr. Shulchi MATSUSHIMA	Leader/ Irrigation	12.00	360		0	70		1	60			80			60		80	İ		145		1		i			-	1			1	14
2	Mr.Akira KOTO	Training/ Sub-leader	16,23	487		0	70			130	,			117				105			60						,				à		-1
	Mr. Híroyasu OHNUMA	Extension	10.77	323		10	70		-		75		-	61				80			45					1						1	1
4	Mr. Naoki KOGA	Socio-economy/ Farmers Organization	8.50	255			30			11	1		75			45					50											Ľ	
5	Mr. Tomoki HOTTA	Irrigation System Designing	9.83	295		1	55		1	13		105	1	30			,			1 1	30							1	1				
		Farming Management/ Coordinator	3,17	95	j	-			10	1 1	6		1						Ī	15						1	1	1	1			i	
-		Sub-total	60.50	1,815			П		1	11				1		TI			-1	7	1	H		1	11			1				1.	

Activities		1	nput	
(1)-1 Conduct a baseline survey reviewing the problems of		<japan></japan>	<syria></syria>	
(1)-2 Clarify appropriate water-saving irrigation methods		1. Personnel	1. Personnel	
(1)-3 Prepare guideline and manuals based on the result o	f the item (1)-1 and (1)-2 mentioned above.	(1) Long-Term Experts: 3	Counterpart personnel of the	
	establish the demonstration farms selected within the Project	persons	Phase I Project, in general.	
Sites as required.		*Project	In addition, new personnel	
(1)-5 <small irrigation="" pressurized="" scale=""></small>		Leader/Irrigation	will be added as	
(1)-5-1 Prepare a plan of training activities in accordance w	with the extension plan of the item (1)-5-4.	*Training	counterparts from the	
(1)-5-2 Revise the Technical Manual which were prepared Areas.	by the Phase I Project according to the situation of the Target	*Extension	implementation agencies.	
(1)-5-3 Implement the training courses on small pressurized	d irrigation techniques in collaboration with related agencies.	(2) Short-Term Experts	2. Facilities	
(1)-5-4 Prepare the extension plan on the basis of the outco	mes of item (1)-1 and (2)-3.	Rural Community	1) Office space	
(1)-5-5 Support extension activities to be done by the trained	ed extensionists in line with the extension plan above.	Irrigation Facilities	Main Office within the	[Pre-conditions]
(1)-6 < Surface Irrigation >	·	Farm Management	building in ANRR, GCSAR	
(1)-6-1 Advance efficient surface irrigation technique and it	s related technology for water-saying.	Others (according to	Local Project Office within	Relevant
	ls in accordance with the training plan of the item (1)-5-1 and	the requirement)	the concerned offices in the	extensionists take
the extension plan of the item (1)-6-6.		1	related Governorates.	part in the project
(1)-6-3 Prepare the technical guideline and materials on sur	face irrigation technique.	2. Equipment		activities
(1)-6-4 Implement the training courses on water- saving sur		Laser Leveling Units	2) Equipment	
agencies in accordance with the item (1)-6-2.	and an Barrow carried and in contraction with the contraction	Equipment for	Satellite Plots in Rural	
(1)-6-5 Prepare tools for extension activities in accordance	with the extension plan of item (1)-6-6.	Demonstration Farms	Damescus, Daraa and	
(1)-6-6 Prepare extension plan on the basis of the outcomes		and research activities	Hama, for the demonstration	
(1)-6-7 Support extension activities to be done by the traine		for efficient	activities of the efficient	
( , , , , , , , , , , , , , , , , , , ,	· · · · · · · · · · · · · · · · · · ·	water-saving irrigation	water-saving irrigation.	
(2)-1 Hold regular meetings on promotion of water-saving i	irrigation among the related agencies.	Equipment for	Telephone line and	
(2)-2 Conduct a baseline survey in the districts excluding the Project.		measurement Equipment for training	telephone for each Project Office.	
(2)-3 Review the current performance of Phase I Project inc	cluding the problems of irrigation practice in the Target Areas.	and extension	Necessary furniture in the	
(2)-4 Establish satellite plots in the districts excluding the c	oncerned districts which were covered by the Phase I Project	activities	Project Office.	
on the basis of the outcomes of item (2)-2 and (2)-3.	•	Vehicles		
(2)-5 Implement the training activities in line with the exten	nsion plan of item (2)-6.	Others (according to	3) Vehicles	0
(2)-6 Revise the plan of extension for "modern irrigation pr	omotion" prepared during Phase I Project.	the requirement)	Three project cars which	
(2)-7 Improve extension tools and methods.			were procured by JICA for	
(2)-8 Support extension activities to be done by the trained	extensionists in line with the extension plan above.	3. Local costs	the implementation of the	
(-,,	·	1) Seminar etc.	Phase 1 Project.	
(3)-1 Study on the collaboration with universities and intern	ational research organizations in Syria, regarding	4 75 -1 1 1 -	3.7	
water-saving irrigation techniques		4. Training	3. Local Costs	
(3)-2 Hold workshops on water-saving irrigation techniques	with universities and international research organizations as	1) Training in Japan	Available for stationary,	
far as holding relation with attainment of the project pu	rpose.	2) Training in the third	supplies and small	
(3)-3 Promote public relations on water-saving irrigation tex	chnique on the basis of the outcomes of item (3)-1 and (3)-2	countries	equipment for project	
(3)-4 Accept trainees of the training courses arranged by oth	ner organizations.		activities (including a part	
(3)-5 Participate in the international conference on efficient	water-saving irrigation as far as holding relation with		of cost for seminars etc.)	

### Annex 5 Equipment provided by JICA

Note: R/P: Route of Procurement

(J: From Japan, L: Locel, E: With Expert) (A: Always, B: Often, C: Sometimes) (A: Good, B: Feir, C: Bed)

Frequency of Use Condition

No.	Date of		Description	n	1 7 1	Quantity	Unit Price	Sub-lotel	Place of	Frequency	Condition	Remark
NO.	Arrival	Item	Manufacture	Model Number/ Specification	R/P				Storage	of Use	-	
1	Jan. 2010	Pick up treck	Mitsubishi	L200	L	3	US\$21,500	US\$64,500	GCSAR	A	Α	1
2	Jan. 2010	4WO	Mitsubishi	PAJERO GLS3.2L	L	1	US\$29,500	US\$29,500	GCSAR	A	A	
3	Jan. 2009	Copy machine	Canon	Copier IR 2230	L	2		¥721,069	Project office	A	A	
4	Feb. 2009	Fax machina	Panasonic	KX-FL402	L	2		¥63,984	Project office	Α	A	
5	Dec. 2009	Irrigation equipment for demonstration fames	Mais (Syrie)	composing of many parts of irrigation equipment	L	1		¥10,048,500	Demonstration Farms	A	_ A _	
6	Sep. 2010	Laser levelling equipment (without tractor)	Leica	420GD	L	1	US\$70,000	US\$70,000	Irrigation Stalon (ANRR)	С	A	
7	Sep. 2010	Laser levelling equipment (with tractor)	Leica (Lazer eq.) New Holland (Tractor)	420GD (Lezar eq.) TS-6020 (Tractor)	L	1	US\$123,800	US\$123,800	Irrigation Stalon (ANRR)	С	A	
8	Jul. 2009	Projector/ OHP	Acer	2,000 lumen	L	3		¥220,720	Project office	В	Α	
9	Jul. 2009	Screen	Acer	2m x 2m	L	3		¥131,859	Project office	В	A	1
10	Jul. 2009 Feb. 2010	Digital camera	Olympus	3 million pixel	L	26		¥287,797	C/Ps	В	В	
11	Jul.2008	Digital Video Camera	Panesonic	HDD	L	3		¥190,909	Project office	В	Α	
12	Feb. 2009	Computer (desktop type)	Acer	Windows, Microsoft Office	L	5		¥831,244	Project office	A	A	
13	Mar. 2009	Leser Printer	Canon	A4 peper	L	3		¥94,039	Project office	A	A	
14	Mar. 2009	Inkjet Printer	Howlett-Packard	A3 paper, Color	L	3		¥84,811	Project office	Α	A	
15	Mar. 2009	Inkjet Printer	Canon	A4 paper, Color	L	3		¥99,440	Project office	A	Α	1
16	Mar. 2009	Flow meter	Full electric	for conduit (Uitresound type)	E	2		¥1,986,000	Project office	С	A	100
17	Dec. 2008	Flow meter	Climatec	for open channel (low velocity of flow)	E	1		¥150,000	Project office	С	A	
18	Dec. 2008	Flow meter	Climatoc	for open channel (high velocity of flow)	E	1		¥160,000	Project office	С	Α	

Total (US\$ portion): Total (Yen portion):

¥15,030,352



### Annex 4 Training in Japan and third countries

41	Teninlag	in Japan
	Hannin	modpan

No.	Name	Position and organization	Name of Training Course	Period
1	Mr. Mhammad Bahari	Engineer of Extension Directorate (Damascus)	Study on and others adaptal and training by the seatest	
2	Mr. Rateb Raja	Training Officer of Ruria Damascus Agr. Directorate	Study on agricultural extension and training by the central government, prefectural government and local government	
3	Mr. Mahmmad Shahadat	Chief of Extension, Daraa Agr. Directorate	Including training on PDM workshop and Coaching Presentation	From Oct. 3 to Nov.1, 2009
4	Mr. Hikmat Jarah	Extension Officer of Hama Agr. Directorate	methods.	
5	Mr. Mazen Doughot	Engineer of ANRR		
8	Ms. Hanan Moselkh	Engineer of ANRR		
7	Mr. Husem Qatten	Engineer of DMIC	Filed visit to major Imigation schemes in Japan and manufactures	From Sep 24 to Oct. 25,
8	Mr. Abed Al-Ghani	Engineer of ANRR, Aleppo	of irrigation equipment. Also included methods on PDM workshop and coaching presentation.	2010
9	Mr. Ahmad Hafez	Engineer of ANRR, Aleppo		
10	Mr. Othman Al-All	Head of DMIC, Raqqa		
11	Mr. Ahammad Al-Kadri	Director of DMIC, MAAR	Learn management of irrigation achiemes, training, extension activities in Japan through field visit to major irrigation schemes	From Oct. 2 to Oct. 10, 2010
12	Mr. Mahamod Al-Taba	Director, Training Center, Training Directorate	(Kesumigaura and Toyokawa yosul) and agricultural research stations.	F10111 GGC 2 10 GGC 10, 2010

(2)	Training	in	third	countries	

No.	Name	Position and organization	Name of Training Course	Perlod
1	Mr. Bassam AlHusein	Irrigation Engineer of ANRR, GCSAR		
2	Mr. Samer AlAhmad	Irrigation Engineer of ANRR, GCSAR		
3	Mr. Ahmad Zalita	Chief of CWR section, ANRR, GCSAR		
4	Mr. Abdulhamid AlChara	Deputy Director of DMIC	Study visit to Tunisia on modernized irrigation management and water resource management	From Jul. 31 to Aug 8, 2009
5	Mr. Najib Hassoun	Head of DMIC, Rural Demascus		
6	Mr. Ahmad Zouikli	Head of DMIC, Hama		
7	Mr. Mehmoud AlShahadat	DMIC, ANNR		
В	Mr. Bassan Al Husein	Engineer of ANRR	14	
B	Mr. Abed Al Siem Hoseln	Engineer of ANRR		
10	Mr. Trad Dandel	Head of Irrigation Research Station, Aleppo	Study visit to Egypt on modernized irrigation under management of farmers' organization and field visit to JICA cooperated project	From Oct 29 to Nov 5 2010
11	Mr. Salm Al Hasen	Head of Irrigation Research Station, Raqqa	area.	1 1011 001 25 10 107. 0, 25 10
12	Mr. Mohammad Jazar	Head of Irrigation Research Station, Hama		
13	Mr. Fadi Abo Rokba	Head of Irrigation Research Station, Daraa		



Annex 7 Assignment of Syrian Counterparts

No.	Name of Counterpart	Field for the Project	Present Post	Working Place	Period of Assignment					
NO.		Field for the Project	Post at assignment time	AAOIKII II LIBCE	From	То	2008 2009 2010 , 2011 20			
1	Dr. Walld Tawli	Project Oirector	Director General of GCSAR, MAAR	Damaecus	Dec. 2008	Present				
2	Dr. Awadis Aralan	Project Manager	Director of ANRR, GCSAR	Damascus	Dec. 2008	Present				
3	Dr. Mohammed Abdalleh	Project Manager	Director of Extension, MAAR	Damascus	Dec. 2008	Present				
4	Mr. Ahmed Al-Qedri	Project Manager	Director of DMIC, MAAR	Damascus	Dec. 2008	Present				
5	Mr. Bassam Al-Huseln	Project Coordinator	Engineer of ANRR	Damascus	Dec. 2008	Present	-			
6	Mr. Samer Al-Ahmad		Engineer of ANRR	Damescus	Dec. 2008	Present				
7	Mr. Naser Kokl		Engineer of ANRR	Damascus	Dec. 2008	Present				
6	Ms. Rehaf Shekko		Engineer of ANRR	Damascus	Dec. 2008	Present				
9	Ms. Hanan Mosalkh		Engineer of ANRR	Demescus	Dec. 2008	Present				
10	Mr. Mazen Doughot		Engineer of ANRR	Damascus	Dec. 2008	Present				
11	Mr. Abed Al-Salam Hosen	P	Engineer of ANRR	Demascus	Dec. 2008	Present	4-9-			
12	Mr. Mahmmod Taba		Director, Sebra Training Center, Training Directorate	Damascus	Dec. 2008	Present				
13	Mr. Zlad Zahra		Engineer of Training Directorate	Damescus	Dec. 2008	Present				
14	Mr. Mohammed Bahry		Engineer of Extension Directorate	Damascus	Dec. 2008	Present				
15	Mr. Hasan Al-Rashy		Engineer of Extension Directorate	Damescus	Dec. 2008	Present	+			
16	Ms. Najwa Diab		Engineer of Extension Directorate	Damascus	Dec. 2008	Present				
17	Mr. Samer Al-Qadi		Engineer of Extension Directorate	Damascus	Dec. 2008	Present				
18	Mr. Salah Olhman		Engineer of Extension Directorate	Damascus	Dec. 2008	Present				
18	Mr. Abed Al-Hamed Al-Sharaa		Deputy Director of DMIC	Damascus	Dec. 2008	Present				
20	Ms. Sahar Toban		Engineer of DMIC	Damascus	Dec. 2008	Present				
21	Mr. Husem Qetten		Engineer of DMIC	Damascus	Jan. 2010	Present				
22	Dr. Abd Al-Naser Omar		Director of Agricultural Research Center, Hama	Hama	Dec. 2008	Present				
23	Mr. Yaser Al Mohammad		Engineer of Agricultural Research Center, Hama	Hama	Dec. 2008	Present	-			
24	Mr. Mohammad Jazar		Head of Irrigation Research Station, Hama	Hama	Dec. 2008	Present				
25	Mr. Bassam Al-Bunni		Director of Human Resource Division, Hama Agricultural Directorate	Hama	Dec. 2008	Present				
26	Mr. Husam Obaysl		Extension Officer of Hama Agr. Directorate	Hama	Dec. 2008	Present				
27	Mr. Adnan Khder		Training Officer of Hama Agr. Directorate	Hame	Dec 2008	Present				
28	Mr. Mohammad Kreim		Head of OMIC, Hama	Hama	Dec 2008	Jun.2010				
29	Mr. Khudr Hamoud		Engineer of DMIC, Hame	Hama	Dec. 2008	Present				

Annex 6 Local Operation Cost Allocated by Japanese Side

							Ur	nit: Japanese Yen
No.	Category	JFY.2008	JFY.2009	JFY.2010 (first semester)	JFY.2010 (second semester)	JFY.2011	JFY.2012	Total
1	Travel expenses	9,314,000	23,269,000	16,486,000				49,069,000
2	Expenses for general administration	3,241,000	7,434,000	6,523,000				17,198,000
3	Procurement of equipment	4,380,000	11,880,000	0				16,260,000
4	Printing	150,000	2,000	0				152,000
	Total	17,085,000	42,585,000	23,009,000			1	82,679,000

Remark: JFY: Japanese Fiscal Year from April to March

Data of JFY 2008 and JFY 2009 is amount used. Data of JFY (first semester) is planned amount.

### Annex 8 Project Operation Cost Allocated by Syrian Side

Unit: Syrian Pound (SYP) Year Amount (SYP) Breakdown Remarks FY.2008 (Dec.) 100,000 Budget prepraed for the Project 400,000 Expenses for electricity, maintenance of vehicles, travel expenses, etc. FY.2009 (Jan.-Dec.) 730,000 180,000 Expenses for training activities (at governorates) 150,000 Expenses for extension ativitles (at governorates) FY.2010 (Jan.- ) 100,000 Expenses for electricity, maintenance of vehicles, travel expenses, etc. FY.2011 FY.2012 Total 930,000



81.	Name of Counterpart Field for the	Present Post	Marking Mary	Period of Assignment						
No.	Name of Counterpart Field for the	Post at assignment time	Working Place	From	To	2008	2009	2010	2011	20
30	Mr. Ayman Hijazi	Head of Imigation Research Station, Rural Damascus	Rural Damascus	Dec. 2008	Present	10		-		
31	Mr. Marwan Shikh Fatoh	Chief of Extension, Rural Damascus Agr. Directorate	Rural Damascus	Dec. 2008	Present	1				
32	Mr. Zahr Al-Abdallah	Extension Officer of Ruria Damascus Agr. Directorate	Rural Damascus	Dec. 2008	Present			-		П
33	Mr. Rateb Rajah	Training Officer of Ruria Damascus Agr. Directorate	Rural Demascus	Dec. 2008	Present					
34	Mr. Najeeb Hason	Head of DMIC, Rural Damascus	Rural Damascus	Dec. 2008	Present	1				
35	Mr. Deab Al-Hanash	Engineer of DMIC, Rural Damascus	Rural Damascus	Dec. 2008	Present			_		
36	Mr. Husein Kottuma	Director Agr. Research Center, Deras	Daras	Dec. 2008	Present					Ī
37	Mr. Mohammad Al-Hayak	Engineer of Irrigation Research Station, Daraa	Darea	Dec. 2008	Present	A 4			-	
38	Mr. Fabi Abo Rokba	Head of Irrigation Research Station, Daras	Daraa	Dec. 2008	Present					
39	Mr. Mohammad Shahadat	Chief of Extension, Daras Agr. Directorate	Darea	Dec. 2008	Present					ī
40	Mr. Huseln Shinwan	Extension Officer of Daraa Agr. Directorate	Darae	Dec. 2008	Present	$\mathbb{H}$			1	
41	Mr. Mehmmod Al-Namah	Chief of Training, Daraa Agr. Directorate	Daraa	Dec. 2008	Present	1				
42	Mr. Mahmmod Shahadat	Head of DMIC, Daras	Derae	Dec. 2008	Present	-				
43	Mr. Adham Abo Jiash	Engineer of DMIC, Daras	Darea	Dec. 2008	Present					
44	Dr. Bader Jalab	Director Agr. Research Center, Aleppo	Aleppo	Dec. 2008	Present	1				
45	Mr. Abed Al-Ghani Al-Khaldi	Engineer of ANRR, Aleppo	Aleopo	Dec. 2008	Present	1				
46	Mr. Trad Dandel	Head of Imigation Research Station, Alappo	Aleppo	Dec. 2008	Present				-1	
47	Mr. Mohammad Al-Kahel	Engineer of ANRR, Aleppo	Alappo	Dec 2008	Present				_1	
48	Mr. Ghasan Ziada	Director of Human Resource Division, Aleppo Agr. Directorate	Aleppo	Dec. 2008	Present					
49	Mr. Ibraheem Brldy	Extension Officer of Aleppo Agr. Directorate	Aleppo	Dec. 2008	Present					
50	Mr. Ahmmed Al-Hamdan	Chief of Training, Aleppo Agr. Directorate	Aleppo	Dec. 2008	Present					
51	Mr. Hammid Falah	Head of DMIC, Aleppo	Aleppo	Dec. 2008	Sep.2010				-1	
52	Mr. Saheeb Brijawi	Engineer of DMIC, Aleppo	Aleppo	Dec. 2008	Present					
53	Mr. Mehmmod Al-Neif	Director Agr. Research Center, Ragga	Raqqa	Dec. 2008	Present					
54	Mr. Omar Naser	Engineer of Agr. Research Center, Raqqa	Raqqa	Dec. 2008	Present	-/			1	
55	Mr. Salm Al-Hasan	Head of Irrigation Research Station, Raqqa	Raqqa	Dec. 2008	Present				-1	
58	Mr. Selah Al-Shabiy	Chief of Extension, Raqqa Agr. Directorate	Raqqa	Dec. 2008	Present	ė				Ξ
57	Mr. Amar Khder	Extension Officer of Regga Agr. Directorate	Ragga	Dec. 2008	Present					
58	Ms. Mnoar Tier	Engineer of DMIC, Requa	Raqqa	Dec. 2008	Present					
59	Mr. Othman Al-All	Head of DMIC, Reqqs	Raqqa	Dec. 2008	Present			-	- 1	
80	Mr. Abed Al-Hamud Al-Shadid	Engineer of DMIC, Raqqa	Raqqa	Dec. 2008	Present				-1	



Tai

Indirect Beneficiaries; Irrigated Farmers and inhab Juration; from December 2008 to June 2012 (3.5years)	oltants in the Target areas	serviced by the ExtensionIsts  Revision: December 2, 2010 (Version 3)	
Narrative Summary	Verifiable Indicator	Means of Verification	Important Assumption
Proper amount of irrigation water is used by means of adopting efficient water-saving irrigation in the Target Areas. And, awareness of efficient water-saving irrigation is expanded to other areas in Syria.	Total amount of irrigation water per unit area decreases more than 10% without yield decrease in Target Area by the end of 2017.     More than 50% of total farmers in the other governorates in Syria also recognize the importance and the necessity of water-saving in irrigation.	data on irrigation water amount estimated by MAAR  2) Survey on relevant agencies/interviews to farmers	Available amount of water resource for irrigation purpose dose not reduce.     Irrigated land is not expanded by illegal water source development.
The capability of extensionists and staff of related agencies	1) The usage of Irrigated water for the crops in the Project Sites is reduced by the Project (10 -20%). 2) The capability of extensionists and staff of related agencies on extension of water-saving irrigation are improved (number of certified extensionists become more than 40% to the required number of water extensionists).	Results of baseline survey and impact survey (interview to farmers)     Record of the Project	Farming environment in the Targe Areas is not deteriorated unexpectedly.     Farmers in the Target Areas can establish and operate water-saving irrigation system easily as required in terms of quality and quantity.
(1) Proper water-saving irrigation technique is devised, and the new water-saving irrigation technique is disseminated in the Project Sites in Aleppo and Raqqa Governorates And, the training and extension system for the dissemination of the water-saving irrigation technique is established for the other areas in Aleppo and Raqqa Governorates.	(1)-1: Amount of irrigation water used for each crop in the Demonstration Farms in Aleppo and Raqqa Governorates are reduced by 10-15%.  (1)-2: The number of farmers adopting water-saving irrigation technique in the Project Sites in Aleppo and Raqqa Governorates increased by 80 – 100%.  (1)-3: The frequency of regular extension activities implemented by the trained extensionists in Aleppo and Raqqa Governorates is more than 10 times a year.  (1)-4: Quality of extension activities by the trained extensionists is at a suitable level.	(1)-1: Field measurement at the demonstration farms and results of baseline survey (1)-2: Collected data from relevant extension units, results of impact survey (interviews to farmers), and number of farmers who received DMIC's loan (1)-3: Data of Directorate of Agriculture in Aleppo and Raqqa governorates (1)-4: Impact survey (interview to farmers)	There is no major change in the working environment of extensionists, at least, farming environment in the Target Areas is not deteriorated unexpectedly.  Parmers in the Project Sites can establish and operate water-saving irrigation system easily as required iterms of quality and quantity.
irrigation is disseminated widely in Rural Damascus, Hama and Dara Governorates.	(2)-1: The difficulties after the phase I Project are clarified and the countermeasures are established (more than 5 cases). (2)-2: Number of irrigation farmers in the Project Sites adapting modern irrigation technique increases by 30 – 40%. (2)-3: The frequency of regular extension activities implemented by the concerned organizations in Rural Damascus, Hama and Daraa Governorates increases by 25%	(2)-1: Record of the Project (2)-2: Collected data from relevant extension units, results of Impact survey (interviews to farmers), and number of farmers who received DMIC's loan (2)-3: Collected data from Directorates of Agriculture of Darna, Hama and Rural Darnascas governorates	
Measures to improve and operate water-saving irrigation techniques are extended to the rest of Syria and to neighboring countries, through the cooperation with universities and international research organizations in Syria.	(3)-1: Cooperated activities on dissemination of measures to improve and operate water-saving irrigation techniques are increased.	(3)-1: Records of the Project	

### Annex 9 Provision equipment by Syrian side

Year	Contents	Remarks
2008	3 units of vehicles (4WD including drivers)	These vehicles were donated under the phase 1 project.
2009	3 units of vehicles (4WD including drivers)	These vehicles were donated under the phase 1 project. (1 Unit of 4WD ad 3 units of pick up track were provided under the Phse 2 project)
2010	3 units of vehicles (4WD including drivers) Pick up track (including driver) is used around Damascus and also for transport goods to Aleppo and Raqqa.	1 Unit of 4WD (which provided under the phase 1 project) is replaced with newly provided 4WD due to heavily damaged. Pick up tracks were provided to GCSAR (Damascus), Aleppo (Irrigation Research Center), and Raqqa (Irrigation Research Center).
2011		-1
2012		



# Annex 11 Data on the training courses conducted in 2009 and 2010

Training courses conducted in 2009

22 22 2 24-28/ May 2/July 9-13/ August 15-19/ Novembe Date 28/June Duration (days) Field survey and methods for identifying problems Designing & Installing irrigation nets Preparing extension material Organizing field day (1) Aleppo / Raqqa
No. Course subject

1							
2	Course subject	Duration (days)	Date	Executing	Location	Number of trainees	Targeted
-	Field survey and methods for identifying problems	S	7-11/ June	Extension division	Agricultural directorate	15	Technicians
7	Designing irrigation nets	2	23-27/	Extension	Agricultural	15	Technicians
6	Preparing extension	S	27/Sep -	Extension	Agricultural	15	Technicians
4	Organizing field day	S	15-19/ November	Extension	Agricultural directorate	15	Technicians

	Targeted	Agr/ engineers	Agr/ engineers	Agr/ engineers	Agr/ cngineers	Agr/ engineers
	Number of trainces	14	14	14	14	14
	Location	Human resource hall	Human resource hall	Human resource hall	Human resource hall	Human resource hall
	Executing	Extension division	Extension division	Extension division	Extension division	Extension
	Date	15-19 March	26-30 April	19-23 July	16-20 August	8-12 November
	Duration (days)	S	S	s	S	\$
ama	Course subject	Field survey and methods for identifying problems	Designing irrigation nets	Maintenance of irrigation nets	Preparing extension material	Organizing field day
(3) Hama	o N	-	2	m	4	2

No.	Course subject	Duration	Date	Executing	Location	Number	I.B.
		(days)		part	A	of trainces	S
-	Field survey and methods for identifying problems	5	14-18/ June	Extension division	Agricultural directorate	12	Eng
7	Designing irrigation nets	S	28/ June - 2/ Extension July division	Extension division	Agricultural directorate	12	Eng
6	Maintenance of Irrigation Net	'n	12-16/ July	Extension division	Agricultural directorate	12	Eng
4	Preparing extension material	8	26-30/ July	Extension division	Agricultural directorate	12	Eng
S	Organizing field day	s	16-20/ August	Extension	Agricultural directorate	17	Eng

argeted ategory gineers

gineers gineers

No.	Course subject	Duration (davs)	Date	Executing	Location	Number of trainees
1	SMS Training Course	01	19 - 30 / GCSAR/ GCSAR/ July Extension Douma	GCSAR GCSARV Extension Douma	GCSAR/ Douma	61
7	TOT Training Course	01	0 6-17/Dec GCSARV	GCSAR	GCSAR/ Sabboura	- 21

Activities			
(1) Conduct a baseline numer	continuing the sealth	et to	v / v m

Daraa (2)

Conduct a baseline survey reviewing the problems of irrigation practice in the Target Areas.
 Clarify appropriate water-saving irrigation methods/appliances according to the situation of the Target Areas.
 Prepare guideline and manuals based on the result of the item (1)-1 and (1)-2 mentioned above.
 Select suitable Project Sites in the Target Areas, and establish the demonstration farms selected within the Project Sites as

required,
(1)-5 <Small Scale Pressurized Irrigation>

Small Scale Pressurized (Irrigation)
 Prepare a plan of training activities in accordance with the extension plan of the item (1)-5-4.
 Servise the Technical Manual which were prepared by the Phase I Project according to the situation of the Target Areas.
 Sal Implement the training courses on small pressurized irrigation techniques in collaboration with related agencies.
 Service Prepare the extension plan on the basis of the outcomes of item (1)-1 and (2)-3.

(1)-5-5 Support extension activities to be done by the trained extensionists in line with the extension plan above

(1)-6 <Surface Irrigation>

(1)-6-1 Advance efficient surface irrigation technique and its related technology for water-saving,
(1)-6-2 Prepare a plan of training activities and training tools in accordance with the training plan of the item (1)-5-1 and the extension

plan of the item (1)-6-6.

(1)-6-3 Prepare the technical guideline and materials on surface irrigation technique.

(1)-6-4 Implement the training courses on water- saving surface irrigation techniques in collaboration with related agencies in accordance with the item (1)-6-2.

(1)-6-5 Prepare tools for extension activities in accordance with the extension plan of item (1)-6-6. (1)-6-6 Prepare extension plan on the basis of the outcomes of item (1)-1, (1)-6-1 and (2)-3.

(1)-6-7 Support extension activities to be done by the trained extensionists in line with the extension plan above.

(2)-1 Hold regular meetings on promotion of water-saving irrigation among the related agencies.
(2)-2 Conduct a baseline survey in the districts excluding the concerned districts which were covered by the Phase 1 Project.
(2)-3 Review the current performance of Phase 1 Project including the problems of irrigation practice in the Target Areas.
(2)-4 Establish satellite plots in the districts excluding the concerned districts which were covered by the Phase 1 Project on the basis of the outcomes of item (2)-2 and (2)-3.

(2)-5 Implement the training activities in line with the extension plan of item (2)-6.
(2)-6 Revise the plan of extension for "modern irrigation promotion" prepared during Phase I Project.

(2)-9 Support extension activities to be done by the trained extensionists in line with the extension plan above.

(3)-1 Study on the collaboration with universities and international research organizations in Syria, regarding water-saving irrigation

(3)-2 Hold workshops on water-saving irrigation techniques with universities and international research organizations as far as

holding relation with attainment of the project purpose.

(3)-3 Promote public relations on water-saving irrigation technique on the basis of the outcomes of item (3)-1 and (3)-2.

(3)-4 Accept trainers of the training courses arranged by other organizations.

(3)-4 Accept trainces of the training courses arranged by other organizations.
(3)-5 Participate in the international conference on efficient water-saving irrigation as far as holding relation with attainment of the project purpose

<Japan>

1. Personnel (1) Long-Term Experts: 3

\*Project Leader/Irrigation \*Training

Extension

(2) Short-Term Experts Rural Community
Irrigation Facilities
Farm Management
Others (according to the requirement)

 Equipment
 Laser Leveling Units Equipment for Demonstration Farms and research activities for efficient water-saving irrigation Equipment for measurement Equipment for training and extension activities Vehicles Others (according to the requirement)

3. Local costs 1) Seminar etc.

I) Training in Japan 2) Training in the third countries

<Syria> 1. Personnel Counterpart personnel of the Phase I Project, in general. In addition, new personnel will he added as counterparts from the implementation agencies.

2. Facilities 1) Office space Main Office within the building in ANRR, GCSAR. Local Project Office within the concerned offices in the related Governorates.

2) Equipment Satellite Plots in Rural Damascus, Daras and Hama. for the demonstration activities of the efficient water-saving irrigation.
Telephone line and telephone for each Project Office Necessary furniture in the Project Office.

3) Vehicles Three project cars which were procured by JICA for the implementation of the Phase I

3. Local Costs Available for stationary, supplies and small equipment for project activities (including a part of cost for seminars etc.) (Pre-conditional

Relevant extensionists take part in the project activities

2010
.⊑
conducted
courses
Training
$\ddot{c}$

-	(1) Aleppo / Raqqa				The second second		
S.	Course subject	Duration (days)	Date	Executing part	Location	Number of trainees	Targeted
_	Field survey and methods for identifying problems	2	23-27/ May	GCSAR/ Extension	Agricultural directorate	22	Engineers
12	Designing & Installing irrigation nets	5	13-17 /June	GCSARV Extension	Agricultural directorate	77	Engineers
la l	Preparing extension material	'n	18-22/ July	GCSAR/ Extension	Agricultural directorate	22	Engineers
4	Organizing field day	S	31 /Oct- 4	GCSARV	Agricultural	77	Engineers

7(2	(2) Daraa						
V	Course subject	Duration (days)	Date	Executing	Location	Number of trainoes	Targeted
	Field survey and methods for identifying problems	S	20-24/ June	Extension division	Agricultural directorate	51	Technicians
2	Designing irrigation nets	40	11-15/ July	Extension division	Agricultural directorate	15	Technicians
-	Preparing extension material	5	27/Sep - 1/October	Extension division	Agricultural directorate	15	Technicians
4	Organizing field day	*	31 /Oct -4/	Extension	Agricultural	13	Technicians

(3) Hama

S.	Course subject	Duration	Date	Executing	Cocation	Number	Tarveted
		(days)		part		of trainers	category
	Field survey and methods	5	28/ Feb - 4/	Extension	Human	12	Agr/
	for identifying problems		Mar	division	resource half		engineers
	Designing irrigation nets	5	9-13/ May	Extension	Human	12	Agr/
				division	resource hall		engineers
	Maintenance of irrigation	2	11-15/ July	Extension	Нитап	12	Ver/
	nets			division	resource hall		cugineers
	Preparing extension	5	26-30/ Sep	Extension	Human	12	Agr/
	material			division	resource hall		engineers
	Organizing field day	5	28/ Nov -2/	Extension	Human	12	Agr/
			Dec	division	resource hall		engineers

٤	(+) rual Dallascus						
No.	Course subject	Duration (days)	Date	Executing	Location	Number of trainees	Targeted
	Field survey and methods. for identifying problems	S	23-27/ May	Extension division	Agricultural directorate	14	Engineers
2	Designing irrigation nets	5	6-10/ June	Extension division	Agricultural directorate	14	Engineers
	Maintenance of Irrigation Net	S	20-24/ June	Extension	Agricultural directorate	14	Engineers
	Preparing extension material	2	11-15/ July	Extension	Agricultural directorate	14	Engineers
	Organizing field day	s	1-5/ August	Extension	Agricultural directorate	14	Engineers

(5) Training Course on Improved Surface Irrigation

ģ	Course subject	Duration (days)	Date	Executing	Location	Number of trainees	Number Targeted category of trainees
-	Improved Surface	'n	27 / June - 1 / July	GCSARV	Raqqa Agricultural directorate	89	Water extensionists in Aleppo & Raqqa

(6) Follow up Training Course

a) Method of use of water measuring kit, irrigation calendar, irrigation notebook (one day course)

	Ę.	Jo	jo	Jo
k. J.	B.M. F	MSs	MSs	MSs
	SE 3	S pu	Spur	Spur
	5	in it	ınit a	mit a
gory	extension on units	xtension u	xtension L	extension t
Targeted category	model	o lobou	nodel e	podel e
Targe	ding	the	the	the
	TOUR	Jo .	0	٥
	Water extensionist of the model extension unit and water extensionists of surrounding extension units	Water extensionist of the model extension unit and SMSs of support units	Water extensionist of the model extension unit and SMSs of support units	Water extensionist of the model extension unit and SMSs of
	Water extension	Water extensi	Water extens	Water extens
Number of trainers	5	4	9	Ф
Location	Aleppo	Daraa	Ilama	Rural Damascus
Date	7/ June	21/ June	30/ June	6/ July
No.	_	2	m	4

b) Training on video editing for producing extension materials

_		
i argeico caregory	Water extensionists and SMSs who interested in video editing techniques during past extension activities, and staffs of DMIC of Darsa, Hama and Rural Damascus	governorates
Number of trainees	91	
Date	9-11,	MOVERNOCE
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## MINUTES OF MEETING ON

## THE STEERING COMMITTEE FOR

## THE TERMINAL EVALUATION ON

## THE PROJECT ON DEVELOPMENT OF EFFICIENT IRRIGATION TECHNIQUES AND EXTENSION PHASE II IN SYRIA

(hereinafter referred to as "JICA") conducted Terminal Evaluation on the Project on Development of The Japanese Terminal Evaluation Team, organized by Japan International Cooperation Agency Efficient Irrigation Techniques and Extension Phase II (hereinafter referred to as "the Project") jointly with the personnel concerned of Syrian Arab Republic (hereinafter referred to as "Syria") from February 29th to March 19th, 2012.

and 4 members from Syria, jointly worked for the Terminal Evaluation and preparation of necessary The Joint Evaluation Team (hereinafter referred to as "the Team"), which consists of 4 members of JICA recommendations to the respective governments.

prepared the Join Terminal Evaluation Report (hereinafter referred to as "the Report"), which was After intensive study, analysis, discussions of the activities and achievements of the Project, the Team presented to the Steering Committee for the Project (hereinafter referred to as "the Committee"). The Committee discussed the major issues pointed out in the Report, and agreed to recommend to the respective governments the matters hereto. Amman, Damascus and Tokyo,

March 19, 2012

Acting Chief Representative,

International Japan

Cooperation AgencySyria Office

Dr. Mohammad Naif Al Salty

Director General,

General Commission for Scientific Agricultural Research

Ministry of Agriculture and Agrarian Reform

Main points of discussion agreed at the Committee

- . The Team presented the Report to the Committee.
- The Committee accepted the Report and took notes of the recommendations by the Team.
- 3. The Committee confirmed the significance of the continuous activities of Syrian C/P Team after the project ends that includes a series of the meetings to be held by parties concerned of Syria based on the fruit of the project and the support of JICA Syria Office to it.
- Syria committee members emphasized the following points and Japanese committee members agreed to them as the subjects to be considered in the future.
- 1) Emphasizing on the development of Syrian rural community with a focus on modern irrigation techniques

2) Forming a nationally integrated training team in many fields including extension and technical studies.

- Emphasizing on training for women on the management of modern irrigation techniques
- 4) Organizing advanced training activities to follow up the updated imigation technology and science.
- 5) Organizing awareness campaigns on forming water users associations and disseminating this type of organizations nationwide through training and extension activities for the targeted communities.

coordinator, the counterparts, Japanese experts who made great efforts in executing the matrix of the project properly. The committee extends its appreciation to JICA Syria office and JICA headquarters for The committee highly appreciates the efforts of the leader of Japanese expert team, the Syrian their efforts in supporting the cooperation between Syria and Japan.

Attachment:

Dioint Terminal Evaluation Report

2) Participants list

## JOINT TERMINAL EVALUATION REPORT

OF THE PROJECT ON DEVELOPMENT OF EFFICIENT IRRIGATION TECHNIQUES AND EXTENSION PHASE II (DEITEXII) IN SYRIA

Tokyo and Damascus, March 19th, 2012

Mr. Masayuki Takahashi

Leader,

Japanese Terminal Evaluation Team,

Japan International Cooperation

Agency, Japan

M-N-ALSalli Dr. Mohammad Naif Al Salty

Syrian Terminal Evaluation Team, Leader,

Ministry of Agriculture and Agrarian

Syrian Arab Republic

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### Introduction

## 1-1 Objectives of Terminal Evaluation

- To review the performance and achievements of the Project comparing to its plan especially shown after the Mid-term Review in December, 2010.
- (2) To discuss on necessary actions to be taken in the remaining period and after the Project is over and to exchange opinions with the Syrian authorities concerned through Video Conference.
- (3) To make necessary comments and advice on the future plan of activities based on the results of the review taking the current situation in Syria into the consideration.
- (4) To formulate a Joint Evaluation Report with Syrian authorities concerned based on the result of the items above, and participate in Steering Committee in order to present and discuss the result of evaluation through Video Conference and to exchange the Minutes of Meeting.

## 1-2 Member of Joint Terminal Evaluation Team

## 1-2-1 Japanese Terminal Evaluation Team

No.	Field	Name	Present Occupation
		Man Man St.	Director, Field Crop Based Farming Division 2, Rural
4	Leader	IMI. Masayuki Takanasni	Development Department, JICA
c	Irrigation	D. Uldamki Vanana	Senior Advisor (Operation and Management of Irrigation
4	Agriculture	Dr. mideyuki Kanamon	Systems), IICA
,	Evaluation and		to I and many M. 9. A made and
2	Analysis	Dr. 10sillino rashiwacaki	Dr. Toshiffilo Kashiwazak.   Consultant, A.o. Ivi Consultant Co., Liu.
,	Cooperation	Mr. William A conference	Program Officer, Field Crop Based Farming Division 2,
4	Planning	MS. IUKa Asakawa	Rural Development Department, JICA

## 1-2-2 Syrian Terminal Evaluation Team

2	Lield	Nome	Discent Occupation
9		OWNER	TOTAL COOK
		5. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	Director General, General Commission for Scientific
_	1 Leader	Dr. Monammad Nair Ai	Agricultural Research (GCSAR), Ministry of Agriculture
		Sairy	and Agrarian Reform (MAAR)
2	Теат Метрег	2 Team Member Dr. Awadis Arslan	Deputy Director General, GCSAR, MAAR
	2	NAC WEIGHT AT A LETTER	Deputy Director, National Agricultural Policy Center
2	Leam Member	3 Ieam Member Mir. Haumam Al-Asnkar	(NAPC), MAAR
	T	O. Booker Bankin	Head of Rural Engineering Division, Damascus
4	leam Member	4 Learn Member   Dr. Bachar Loranini	University

## 1-3 Schedule of Terminal Evaluation

The Terminal Evaluation was conducted under the condition in which entrance of foreigners into Syria is restricted because of the deterioration of the security situation in Syria. Therefore, Japanese Evaluation

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Team was not dispatched to Syria but worked in Japan. Joint Evaluation Team started working for this Terminal Evaluation during the last week of February and the Terminal Evaluation was concluded at the Steering Committee held on the 19<sup>th</sup> of March, 2012. Meetings held during the Terminal Evaluation are as follows:

- February 29<sup>th</sup>, 2012 The pre-1<sup>4t</sup> meeting (a video conference)
- 2) March 6<sup>th</sup>, 2012 The 1<sup>st</sup> Joint Evaluation Committee (a video conference)
- 3) March 14th, 2012 The 2nd Joint Evaluation Committee (a video conference)
- 4) March 19th, 2012 Steering Committee (a video conference)

## 1-4 Methodology of Terminal Evaluation

### 14-1 Method of evaluation

The Project was evaluated jointly by the Syrian and Japanese Terminal Evaluation Teams (hereinafter referred to as "the Team") based on materials showing the framework of the Project such as the Project Design Matrix (PDM) and the Record of Discussion (RD). The evaluation activities were composed of the analysis on reports and the collection of information by interviews with counter personnel of the Project and JICA experts and questionnaire distributed to counter personnel.

As for the criteria of the Terminal Evaluation, the following Five Evaluation Criteria was applied.

## 1-4-2 Evaluation Criteria (Five Evaluation Criteria)

### Relevance

Relevance refers to the validity of the Project Purpose and the Overall Goal in connection with the development policy of the Government of Syria as well as the needs of beneficiaries.

### (2) Effectiveness

Effectiveness refers to the extent to which the expected benefits of the Project have been achieved as planned. It also examines whether these benefits have been brought about as a result of the Project.

### Efficiency

Efficiency refers to the productivity of the implementation process. It examines whether the inputs of the Project have been efficiently converted into outputs.

### Impact

Impact refers to direct and indirect, positive and negative impacts caused by the implementation of the Project, including the extent to which the overall goal has been attained.

### (5) Sustainability

Sustainability refers to the extent to which the Project can be further developed by the Government of Syria, and the extent to which the benefits generated by the Project can be sustained under national policies, technology, systems and financial state.

- Outline of the Project
- 2-1 Background of the Project

than 90% of the total water use in Syria, hindering to provide water resource to other sectors such as Agriculture is one of the important economic sectors in Syria which provides nearly 25% of gross domestic Rainfed agriculture is still prevailing in Syria, which covers more than 75% of the total cultivated area but irrigated agriculture is regarded more preferable in terms of the crop production, because of the uncertainty and the fluctuation of rainfed agriculture production. However, irrigated agriculture consumes water more Therefore, the necessity and importance of water saving irrigation has product (GDP). Agriculture is also important for Syria as a source of employment and export earnings. been emphasized. The 10th Five Year National Development Plan (2006-2010) is one of the simplest industry and domestic water use. examples showing such policy.

trigation Techniques and Extension was implemented as a Technical Cooperation Project of JICA from Based on the request of the Government of Syrian Arab Republic, the Project on Development of Efficient March 2005 for three years in order to accelerate the shift from the conventional water-consuming migation to the modern water-saving irrigation. The project (phase 1)attained its project purpose with certain amount of reduction of water use with the Perminal Evaluation Study Team for this project suggested that the process accomplished by the efforts of the staff contributed to establishing simple but essential model of changing farmers' awareness of water saving in Syria, and pointed out that the expansion of the activities to other districts in Rural Damascus, ame level of crop yield in the project sites in Rural Damascus, Daraa and Hama governorates. Daraa and Hama governorates, furthermore, to other governorates are to be accomplished.

cooperating with international research organizations. Syrian and Japanese sides agreed and signed on To address these issues, the Government of the Syrian Arab Republic requested Japan another technical cooperation project in order that proper amount of irrigation water is used through expanding the outcome of phase 1 project to the remaining areas in Rural Damascus, Daraa, and Hama governorates and new target area which is the governorates of Aleppo and Raqqa, improving surface irrigation techniques and R/D of the project implementation of the phase 2 project and the Project started in December 2008.

### 2-2 Summary of the Project

Project Design Matrix for the Project was modified (version 3) in December 2010. Project summary described in PDM version 3 is as follows; (For more details, see Annex 1).

### (1) Overall Goal

Proper amount of irrigation water is used by means of adopting efficient water-saving irrigation in the Target Areas. And, awareness of efficient water-saving irrigation is expanded to other areas in Syria

The capability of extensionists and staff of related agencies on extension of water-saving irrigation are improved, and proper amount of irrigation water is used for each crop in the Project Sites.

### Outputs

- Proper water-saving irrigation technique is devised, and the new water-saving irrigation training and extension system for the dissernination of the water-saving irrigation technique technique is disseminated in the Project Sites in Aleppo and Raqqa Governorates. is established for the other areas in Aleppo and Raqqa Governorates Output 1:
- The appropriate utilization of small scale pressurized imgation is disseminated widely in Rural Damascus, Hama and Dara Governorates. Output 2:
- Measures to improve and operate water-saving irrigation techniques are extended to the rest of Syria and to neighboring countries, through the cooperation with universities and international research organizations in Syria. Output 3:

- Clarify appropriate water-saving irrigation methods/appliances according to the situation of the (1)-1 Conduct a baseline survey reviewing the problems of irrigation practice in the Target Areas.
- (1)-3
- Prepare guideline and manuals based on the result of the item (1)-1 and (1)-2 mentioned above. Select suitable Project Sites in the Target Areas, and establish the demonstration farms selected
  - within the Project Sites as required.
- <Small Scale Pressurized Irrigation >
- (1)-5-2 Revise the Technical Manual which were prepared by the Phase I Project according to the situation (1)-5-1 Prepare a plan of training activities in accordance with the extension plan of the item (1)-5-4.
  - (1)-5-3 Implement the training courses on small pressurized irrigation techniques in collaboration with of the Target Areas.
    - related agencies.
- (1)-5-4 Prepare the extension plan on the basis of the outcomes of item (1)-1 and (2)-3. (1)-5-5 Support extension activities to be done by the trained extensionists in line with the extension plan
- (1)-6 <Surface Irrigation>
- (1)-6-1 Advance efficient surface irrigation technique and its related technology for water-saving. (1)-6-2 Prepare a plan of training activities and training tools in accordance with the training plan of the
  - (1)-6-3 Prepare the technical guideline and materials on surface irrigation technique. item (1)-5-1 and the extension plan of the item (1)-6-6.
- (1)-6-4 Implement the training courses on water- saving surface irrigation techniques in collaboration with related agencies in accordance with the item (1)-6-2.
  - 6-5 Prepare tools for extension activities in accordance with the extension plan of item (1)-6-5.
- (1)-6-7 Support extension activities to be done by the trained extensionists in line with the extension plan (1)-6-6 Prepare extension plan on the basis of the outcomes of item (1)-1, (1)-6-1 and (2)-3.
- (2)-1 Hold regular meetings on promotion of water-saving irrigation among the related agencies.
- (2)-3 Review the current performance of Phase I Project including the problems of irrigation practice in the

(2)-2 Conduct a baseline survey in the districts excluding the concerned districts which were covered by the

- (2)-4 Establish satellite plots in the districts excluding the concerned districts which were covered by the Target Areas.

Phase 1 Project on the basis of the outcomes of item (2)-2 and (2)-3.

- (2)-5 Implement the training activities in line with the extension plan of item (2)-6. (2)-6 Revise the plan of extension for "modern irrigation promotion" prepared during Phase I Project. (2)-7 Improve extension tools and methods.
- (2)-8 Support extension activities to be done by the trained extensionists in line with the extension plan
  - - (3)-1 Study on the collaboration with universities and international research organizations in Syria, regarding water-saving irrigation techniques.
- (3)-2 Hold workshops on water-saving irrigation techniques with universities and international research
- organizations as far as holding relation with attainment of the project purpose.

  (3)-3 Promote public relations on water-saving irrigation technique on the basis of the outcomes of item (3)-1 and (3)-2.
- (3)-4 Accept trainees of the training courses arranged by other organizations.
- (3)-5 Participate in the international conference on efficient water-saving irrigation as far as holding relation with attainment of the project purpose.
- Achievement of the Project
- 3-1 Inputs
- 3-1-1 Japanese side
- (1) Dispatch of JICA experts

IICA experts were dispatched to the project site in the following fields: 1) Leader/ Irrigation, 2) Training/ Sub-leader, 3) Extension, 4) Socio-economy/ Farmers Organization, 5) Irrigation System Designing, and 6) Farming Management/ Coordinator. For details, see Annex 2.

## (2) Training in Japan and third countries

By the time of the Terminal Evaluation, 19 counterparts participated in the training in Japan and 15 counterparts participated in the technical exchange or an international conference in third countries (Tunisia Egypt and Iran). For details, see Annex 3.

### Provision of equipment

Equipments such as pick up tracks, 4WD vehicles, copy machines, fax machines, irrigation equipment for demonstration farms, laser leveling equipment and other office equipment have been provided for the to 287 thousand US dollars. For details, see Annex 4. All the equipment are maintained in good conditions project activities. The cost for the procurement of all the equipment is 15 million yen, which is equivalent and frequently utilized although the laser leveling equipment has not been used regularly.

## (4) Local cost allocated by Japanese side

The local cost allocated by JICA for the implementation of the project activities is 94.0 million yen as of March 2012. For details, see Annex 5.

3-1-2 Syrian side

(1) Assignment of Syrian counterparts

Governorate, 6 persons from Rural Damascus Governorate, 8 persons from Daraa Governorate, 8 persons Currently, 56 counterparts are assigned (20 persons of central level organizations, 6 persons from Hama from Aleppo Governorate, and 8 persons from Raqqa Governorate). For details, see Annex 6.

## (2) Project operation cost allocated by Syrian side

The amount of budget allocated by Syrian side is 2,770,000 Syrian Pound at the time of Terminal Evaluation. For details, see Annex 7.

### Provision of equipment

one unit was replaced with a new vehicle as it was heavily damaged during the Project. A total of 5 units of 4WD vehicle and 5 units of pick-up truck were supplied from the Government of Syria. For details, see A total of 9 units of 4WD vehicle were provided from the Syrian side during the phase 1 project, of which Аппех 8.

## 3-2 Measures taken after the Mid-term Review

The following 5 recommendations (in a frame) were proposed through the Mid-term Review, of which the first three (1-3) were for the project team while the last two (4 and 5) for the Syrian side. countermeasures and actions taken were described after the respective recommendations (1) It is necessary to strengthen training on communication skills as a subject in the curriculum of the training course for water extensionist in order that trained water extensionits can deliver knowledge and skills more effectively to farmers. In this regard, it is necessary to consider farmer's mentality that differs by regions or areas. (for the project team)

Follow-up trainings were planned in order to strengthen the communication skills of the trained extensionists. The project team reckoned that the supply of practical information to farmers utilizing tools such as video must be effective for the better communication between the extensionists and farmers. Accordingly "Training on video editing for producing extension materials" was planned and implemented in a short time, however, were poor at the selection of the appropriate scenes and the creation of the scenario, which are essential for the extension activities attracting farmers' interests. This revealed that the poor communication between the extensionists and farmers resulted not from their poor narrative and bad talking attitude but the facts that the composition of the extension was not based on the farmers' view and that the information supplied was inconsistent. Accordingly, the project team imposed the participants to in November 2011. The 16 extensionists and SMSs participated and mastered the video editing techniques make a video after the training and held a competition in order to improve their ability. (2) In order to disseminate the outcomes of the Project to other governorates in Syria, it is necessary to conduct a seminar/workshop by inviting persons concerned in these areas in collaboration with regional universities and research organizations. (for the project team)

The Project has been making efforts to spread the project outcomes to the areas outside the project target ueas after the Mid-term Review. The trainings were held collaborating with the other donor projects such

as "Rural Development in the Northeastern Syria" Project (by IFAD) and "Rational Utilization of Resources" Project (by Italia). In addition the Project invited the related staff from the other governorates than the target five to the annual DEITEX seminars.

(3) In order to deliver the outcomes of the Project to neighboring countries, it is necessary to arrange participation to the third country training courses which conducted by ICARDA commissioned by JICA, etc., and make presentation on the project activities and outputs. (for the project team)

"JICA-ICARDA Water Sector Technical Training Aiming at Agricultural Water Productivity" was held in May 2011 and the CPs participated as instructor on planning and designing techniques of the modern irrigation system and also presented the introduction of the Project. A field observation of the project demonstration farm was carried out as well. In addition the CPs and experts participated in the 21<sup>st</sup> ICID (International Congress on the Lirgation and Draining) in October 2011 in order to present the outcomes of the Project, which provided a good opportunity to exchange with the researchers and experts of the field and became a very effective activity for public relations of the Project.

(4) There is very good collaborative relationship among organizations involved in the project activities at present. It is necessary to create certain coordination mechanism within the Ministry of Agriculture and Agrarian Reform in order to keep this situation and accelerate dissemination of water-saving irrigation techniques to other governorates in Syria after the completion of the Project. (for the Syrian side)

The relationships between the related organizations have been still close but any effort towards the establishment of "the coordination mechanism" hasn't been observed. However, after the foundation of a group-irrigation in Ame District by the Project, the Ministry of Irrigation has inaugurated several group-irrigation projects in collaboration with MARR and appears to be more cooperative than before. At the governorate level, the qualified water extensionists founded a council of their own for the purpose of mutual cooperation and combination. This could work as a coordinating institution and is a part of "the coordination mechanism" aiming at the promotion of water-saving irrigation.

(5) The project target areas are 5 governorates (Aleppo, Daraa, Hama, Raqqa and Rural Damascus). In order to disseminate the outcomes of the Project to other governorates in Syria and ensure sustainability of training structure and function of the Project, it is necessary to form a national training team to prepare training plan for water extensionist, extension plan for water-saving irrigation techniques, and budgetary plan for implementing these plans, (for the Syrian side)

"The National Training Team" hasn't been established yet. Nevertheless the CPs and the related organizations are highly motivated for the foundation of the team. Thus, it is considered to be effective to boost their efforts by the Project.

### 3-3 Outputs

3-3-1 Output 1: Proper water-saving irrigation technique is devised, and the new water-saving irrigation technique is disseminated in the Project Sites in Aleppo and Raqqa Governorates. And, the training and

extension system for the dissemination of the water-saving irrigation technique is established for the other areas in Aleppo and Raqqa Governorates.

The achievement levels of the following 4 indicators are more than expected in the most cases and it is expected that all the indicators for Output 1 will be achieved by the end of the Project as the activities progress further.

Indicator (1)-1: Amount of irrigation water used for each crop in the Demonstration Farms in Aleppo and Ragga Governorates are reduced by 10–15%.

A demonstration farm was established in each project site in Aleppo and Raqqa Governorates. The following table shows the location, land area, irrigation methods, main crops, and water source of the demonstration farms.

Governorate	Site	Area	Irrigation method introduced	Main crops	Water
	пате (а)				source
Aleppo	Jine	7 ha	7 ha Movable type sprinkler, drip tube,	Wheat,	Well
			improved surface irrigation (with gated	cotton and	(ground
			pipe) (previous irrigation method was	sugar beet	water)
-			surface imgation)		
Raqqa	Sukkarie	11 ha	Movable type sprinkler, drip tube,	Wheat,	Well
			improved surface irrigation (with gated	cotton and	(ground
			pipe) (previous irrigation method was	sugar beet	water)
	1		surface irrigation)		

(a) Name of extension unit

The following table shows the amount of the irrigation water used for each crop on the demonstration farms in 2010 (data measured by the Project). The reduction rates of irrigated water were calculated against the amount of irrigated water obtained through the baseline survey conducted in 2009 by the Project.

Sovemoral Sections	Crop & irrigation	Area (ha)	imgated water (m <sup>3</sup> /ha)	Amount of irrigated water (m²/ha) monitore	int of i water nonitored	Reduct	Reduction rate	Ŗ <u></u>	Yield kg/ha)
Unit	355		Baseline (a)	2010-	2011	2010.	2011	2010	2011
Jine (Aleppo)	Sugar beet (Sprinkler)	2.0	10,960	7,805	8,640	28.8%	21.2%	1	9,200
	Cotton (Gated pipe)	1.0	15 675	8,670	7,035	44.5%	55.0%	4,100	N.A.
	Cotton Orio)	1.0	7,040	7,800	7,035	50.1%	25.0%	4,800	N.A.
Sukkarie (Radda)	Cotton (Gated pipe)	0.64	15625	9,917	12,430	36.5%	20.4%	3,620	5,300
	Cotton (Drip)	8.0	20,01	8,188	13,000	47.6%	16.8%	3,810	5,500

Remarks:

(a) Detailed through the baseline survey (2009) by interviewing farmers in the selected extension units including the unit where the demonstration farms are located. This survey was conducted in 2 extension units in the both Governmentes.

A.: not available

Water-saving irrigation was commenced in 2010 on the demonstration farms introducing a variety of irrigation methods (gateg pipe, sprinkler, and drip tube, etc.). The reduction rates of irrigation water used

for sugar beet and cotton recorded to 28.8–50.1% in 2010 and 16.8–55 % in 2011, which demonstrated that the rate of water saving was more than the targeted reduction rates (10–15%). The project team analyzed that farmers' positive engagement in the activities on the demonstration farms might result in these high reduction rates. The reduction rates in Raqqa in 2011 became much lower those in 2010, however, they were still higher than the indicator rates. The reason for the lessened reduction rates was that the farmers made so much efforts to reduce the irrigation water in 2010 that the reduction rates were high but it also caused reduced yields (though still better than the average). Therefore, in the year of 2011, the farmers increased the water consumption to the guideline levels set by the Project and consequently the reduction rates became lower.

For the yield of cotton on the demonstration farms, 4.1 tons/ha with gated pipe and 4.8 tons/ha with drip tube were recorded in Aleppo in 2010 (4.5 tons/ha on average) while 5.3 tons/ha with gated pipe and 5.5 tons/ha with drip tube were recorded in Raqqa in 2011 (5.4 tons/ha on average). Although it is not easy to compare "Defore and after" in the basis of production yield, the project team indicated that the yields of cotton on the demonstration farms were 50% higher than the average yield of the neighboring farmers in 2010 despite the general tendency of yield reduction due to the unusual high temperatures in the summer of that year.

Indicator (1)-2: The number of farmers adopting water-saving irrigation technique in the Project Sites in Aleppo and Raqqa Governorates increased by 80–100%.

Project Sites: Areas in charge of the extension unit where the demonstration farm is established)

The official statistical information on the number of irrigation farmers with or without modern irrigation system is not available. Therefore, the data on the irrigated areas with or without modern irrigation system were used instead of the number of farmers in order to compare the situations before and after the project commencement and estimate the impact of the Project on expansion of water-saving irrigation techniques.

The following table shows the data collected by the project team in 2009 (this data represent the situation in 2008) and the data of the impact survey conducted in October 2010 (sample survey).

Total irrigate d area	are wate	Survey by the project team (data on 2008) tumber of Total Irrigated Rat irrigated irrigate area with amers in d area water-savin the girrigation system	Ratio	Number of surveyed irrigated farmers	act survey ( Total irrigated area	Impact survey (October 2010)  T Total Irrigated area with area with area with area irrigation system	Rati
(ha)		(ha)	(%)	(houschol	(ha)	(ha)	
941		159	16.9	30	252	93	
1.910		15	80	31	557	77	13.8

σ

Extensio	74.			_
n Unit				
Area in			44.0	_
Raqqa				

According to the results of the impact survey in October 2010, the ratios of the irrigated area with water-saving irrigation system in the Project Sites changed from 16.9% to 36.9% (217% increase) in the project site in Aleppo and from 0.8% to 13.8% (1,725% increase) in Raqqa, where the increase ratio was quite high resulting from the fact that the area with water-saving irrigation before the project commencement was very small (only 15 ha).

Another impact survey had been planned to be conducted before the terminal evaluation. However, it was impossible to carry out the survey due to the deterioration of the security situation in Syria. Accordingly, the current irrigated areas with water-saving irrigation system is not clear but it was recognized at the time of Mid-term review that the areas had already expanded much more than expected through the project activities, and it can be presumed that they have been expanding further more since then. The C/Ps reported through a questionnaire survey that the conditions have certainly been improved since the Mid-term Review.

Indicator (1)-3: The frequency of regular extension activities implemented by the trained extensionists in Aleppo and Raqqa Governorates is more than 10 times a year.

The following table shows the frequency of extension activities on water-saving irrigation implemented by the trained water extensionists in Aleppo and Raqqa Governorates. The training on water extensionists commenced in May 2009 for Aleppo and Raqqa Governorates, and subsequently, their activities as trained extensionist started in 2010.

Governorate		Number of extensic	tension activities b	y wa	iter extensionists (WE)	
	20	2009	20	2010	2011	1
	No. of WE	Activities	No. of WE	Activities	No. of WE	Activities
Aleppo	0	0	8	63	17	17 +α
Raqqa	0	0	6	5	17	17 +α

The numbers of extension activities in 2010 were 65 and 5 times in Aleppo and Raqqa Governorates respectively while over 17 times in 2011 for the both governorates, which are well over than the indicator. This is considered to result from the increase in the numbers of the qualified water extensionists in the both governorates. These numbers in 2011 only represent the ones confirmed by the Project (at least once by each extensionist) and more are thought to have conducted.

Indicator (1)-4: Quality of extension activities by the trained extensionists is at a suitable level.

The extension activities had been conducted under rather poor planning without monitoring and evaluation.

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The Project proposed an "implementation cycle for extension activities", which includes the preparation of an implementation plan and a post fact meeting for evaluation, and has promoted its establishment in order to improve the quality of extension activities.

At the present the post fact meeting was introduced and evaluation reports are drawn up after the completion of respective extension activities. The project team is expected to conduct a survey by interviewing farmers on their performances in order to monitor the quality of the extension services.

Manuals and tools for Water-saving Irrigation Other outcomes:

revision reflecting some instructive lessons obtained through the project activities and adopting the The methods and techniques on improved surface irrigation currently under experiment will be added in the study report on extension activities are also under preparation and will be available by the end of the A guideline/manual for water-saving irrigation was produced during the phase 1 project and has been under opinions of the Syrian counterparts and researchers of the cooperative external research organizations. guideline/manual as well. In addition, the manuals on extension and training, extension tools, and a case

Among a number of extension tools the CPs of the governorates found that the irrigation calendar and records appeared especially effective on water-saving irrigation, which indicates the management skills and chemes are very important elements for the irrigation farmers. 3-3-2 Output 2: The appropriate utilization of small-scale pressurized irrigation is disseminated widely in Rural Damascus, Hama and Daraa Governorates The achievement levels of the following 3 indicators are more than expected in the most cases and it is anticipated that all the indicators for Output 2 will be achieved at very satisfactory levels by the end of the Project as the activities progress furthe Indicator (2)-1: The difficulties after the phase 1 Project are clarified and the countermeasures established (more than 5 cases).

surveyed and the following 11 issues identified by the project team. Five issues were on training and 6 At the beginning of the Project, difficulties or issues raised after the completion of the phase I project were issues on extension. The followings are the identified 11 issues. The current conditions were scored by the experts and C/Ps, which are shown in the following table.

Se ex by experts The duration of the trainings is different according to the Issues identified Ξ Training Area

Score

Score

		T								,			
+	4	4	3	4		4			,	4		4	3
0	ĸ	5	S	A	r	۳	,	4		7	-	5	5
It is necessary to become independent of the project.	It is necessary to revise a part of the training curriculum and	It is necessary to utilize WEs and SMSs more effectively.	Follow up trainings for the WEs and SMSs are necessary.	It is necessary to study the effectiveness of the farmers' competition	events.	Competition events for the person in-charge of extension are	necessary.	It is necessary for WE to identify the needs of irrigated farmers	further.	It is important to monitor the behavioral change of the	extension-targeted farmers.	10 It is necessary to promote farmer-to-farmer extension mechanisms.	11 Economic aspects of farming should be considered deeper.
7	3	4	'n	9		1		∞		6		10	Ξ
				Extension									

WE: water extensionist

Scores: 1. Worsen, 2. Same as before, 3. Slightly better, 4. Improved, 5. Solved

The countermeasures by the Project for the above issues were summarized through the Mid-term Review (please refer to the Mid-term Review report for the details) and the conditions have mostly been improved, which clearly satisfies the indicator. Indicator (2)-2: Number of irrigation farmers in the Project Sites adapting modern irrigation technique increases by 30-40% The following table shows the proportions of irrigation farmers with modern irrigation (small-scale pressurized irrigation system) among irrigated farmers in the project sites (model extension units). The data are the same as those presented for the Mid-term Review as an impact survey could not be carried out before the terminal evaluation due to deterioration of the security situation in Syria.

		Collecte	Collected data by the Project	ect	Data of	Data of the Impact survey in	y in	Tagraga
		S)	(Survey in 2009)		October 20	October 2010 < sample survey >	vey>	Illerease
Govеmora te	rroject site (extension unit)	Total number o irrigated farmers	Number of irrigated farmers with modern irrigation	(%)	Total number of irrigated farmers	Number of irrigated farmers with modern irrigation	(%)	(%)
Daraa	Nawa	1,043	557	53.4	44	38	86.4	61.2
Ната	Halfaya	720	399	55.3	21	14	66.7	20.6
Rural	B.Saber	410	185	45.1	31	20	64.5	43.0

3 extension units therefore these units were excluded for evaluation.

1) Surgaya extension unit in Rural Damascus (96.9%), 2) Daek extension unit in Daraa (100%), and 3) Majdal extension unit in Hama (82.2%). Remarks: The proportions of irrigated farmers with modern irrigation were more than 80% in the following

Ame extension unit is also excluded for evaluation as only the capacity development of irrigated farmers is targeted as project activity in the unit and consequently, a very few extension activities has been carried out for the other farmers. The increase rates of Nawa extension unit in Daraa and Bait Saber extension unit in Rural Damascus are are supposed to reach the indicator level by the end of the Project, which should be confirmed by the more than the indicator but not in Halfaya unit in Hama. However, the presented data were as of 2010 and

project team when it becomes feasible. Although the data in 2011 are not available, the CPs reported through a questionnaire survey that the conditions have certainly been improved since the Mid-term Review and that the number of farmers who practices introduced modern irrigation remarkably increased and the most of them have benefited from the water-saving irrigation by saving not only irrigation water but also fertilizer, diesel oil and even their working time.

Indicator (2)-3: The frequency of regular extension activities implemented by the concerned organizations in Rural Damascus, Hama and Daraa Governorates increases by 25%.

The following table shows the number of extension activities related with water-saving irrigation at Daraa, Hama and Rural Damascus Governorates in 2008, 2009 and 2010. The data are the same as those presented for the Mid-term Review (the reason is the same as above).

Governorate	2008	2009	(2009/2008)	2010	(2010/2008)
araa	16	36	125.0%	36	125.0%
ата	25	107	328.0%	133	432.0%
ural Damascus	28	29	3.6%	39	39.3%

nemark:

1) The number of extension activities in 2010 is the data collected from January to October.

2) The water extensionists trained during the phase 1 project have conducted extension activities on water-saving irrigation under their own initiatives while other extensionists have also conducted extension services. The above data includes the number of activities by both water and non-water extensionists.

The increase rates of extension activities in the 3 governorates are more than 25% (based on the data in 2008 and 2010) and considered to be at satisfactory levels for assessing Output 2. Regarding the increase of the number of water extensionists since 2010, 9, 8 and 5 extensionists completed the 4-step training course by the Project in Rural Damascus, Daraa and Hama respectively in 2011. Accordingly, the increase rates in 2011/2008 are expected to become higher than those in 2010/1008. The C/Ps reported through a questionnaire survey that the conditions have certainly been improved since the Mid-term Review.

3-3-3 Output 3: Measures to improve and operate water-saving irrigation techniques are extended to the rest of Syria and to neighboring countries through the cooperation with universities and international research organizations in Syria.

Cooperation activities with the universities in Syria and international research organizations have increased steadily. Activities for disseminating outcomes on water-saving irrigation techniques to the other areas in Syria have been delayed due to the deterioration of the security situation in Syria.

Indicator (3)-1: Cooperated activities on dissemination of measures to improve and operate water-saving irrigation techniques are increased.

The following cooperation activities on improvement and utilization of water-saving irrigation techniques have been under operation in collaboration with the universities and international research organizations.

- Promoting cooperation activities through the experimental and research activities of the Project (8 cases, confirmed through the Mid-term Review)
- Obtaining suggestions and advices on development and extension of the extension tools for water-saving irrigation (confirmed through the Mid-term Review)
- 3) Supporting and co-hosting the training course implemented by ICARDA
- 4) Establishing the bases of cooperation with the neighboring countries by participating in the 21<sup>st</sup> International Congress on Irrigation and Drainage organized by International Commission on Irrigation and Drainage (ICID) held in October, 2011 at Tehran and presenting the outcomes of the Project.

The attempt by the Project for cooperation has been conducted through a variety of means, which also contributes to establish good relationships between the persons concerned. The positive effects and the outcomes are expected to come up in due course and the concerned personnel should make efforts to continue those relationships whenever possible.

## 3-4 Achievement of the Project Purpose

Project Purpose: The capability of extensionists and staff of related agencies on extension of water-saving irrigation are improved, and proper amount of irrigation water is used for each crop in the Project Sites.

It is expected that the Project Purpose will be achieved at satisfactory levels by the time of completion of the Project.

Indicator 1) The usage of irrigated water for the crops in the Project Sites is reduced by the Project (10-20%).

The following table shows the amount of irrigation water used per ha by crop in the respective governorates. The data are obtained through the baseline survey (2009) and the impact survey (October 2010), the same data presented for the Mid-term Review. The planned impact survey was not carried out due to the deterioration of the security situation in Syria since the beginning of the year 2011.

,		Ашо	Amount of imgation water	gation	Amount of	Amount of irrigation water (Impact survey)	water (Impa	act sur	rvey)
Governorate	Crop	(B <sub>2</sub>	(Baselinc survey)	vcy)	Tra	rigation	Modern imgation (Dr., Sp.)	Sp.)	ion (Dr.,
		m³/ha	Irrigation Number of m	Number of Sample	Эла	Number Reduction m <sup>3</sup> /ha Sample Sample S	Nur m³/ha c	Number of Sample	Number Reduction of rate %
Aleppo	Sugar Beet .10,960	.10,960	Ή	9	t	1	3,585	20	1
	Cotton	15.625	Tr.	4	12,800 i	18.1	18.1 7.530	15	50.9
		996'9	Mix	S	í	ŀ	3.371	12	l
Daraa	Tomato.	10,094	Dr.	10	ľ	1	5,027	45	50.2
	Watermelon 7.500	7.500		10	1	1	4,553	7.	39.3
	Grape	11,446	Mix.	10	1	1	7,921	25	30.8
Ната	Cotton	14,400	Mix	10	24,000 1	1	į		1
	Potato	12,600	Mix	5	1	1	8,247	16	34.5
	Cucumber	8.725	Sp.	S	1	ı	8,952	1	-2.6

Radga	Cotton		Tr.	13	14,702	18	5.9	17,817	3	20.0
	Sugar Beet	9,750	Tr.	7	9,197	13	5.7	5.7		ı
	Watermelon		Tr.	5	1		1	1	18	1
Rural	Apple		Dr.	7	1		1	4,051	31	34.7
Damascus	Peach	6,842	D.	5	1		Ţ	13,943	Ξ	42.4
	Pear	6,053	D.	9	1		1	5,180	18	14.4

1) Mix: using both method (traditional and modern irrigation), Sp: Sprinkler irrigation, Dr.: Drip irrigation, Tr.: Traditional irrigation

in 2010 (21.3% and 35.0% respectively), but fairly improved in 2011 (33.8% and 50% likewise). Despite the low ratio in Aleppo (33.8%), the overall allocation sufficiency ratio (48.9%) has satisfied the indicator (40%), which proved the Project purpose was achieved in terms of Indicator 2. The ratio in Aleppo is also expected to rise to over 40% by inviting a sufficient number of Aleppo staff to the training course towards

the end of the Project.

2010 and 2011, which resulted from the advantage that the training on water-saving irrigation started during the phase 1 project and continues under the Project as well. On the other hand, the ratios of Aleppo and Ragga Governorates, where the training started under the Project (from 2009), were considerably low

2) \*The cultivation seasons of sugar beet and potato in Aleppo are autumn-winter that has rainfall, therefore,

3) The volumes of irrigation water were surveyed in the 2 extension units in each governorate, one with the these crops are excluded from the analysis on water saving.

in the five governorates. These reduction rates were quite better than the targeted rate (10-20%) and the Although no reduction was observed for cucumber in Hama, the irrigation water was reduced by 34.5% for potato. For all of other crops with available data, the reduction rates were recorded between 30% and 50% C/Ps reported through a questionnaire survey that the conditions have certainly been improved since the demonstration farm and the other with similar agricultural conditions

Mid-term Review. Therefore, it was presumed that the Project Purpose was achieved in terms of Indicator

irrigation is improved (number of certified extentionists become more than 40% to the required number of Indicator 2) The capability of extensionists and staff of related agencies on extension of water-saving water extensionists). The following table shows the numbers of the extension units that needs qualified water extensionist and the units with (a) qualified water extensionist(s). The qualified water extensionist indicates the person who participated in the training courses on water-saving irrigation by the Project (including those held during the phase 1 project) and received a certificate by passing the examination (over 70 points out of 100).

Governorate	Number of extension units that need qualified water extensionist	Number of units qualifi extens	umber of extension units with (a) qualified water extensionist(s)	Allocatio sufficiency: (%) [b]/[a]	location iency ratio (%) bl/[a]	Total number of units in governorat e	of 40% of the of the units [c] =[a]x0.4	Insufficiency (person) 2011 [c] – [b]
		2010	2011	2010	2011	(Reference data)		
Hama	72	32	33*	44.4%	45.8%	74	29	4
R. Damascus	52	24	28*	46.2%	53.8%	63	21	L-
Daraa	38	37	30**	97.4%	78.9%	63	16	-14
Alcobo	08	17	27	21.3%	33.8%	111	32	+5
Radda	40	14	20	35.0%	50.0%	55	16	4
Total	282	124	138	44.0%	48.9%	366	114	-24

[a] These numbers were determined based on the percentage of irrigated area in each extension unit (one of the selection criteria is that the ratio of irrigated area is over 50%).

\* The reason that the number of extension units with WE decreased (or slightly increased) compared with the previous year is transference of WEs.

The ratios in Daraa, Hama and Rural Damascus Governorates exceeded the targeted ratio (40%) in both

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4. Results of Evaluation

4-1 Relevance

Relevance of the Project is considered high in terms of needs of beneficiaries, policies of the Government of Syria, and assistance policy of Japan.

Agriculture in Syria occupies 25% share in GDP and is also significant in terms of employment and export. However, 75% of the cultivated land still relies only on rainfalls, and accordingly, the irrigated agriculture is preferred. On the other hand the irrigation has been consuming over 90% of all the water used in Syria, competing with drinking and industrial use. Hence, the water-saving irrigation is considered to be very important in Syria and its importance was emphasized in the 10th Five-Year Plan (2006-2010) of Syria.

Due to the limited water resources and influence of the climate change (less rainfall), efficient utilization of water resources by the introduction of water-saving irrigation is quite necessary not only for farmers with irrigation but also for stabilizing agricultural production in the target areas. The efficient irrigation water use can be achieved by installing modern irrigation facilities with proper water-saving techniques. One of the objectives of the Project is the extension of water-saving techniques to farmers by improving the capability of extensionists, preparing extension materials, and strengthening the relationships among search, training and extension related organizations. As a result, the Project scheme is regarded well consistent with the needs of the farmers in the target areas and the personnel concerned in the water sector.

In addition, the conversion of irrigation system from the traditional water-consuming irrigation to modern (water-saving) irrigation system is regarded as one of the most important issues in the 10th Five-Year Plan (2006-2010) of Syria. Although the approval of the 11th Five-Year Plan has been delayed due to the leterioration of the security situation in Syria, it was reported that the importance of the further promotion of modern irrigation was stressed more in the Plan. The Ministry of Agriculture and Agrarian Reform (MAAR) has been promoting the conversion of irrigation system by providing a subsidized loan for the purchase of the irrigation equipment, therefore, the objective of the Project is well consistent with the policies of the Government of Syria.

One of the important fields of the assistance policy of the Government of Japan for Syria is the water resource management and its effective use, and the Project aims at the improvement of the capacity on the extension of water-saving irrigation therefore the Project is well accorded with the assistance policy of

2 Efficiency

The Project has not been fully functioning due to the deterioration of the security situation in Syria since the beginning of the year 2011 nevertheless the activities have been under operation with a physically limited scale. A small part of the indicators for the Project purpose has not been achieved yet but will be accomplished by the end of the Project (the details were discussed in the previous chapter).

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The personnel concerned in the Project have established excellent relationships not only within the Project but also with the farmers and other institutions (in terms of collaboration and coordination), which positively affected on the effectiveness of the Project functions. The deterioration of the security situation in Syria might negatively influence the remaining activities but it is expected that difficulties can be overcome by the strong relationships bome by the Project.

In addition, the Government of Syria established the Directorate of National Project of Modern Irrigation Conversion (DMIC) and has been providing a grant and loan to the farmers in order to activate the introduction of irrigation equipment. This policy enabled for the both parties to share the roles as the hardware by the Syrian side and the software by the Japanese side with the players from the both sides.

As a result the efficiency of the Project is at an excellent level

4-3 Effectiveness

The outputs of the Project have been produced satisfactorily as mentioned in the previous chapter. The indicator (1)-4 "Quality of extension activities by the trained extensionists is at a suitable level" has not been confirmed yet due to the deterioration of the security situation in Syria. Nevertheless, a countermeasure to improve the extensionists' performance has already been taken and established by means of monitoring and evaluation in the "implementation cycle". Accordingly, the indicator will be assessed once the result and the progress of the activities conducted within this improved framework and is expected to be proved as satisfactory by the end of the Project.

Both Syrian and Japanese sides have appropriately provided the inputs for the project activities in terms of human resources (Japanese experts and Syrian counterparts), equipment, trainings in Japan, the technical exchange in third countries, and the budget. These inputs and resources have been utilized effectively for the implementation of the project activities.

The products of the phase I project such as the training materials and curriculums for water extensionists, and the extension methods and tools have been utilized effectively during the Project. Similarly for the human resources, the Syrian counterparts involved in the phase I as well as the water extensionists trained during the previous project effectively participated in the project activities, which have significantly contributed to the management of the project operation.

In conclusion, the effectiveness of the Project is at a satisfactory level

Impact

Although it is still early to prospect precisely whether the Overall Goal of the Project will be achieved in future, some positive impacts that have already been observed are summarized below.

4-4-1 Prospects for achieving the Overall Goal

Overall Goal: Proper amount of irrigation water is used by means of adopting efficient water-saving irrigation in the Target Areas. And, awareness of efficient water-saving irrigation is expanded to other areas in Syria.

Indicator 1) Total amount of irrigation water per unit area decreases more than 10% without yield decrease in Target Area by the end of 2017.

Consulting the tables presented for Output Indicator (1)-1 and Project Purpose indicator (1), it was observed that the irrigation water decreased well over 10% for a variety of crops in all the project sites with yield increase for cotton in Raqqa. These data are based on the impact survey in 2010 and limited in terms of the scale but they strongly indicate positive prospects for achievement of the Overall Goal Indicator 1) as 5 extra years are still given to the responsible organizations.

Indicator 2) More than 50% of total farmers in the other governorates in Syria also recognize the importance and the necessity of water saving in irrigation.

For achieving the indicator, it is necessary for the responsible organizations to extensively carry out the extension activities on water-saving irrigation in the other governorates in Syria utilizing the experiences, relationships and skills yielded through the Project as well as the products and tools. Consequently the establishment of a National Training Team is identified to be an imminent matter in order to train a sufficient number of water extensionists as player in the field.

## 1.4.2 Efforts to achieve the Overall Goal

At the central level the Ministry of Irrigation has inaugurated several group-irrigation projects in collaboration with MARR and appears to be more cooperative than before. In addition, as mentioned above, MARR is planning to set up "National Training Team" for the training of water extensionists countrywide though it's not been started yet. On the other hand at the governorate level, the qualified water extensionists founded a council of their own for the purpose of mutual cooperation and combination. This could work as a coordinating institution and is a part of "the coordination mechanism" aiming at the promotion of water-saving irrigation though the mechanism should be established at the central level.

### 4-4-3 Other Impacts

(1) Increased collaborative relationship between the organizations concerned

The both phase I and 2 project have been implemented under good cooperation/collaboration between the organizations concerned including GCSAR, DTQ, DAE, DMIC, the directorates of agriculture of governorates concerned, and universities in Syria. The close collaborative relations have been observed even through their regular activities and also with other projects supported by different donors as they have realized the advantage of working under good cooperative/collaborative relations.

(2) Competitive mind in farmers

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In the project sites, a kind of feeling of competition has been grown up among farmers in terms of the efficient water use and the production yield, which accelerated the introduction of water-saving irrigation into the areas.

(3) Newly introduced irrigation approach; the group-irrigation program

The group-irrigation program was first introduced in Ame, Rural Damascus, by the Project, and then the system expanded to the other areas through the project activities as well as the efforts made by the Ministry of Irrigation. This kind of approach for irrigation has never been conducted in Syria. As the public awareness on the group-irrigation increased, the number of application for the official license (issued by DMIC) to establish an association of irrigation increased. The further efforts by the Project to extend the group-irrigation are expected while ongoing water-saving irrigation based on individual farmers continues.

(4) Comprehensive training course

The training course on water extensionists established by the Project is very comprehensive which consists of the following 5 stages: 1) Field survey and methods for identifying problems, 2) Designing & installing irrigation nets, 3) Maintenance of irrigation nets, 4) Preparing extension material, 5) Organizing field day. The whole curriculum was adopted as an official system in the yearly plan by the MAAR.

(5) Positive impacts observed in demonstration farms

The irrigation system applied by the Project in the demonstration farms created the following positive impacts

1. The irrigation scheduling saves the working time.

2. The water-saving irrigation saves diesel and fertilizer applied.

3. The water-saving irrigation improved the quantity of crops.

(6) Dissemination of water-saving irrigation as effect of the project activities at the demonstration farms. Various extension activities on water-saving irrigation have been implemented at the project sites (model extension units) such as inviting farmers to the demonstration farms from the surrounding area. As a result of this event, for example, farmers in Sukkarie extension unit in Raqqa recognized the advantage of the water-saving irrigation over the traditional method, which resulted in the farmers' request for the DMC's loan. One of the farmers installed drip and sprinkler irrigation facilities using the loan and successfully cultivated watermelon in the year of 2010 with less quantity of water (less cost) and better yield. He found out that the traditional irrigation method (surface irrigation) gave excess water causing poor yield while the appropriate amount of irrigation water brought higher yield.

(7) The paradoxical impact of the absence of the Japanese experts

Unfortunately for the Project, the security situation has been deteriorated in Syria and the Japanese experts had to leave the country in the end of April, 2011. Since then, the Japanese experts have still been unable to work in Syria and the project activities run by the Syrian C/Ps with remote supports by Japanese experts from Japan. However, the Project has been managed properly and steadily as analyzed above while the

security situation has not yet been improved, and thus, the unfortunate event turned out to be the opportunity for the Syrian C/Ps to develop the management ability and ownership. This is not a kind of impact derived from the project activities but something that should be reported as what happed after the Mid-term Review.

### 4-5 Sustainability

### (1) Political aspect

As mentioned earlier, the Government of Syria has placed great importance on the modernization of irrigation in order to efficiently utilize the limited water resources for agricultural production. Due to the negative influences by the climatic changes (reduced rainfall, higher temperature, etc.), the stability of the agriculture production becomes more and more important in Syria in terms of food security. Consequently the policy sustainability will be secured regardless of the current confusion which may bring some change.

### (2) Organizational aspect

The implementing organizations of the Project within MAAR, i.e., GCSAR, DTQ, DAE, DMIC, and the directorate of agriculture of the targeted 5 governortes have well defined tasks on research, training, extension, and promotion of modern irrigation. These organizations have sufficient number of staff and long-experiences in the respective field of tasks. Therefore, the modernization of irrigation by the extension of water-saving irrigation techniques to the farmers will be continued in a sustainable manner. As repeatedly emphasized, the good collaboration and coordination have been established between the organizations concerned, and it seems feasible that these relationships will bear fruitful progress in extension activities in the near future. In order to secure efficient and effective progress of extension activities on water-saving irrigation after the completion of the Project, "the coordinating mechanism" along with "National Training Team" is necessary to be founded for keeping the official linkage between the organizations concerned.

### (3) Financial aspect

DMIC has been providing a financial support for farmers to introduce modern irrigation system and the conversion of irrigation methods on farms has greatly been promoted by this financial support. The adoption of proper water-saving techniques by farmers is also an important issue for the efficient use of limited water resources and the increase of profitability on agricultural production. In order to expand the extension activities on water-saving irrigation nationwide after the completion of the Project (the Overall Goal), it is needless to mention that the Government of Syria should allocate a sufficient amount of the budges.

### (4) Technical aspect

The capacity of the Syrian C/Ps and staff concerned with the Project has developed not only the techniques on modern irrigation but also the management skills in through the implementation of the project activities. The number of water extensionists with proper knowledge and skills has been increasing in the 5 governorates, and furthermore, their capability on extension has been improving through the daily

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activities. The capacity of the trainers of training courses for water extensionist has also been enriched under the Project, which should be continued in a sustainable manner not only by the end of the Project but also after the completion of the Project. In addition, the Project organized some training courses on management and maintenance of the equipment, which have been very effective on the proper utilization of the equipment provided by the Project with extensive care.

## Social, cultural and environmental aspects

A unique training course which is "the home garden irrigation and the role of rural women in the irrigation management" was organized for the female engineers by the Project in Supeen Village in Hama and was adopted in the annual training program of Extension Directorate. However, the number of the participants has not reached to a sufficient level to achieve the targeted goal, and subsequently, the components should be modified based on the development of the local society and be continued to hold the

For the environment, the following aspects have been considered by the Project.

- Reduction of water seepage, especially groundwater
- Rationalization of fertilizer
- Fair supply of water among the farmers (between the upstream and downstream) in some project areas However, counter measures of the following negative effects would be considered.
- Environmental influence from farm equipment waste
- Social influence of job opportunities for irrigated agricultural workers

### 4-6. Conclusions

As analyzed above, the Project has continued its activities even under the current difficult situation in Syria although a part of the activities has been postponed and has kept producing its outputs with a satisfactory level. Some of the main activities such as extension of water-saving irrigation techniques and training for water extensionists have been conducted in the form of improved style in accordance with recommendations proposed at Mid-term Review. These facts enable it to conclude that the Project is expected to complete its period by achieving the Project Purpose by the end of the Project.

Having said that, since the dispatch of Japanese experts was partially restricted due to Japan's security instructions, some activities have been postponed because of the security issues, and this Terminal Evaluation was earlied out under the condition in which surveys on the spot could not be conducted, the Joint Evaluation Team has found out some issues to be addressed for overcoming these restrictions. The issues are mentioned as recommendations as below.

### 5. Recommendations

Since the Joint Evaluation Team for this Terminal Evaluation could not conduct any surveys in the field
and some updated information regarding the indicators of each output and the Project Purpose was
and some updated information regarding the indicators of each output and the Project Purpose was

missing, a field survey is recommended to be jointly carried out by Syria and Japan to collect those missing information and to find out the real achievement once the situation in Syria is settled down. It is also possible to have discussion in that occasion on necessary and possible future cooperation between Syria and Japan in case some specific needs and feasible activities are clarified.

- 2) As recommended at Mid-term Review, in order to disseminate the outcomes of the Project to other governorates in Syria and ensure the sustainability of training structure and the function of the Project, it is strongly recommended once again that the idea of forming a National Training Team within the MAAR is realized so that a training plan for water extensionist, an extension plan for water-saving irrigation techniques and budgetary plan for implementing these plans are prepared.
- 3) In order to further enhance the communication between the extensionests and farmers, it is recommended for the project team to add a training item on "attitude" to the curriculum in the remaining period.
- In order to conduct further water saving, research on other measures than pressurized irrigation should be sustained on managerial, institutional and agronomical approaches for maximizing water productivity.
- Lessons Learnt
- I) Intermediate of supporting favorable relationships beyond departments and/or directorates. The presence of Japanese experts functioned as intermediate to promote establishing favorable relationships among organizations beyond departments and/or directorates that are responsible for different tasks, and this brought collaborative works. Therefore, implementing a project that intermediates several organizations is effective to accelerate collaboration among related parties.
- Key factors for a successful technical cooperation; Issues to be addressed and a financial back-up in the beneficial country

This project has addressed one of the most crucial development issues of Syria which is the effective use of water resources and relevant institutions like DMIC providing subsidies for farmers to introduce modern irrigation techniques have already existed. It is no doubt that these facts contributed for the success of this Project. Hence, to address one of the most crucial development issues and to have financial back-up for supporting core activities of the project in the beneficial country are some of the key factors for a successful technical cooperation. These factors need to be surely considered when projects are formulated.

12.1

### Annex 4

研修コースの詳細情報

### Structure of the SMS Training Course

			_	
	Intro	odu	ction	
Training Course Orientation	Pre-	eval	uation	Role of SMS
Lecture				Practice
Day 1: Investigation for Irrigation	n Net Design		Day 2	2: Field Survey Practice
Lecture: Site Investigation for Irrigation	Net Design		Field Survey: Top	pographic Survey by using GPS
Lecture: Field Practice for Site Investiga	ation		Practice: Drawin	g of topographic Map
Day 3 & 4: Hydraulic Design	(1) & (2)			
Lecture: Hydraulic Design for GR and S	Sprinkler		Practice: Hydrau	lic Design for GR and Sprinkler
Lecture: Hydraulic Design for Pipeline	Network		Practice: Hydrau	lic Design for Pipeline Network
Day 5: Pumping Unit / Cost E	stimation			
Lecture: Pumping Unit			Practice: Pumpin	ng Unit
Lecture: Drawings, Cost Estimation and	Supervision			
			Day 6: Field Pr	ractice on Installation / Discharge
			Field Practice: P	ipe Installation
			Field Practice: M	leasurement of Discharge and Pressure

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Lecture: Water Management Practice: Irrigation Scheduling

### Day 9: Field Visit

Lecture & Discussion: Group Irrigation in Japan Field Visit: Group Irrigation Project Site

### **Examination & Final Evaluation**

Examination Final Evaluation

### Major Subjects of the SMS Training Course:

Week	Day	Major Subject	Venue
1st Week	Day 1	Site Investigation for Irrigation Net Design	Training Room
	Day 2	Field Survey Practice	Irrigation Research Station
	Day 3	Hydraulic design for GR, Drip emitter, sprinkler irrigation (1)	Training Room
	Day 4	Hydraulic design for GR, Drip emitter, sprinkler irrigation (2)	Training Room
	Day 5	Pumping Unit / Cos Estimation	Training Room
2 <sup>nd</sup> Week	Day 6	Field Practice: Installation / Discharge Measurement	Irrigation Research Station
	Day 7	Crop Water Requirement	Training Room
	Day 8	Irrigation Scheduling	Training Room
	Day 9	Field Visit: Group Irrigation	Group Irrigation Project Site
	Day 10	Examination & Final Evaluation	Training Room

### Program of the SMS Training Course:

### 1st week:

Day	Time	Subject	Teaching Material	Venue
	10:00 - 10:30	Opening and Orientation		
	10:30 – 11:00	Explanation on progress of DEITEX project and role of SMS		
Day 1	11:30 - 12:30	Pre-evaluation		GCSAR (Douma)
	12:30 - 13:00	(Break)		(Douma)
	13:00 – 14:00	Lecture: Investigation for Irrigation net design Lecture: Field practice for site investigation	PP1 PP3	
	10:00 - 12:00	<b>Field Survey</b> : Topographic survey by using GPS devise (Pump capacity)		Irrigation Research
Day 2	12:00 – 12:30	(Break)		Station
	12:30 - 14:00	Practice: Drawing of topographic map		(Nashabia)
	09:00 – 11:00	<b>Lecture</b> : Hydraulic design for GR, Drip emitter, sprinkler irrigation (Layout)	PP4	GCSAR
Day 3	11:00 - 11:30	(Break)		(Douma)
	11:30 – 14:00	<b>Practice</b> : Hydraulic design for GR, Drip emitter, sprinkler irrigation		` ,
	09:00 – 11:00 Lecture: Hydraulic design for pipel (Hydraulic calculation)		PP5	00015
Day 4				GCSAR (Douma)
				(2 o anna)
	09:00 – 11:30	Review of 1st week Practice		
	09:00 - 11:30	Lecture: Hydraulic design for group irrigation		
Day 5	11:30 – 12:00	(Break)		GCSAR
	12:00 - 13:00	Lecture & Practice: Pumping unit	PP6	(Douma)
	13:00 – 14:00	<b>Lecture</b> : Drawings, cost estimation, construction supervision	PP7	

### 2nd week:

Day	Time	Subject	Material	Place
	09:00 – 11:30	Field Practice: Pipe Installation	PP8	Irrigation
Day 6	11:30 – 12:00	(Break)		Research Station
	12:00 –14:00	Field Practice: Measurement of discharge, pressure and soil moisture		(Nashabia)
	09:00 -11:00	Lecture: Crop Water Requirement	PP2	
Day 7	11:00 - 11:30	(Break)		GCSAR (Douma)
	11:30 - 14:00	Practice: Calculation of ETo		(Douma)
	09:00 -11:00	Lecture: Water management	PP9	
Day 8	11:00 - 11:30	(Break)		GCSAR
	11:30 – 14:00	Practice: Irrigation scheduling (Sprinkler, GR, Drip emitter, Micro sprinkler)		(Douma)
	09:00 – 12:00	Site Visit: Group Irrigation Site		Group
Day 9	12:00 - 12:30	(Break)		Irrigation
	12:30 – 14:00 <b>Lecture and discussion:</b> Group irrigation in Japan			Site
	09:00 - 10:30	Examination		
<b>D</b> 46	10:30 - 11:00	(Break)		GCSAR
Day 10	11:00 – 12:00	Final Evaluation		(Douma)
	12:00 – 13:00	Closing of the Training Course		

### Structure of the TOT Course for the WE (Water Extensionist) Training

<b>General Subjects for Trainers</b>
(1 <sup>st</sup> Week)

### Specific Subjects for the DEITEX WE Training (2<sup>nd</sup> Week)

1	•	4 •	C1 •11
omm	unic	ation	Skills

Knowledge & Skills for the DEITEX Training-Extension System

Windows of "JoeHary"

Training Structure for WE

**Communication Principles** 

**DEITEX Training & Extension System** 

**Communication Difficulties** 

**Preparing Action Plan of Extension Activity** 

**Characteristics of Adult Learning** 

**Management of Training Courses** 

### **Teaching Methods**

### **Teaching Skills**

Lecture

Dectare

**Group Discussion** 

**Role Play** 

**Case Study** 

**Brain Storming** 

How to conduct Lectures and Practices effectively

Notes for Trainers to make Training Course effectively

**Practice to provide Lecture** 

### **Planning of Training Course**

### **Tools for the WE Training**

Training Goals

**Evaluation of Trainer** 

Lesson Plan

**Evaluation of Training Course** 

Training Guideline for WE Training Courses

TOT (Training of Trainers) for the Water Extensionist (WE) training has been established, consisting of two important components such as a) general subjects for trainers, and b) specific subjects for the DEITEX WE training. The general subjects include communication skills, teaching skills, and teaching methods, which is considered as indispensable abilities for trainers. On the other hand, the specific subjects cover knowledge and skills which is necessary to conduct the DEITEX WE training courses successfully. The specific subjects include knowledge & skills for the DEITEX training and extension system, tools for the WE training, and teaching skills to be useful to conduct WE training courses. The useful tools consist of WE training guideline, and evaluation forms of trainer and training course.

After completing the TOT course successfully, those who are qualified as SMS are supposed to be trainers of WE training course in governorates. Therefore, the TOT course program has been carefully prepared so that the participants will be able to acquire useful and necessary knowledge and skills to conduct the WE training courses as trainers.

The training program for TOT is shown in the following table.

1st week:

Day	Time	Subject
	09:00 - 09:30	Opening of the Training Course
	09:30 - 10:00	Pre-Evaluation of the participants
Day 1	10:00 - 10:30	(Break)
(SUN)	10:30 - 11:30	Participants Expectation / Program View
	11:30 - 12:00	(Break)
	12:00 - 14:00	Method of Introduction / Windows of "JoeHary" / Feed Back
	09:00 - 10:30	Characteristics of Adult Learning
D 0	10:30 - 11:00	(Break)
Day 2 (MON)	11:00 - 12:30	Communication Principles
(MON)	12:30 - 12:45	(Break)
	12:45 - 14:00	Communication Difficulties
	09:00 - 10:30	Training Goals
D 0	10:30 - 11:00	(Break)
Day 3	11:00 - 12:30	Typical Lesson Plan
(TUE)	12:30 - 12:45	(Break)
	12:45 - 14:00	Teaching Methods
	09:00 - 10:30	Brain Storming
D 4	10:30 - 11:00	(Break)
Day 4 (WED)	11:00 - 12:30	Case Study
(WED)	12:30 - 12:45	(Break)
	12:45 - 14:00	Role Playing and Application
	09:00 - 10:00	Role of Water Extensionist and DEITEX Training Structure for Water Extensionists
	09.00 - 10.00	Training and Extension System in the DEITEX Project
Day 5	10:00 - 10:30	(Break)
(THU)	10:30 – 11:15	How to conduct Lectures and Practices effectively
(1110)		(Impotant Points identified through the DEITEX Project Implementation)
	11:15 – 12:30	Introduction to the Training Guideline of Water Extensionists Training
	12:30 - 13:00	Examination & Final Evaluation

### 2<sup>nd</sup> week:

Day	Time	Subject
	09:00 - 10:30	Evaluation of Trainer (Evaluation Form & Example of Analysis)
D (	10:30 - 11:00	(Break)
Day 6 (SUN)	11:00 - 12:00	Important Points which Trainers should keep in their Minds
(3011)	12:00 - 12:15	(Break)
	12:15 - 14:00	Evaluation of Presentsation by Video
	09:00 - 10:30	Presentation by the Participants
D 7	10:30 - 11:00	(Break)
Day 7 (MON)	11:00 - 12:30	Presentation by the Participants
(MON)	12:30 - 13:00	(Break)
	13:00 - 14:30	Presentation by the Participants
	09:00 - 10:30	Presentation by the Participants
D 0	10:30 - 11:00	(Break)
Day 8 (TUE)	11:00 - 12:30	Presentation by the Participants
(IUE)	12:00 - 12:30	(Break)
	12:30 - 14:00	Presentation by the Participants
	09:00 - 09:30	General Evaluation of the Presentation
	09:30 - 10:30	Problem Analysis Workshop
Day 9	10:30 - 11:00	(Break)
(WED)	11:00 - 12:30	Preparing Action Plan of Extension Activity
	12:00 - 12:30	(Break)
	12:30 - 14:00	Example of Action Plan prepared by Water Extensionists
	09:00 - 10:00	Management of Training Course / Training course evaluation
D 10	10:00 - 10:30	(Break)
Day 10	10:30 - 11:30	Final Examination
(THU)	11:30 - 12:00	Final Evaluation
	12:00 - 13:00	Closing

### **Training Course for ISI (Improved Surface Irrigation)**

### **Outline of the Training Course**

Objectives of the	Delivering basic knowledge about improved surface irrigation to Water Extensionists, which is
Training Course	useful for them to conduct extension activities on the relevant subject.
Target people	Water extensionist who has completed the four steps of WE training courses in Aleppo and Raqqa
Training Period	5 days
Major contents of	- Lectures on different kinds of improved surface irrigation
the training course	- Field visit to improved surface irrigation farmer
	- Group discussion on farm survey questionnaire on improved surface irrigation
Method of Training	Lecture, Group Discussion, Field Visit, and Field Practice

### **Training Course Program**

Day	Time	Subject	Venue	
	10:00 - 10:30	Opening and Orientation		
	10:30 - 11:15	Pre-evaluation		
Day 1 (SUN)	11:15 – 12:45	Lecture: Introduction of improved surface irrigation Lecture: Survey result on ISI (Homework of the ISI training course in the previous year)	Training Room	
	12:45 -13:00	(Break)		
	13:00 – 14:00	3:00 – 14:00 <b>Lecture:</b> Land laser leveling		
	09:00 – 10:15	Lecture: Furrow irrigation (and border irrigation)		
	10:15 - 10:45	(Break)		
Day 2	10:45 –12:00	Lecture: Siphon and Gated pipe irrigation	Training Room	
(MON)	12:00- 12:15	(Break)	Truming 1100m	
	12:15 – 12:45	Lecture: Surge flow irrigation		
	12:45 – 14:00	Preparation of farmer's field visit		
Day 3 (TUE)	09:00 – 14:00	Field Visit: Siphon irrigation field Gated pipe irrigation field Fields that land laser leveling was implemented.	Farmer's Field	
Day 4 (WED)	09:00 - 14:00	Lecture and Field practice: Land laser leveling	Training Room & Training Field	
	09:00 - 10:00	<b>Discussion</b> : Result of the field visit		
	10:00 - 10:30	(Break)		
Day 5	10:30 - 11:15	Examination	Training Room	
(THU)	11:15 – 11:30	(Break)	Tuning Room	
	11:30 – 12:15	Final Evaluation		
	12:15 – 13:00	Closing of the Training Course		

### **Follow-up Training Course on Editing Extension Movies**

### **Outline of Training Course of Editing Extension Movies**

Objectives of the	Providing basic knowledge and skills about editing movies, which is useful for extensionists
Training Course	to produce extension movies to be used in conducting extension activities.
Target people	Water extensionist and SMS in R Damascus, Daraa and Hama.
Training Period	3 days
Major contents of the	- Lectures and practices on basic knowledge and skills to edit movies,
training course	- Lectures and practices on using video camera, and
	- Lecture and group discussion on importance of making good scenario for extension movies.
Method of Training	Lecture, Practice, and Group Discussion,
Materials to be used	Video Camera, Computer, and Movie Maker (Software to edit movies)

### **Training Course Program for Editing Extension Movies**

Day	Time	Subject
Day 1	09:00 - 09:10	Opening & Training Course Orientation
	09:10 - 09:20	Pre-Evaluation of the Participants
	09:20 - 10:00	Lecture: How to use Movie Maker - Basic skills to edit movies-
	10:00 - 11:00	Practice 1:Basic skills to edit movies
	11:00 - 11:30	Break
	11:30 - 13:00	Practice 2 & 3: Editing Movie (1)
	13:00 - 13:30	Presentation of the products by the trainees
Day 2	09:00 - 09:30	Review of the Day 1 practices
	09:30 - 10:00	Lecture: How to use Movie Maker - Editing Movie (2)–
	10:00 - 11:00	Practice 4: Editing Movie (2) – Importance of scenario
	11:00 - 11:30	Break
	11:30 - 13:00	Practice 5 & 6: Editing Movie (3)
	13:00 - 14:00	Adding Music/Narration
Day 3	09:00 - 09:30	Review of the Day 2 practices
	09:30 - 10:00	How to use Video Camera
	10:00 - 10:30	How to convert video files (Video Conversion to WMV)
	10:30 - 11:00	Practice 7: Video Conversion
	11:00 - 11:30	Break
	11:30 - 13:00	Making Scenario of Movie:
		Example of Scenario: GR Emitter Clogging, How to store modern irrigation system during
		off-season, Maintenance of modern irrigation system
	13:00 -	Closing the Course

Homework	1) Preparation of Scenario related to the subject of Extension activity (based on Farmer's
	needs/ problems)
	2) Taking video shots
	3) Editing Movie

### Annex 5

灌漑研修員(WE)および灌漑専門員(SMS)研修

### List of Qualified Water Extensionist as of July 2012

Name	Governorate	Employment	Specialty	Age	Year
Majd Al Housh	R.Damascus	Arne	Field Crops	40	2006
Salim Shahin	R.Damascus	Arne	Vegetable Production	53	2006
		1			2006
Zuhair Rajeh			U		2006
					2006
		Bait Saber		30	2006
	R.Damascus	Haramoun Maslaha	<u> </u>	38	2006
Amer Mazoukh	R.Damascus	Kafr Hour	Animal Production	42	2006
Hussam Nakhleh	R.Damascus	Surghaya	Vegetable Production	32	2006
Hussam Ghabra	R.Damascus	Dimas	General	41	2006
Ilham Zaidan	R.Damascus	Deir Qanoun	Land Reform	43	2006
Zaher Abdallah	R.Damascus	Extension, Sahanaya	Farms	37	2006
Janet Hasan	R.Damascus	R Woman, Sahanaya	Civil Eng. Assis	32	2006
Ossama Muhanna	R.Damascus		Field Crops	43	2007
			Vegetable Production	50	2007
				49	2007
Amar Al Deen Al Madanly	R.Damascus		Animal Production	37	2009
	R.Damascus	Rihan	Plant Protection	47	2009
	R.Damascus	Balah	General	27	2009
Basem Sami Mohammad	R.Damascus	Sahanaya	Orchard	34	2009
Ahmad Sliman	R.Damascus	Haran			2009
Mohammad Sabry Shawish	R.Damascus	Nashabiah	Animal Production	33	2009
Jihad Hmadah	R.Damascus	Midaa			2009
Walid Orfaly	R.Damascus	Halbon			2009
Masoud Shaheen	R.Damascus	Deer Ali	Crops	37	2009
Mostafa Khzai	R.Damascus	Al Otibah	Animal Production	32	2009
Asaad Ashy	R.Damascus	Al Tal	Field Crops	28	2009
Lobna Hasan Qtine	R.Damascus	Al Tal	General	33	2009
	R.Damascus	Kiswah	General		2009
		Kiswah	General	57	2009
		Douma			2010
		Kafer Batnah			2010
		Deer Kanon			2010
		1			2010
				44	2010
			Agricultural Econony	33	2010
	R.Damascus	Hjirah			
			~ 4 4 7 4 7 7	1	2010
Khald Trad	R.Damascus	Al Otibah	Soil and Land Reform	43	2010
Jamel Kholy	R.Damascus	Al Ghzlaniah	Soil and Land Reform	43	2010 2010
Jamel Kholy Adnan Hmamah	R.Damascus R.Damascus	Al Ghzlaniah Haran	Soil and Land Reform	43	2010 2010 2010
Jamel Kholy Adnan Hmamah Majed Abd Allah	R.Damascus R.Damascus R.Damascus	Al Ghzlaniah Haran Halbon	Soil and Land Reform	43	2010 2010 2010 2010
Jamel Kholy Adnan Hmamah Majed Abd Allah Manar Al Shably	R.Damascus R.Damascus R.Damascus R.Damascus	Al Ghzlaniah Haran Halbon Al Tal	Soil and Land Reform	43	2010 2010 2010 2010 2010
Jamel Kholy Adnan Hmamah Majed Abd Allah Manar Al Shably Sadkah Hosian	R.Damascus R.Damascus R.Damascus R.Damascus R.Damascus	Al Ghzlaniah Haran Halbon Al Tal Al Adliah	Soil and Land Reform	43	2010 2010 2010 2010 2010 2010 2010
Jamel Kholy Adnan Hmamah Majed Abd Allah Manar Al Shably Sadkah Hosian Maisa Isber	R.Damascus R.Damascus R.Damascus R.Damascus R.Damascus R.Damascus	Al Ghzlaniah Haran Halbon Al Tal Al Adliah Kiswah			2010 2010 2010 2010 2010 2010 2010 2010
Jamel Kholy Adnan Hmamah Majed Abd Allah Manar Al Shably Sadkah Hosian Maisa Isber Weaam Qasem	R.Damascus R.Damascus R.Damascus R.Damascus R.Damascus R.Damascus R.Damascus	Al Ghzlaniah Haran Halbon Al Tal Al Adliah Kiswah Al Otaiba	Orchard	27	2010 2010 2010 2010 2010 2010 2010 2010
Jamel Kholy Adnan Hmamah Majed Abd Allah Manar Al Shably Sadkah Hosian Maisa Isber Weaam Qasem Iman Al Shaikha	R.Damascus R.Damascus R.Damascus R.Damascus R.Damascus R.Damascus R.Damascus R.Damascus R.Damascus	Al Ghzlaniah Haran Halbon Al Tal Al Adliah Kiswah Al Otaiba Qutaifa	Orchard Forest	27 27	2010 2010 2010 2010 2010 2010 2010 2010
Jamel Kholy Adnan Hmamah Majed Abd Allah Manar Al Shably Sadkah Hosian Maisa Isber Weaam Qasem Iman Al Shaikha Ahmad Maher	R.Damascus	Al Ghzlaniah Haran Halbon Al Tal Al Adliah Kiswah Al Otaiba Qutaifa Maslaha	Orchard Forest Rural Engineering	27 27 27 37	2010 2010 2010 2010 2010 2010 2010 2010
Jamel Kholy Adnan Hmamah Majed Abd Allah Manar Al Shably Sadkah Hosian Maisa Isber Weaam Qasem Iman Al Shaikha Ahmad Maher Nadia Shaaban	R.Damascus	Al Ghzlaniah Haran Halbon Al Tal Al Adliah Kiswah Al Otaiba Qutaifa Maslaha Saboura	Orchard Forest Rural Engineering Animal Production	27 27 27 37 26	2010 2010 2010 2010 2010 2010 2010 2010
Jamel Kholy Adnan Hmamah Majed Abd Allah Manar Al Shably Sadkah Hosian Maisa Isber Weaam Qasem Iman Al Shaikha Ahmad Maher Nadia Shaaban Haian Al Muhamad	R.Damascus	Al Ghzlaniah Haran Halbon Al Tal Al Adliah Kiswah Al Otaiba Qutaifa Maslaha Saboura Harran	Orchard Forest Rural Engineering Animal Production Rural Engineering	27 27 27 37 26 26	2010 2010 2010 2010 2010 2010 2010 2011 2011 2011 2011 2011
Jamel Kholy Adnan Hmamah Majed Abd Allah Manar Al Shably Sadkah Hosian Maisa Isber Weaam Qasem Iman Al Shaikha Ahmad Maher Nadia Shaaban Haian Al Muhamad Basem Kharboutly	R.Damascus	Al Ghzlaniah Haran Halbon Al Tal Al Adliah Kiswah Al Otaiba Qutaifa Maslaha Saboura Harran Dair Salman	Orchard Forest Rural Engineering Animal Production Rural Engineering Orchard	27 27 27 37 26 26 50	2010 2010 2010 2010 2010 2010 2010 2011 2011 2011 2011 2011 2011
Jamel Kholy Adnan Hmamah Majed Abd Allah Manar Al Shably Sadkah Hosian Maisa Isber Weaam Qasem Iman Al Shaikha Ahmad Maher Nadia Shaaban Haian Al Muhamad Basem Kharboutly Farzat Mustafa	R.Damascus	Al Ghzlaniah Haran Halbon Al Tal Al Adliah Kiswah Al Otaiba Qutaifa Maslaha Saboura Harran Dair Salman Muaadamia	Orchard Forest Rural Engineering Animal Production Rural Engineering Orchard General	27 27 27 37 26 26 50 31	2010 2010 2010 2010 2010 2010 2010 2010 2011 2011 2011 2011 2011 2011 2011
Jamel Kholy Adnan Hmamah Majed Abd Allah Manar Al Shably Sadkah Hosian Maisa Isber Weaam Qasem Iman Al Shaikha Ahmad Maher Nadia Shaaban Haian Al Muhamad Basem Kharboutly Farzat Mustafa Mustafa Daioub	R.Damascus	Al Ghzlaniah Haran Halbon Al Tal Al Adliah Kiswah Al Otaiba Qutaifa Maslaha Saboura Harran Dair Salman Muaadamia Badda	Orchard Forest Rural Engineering Animal Production Rural Engineering Orchard General Crops	27 27 27 37 26 26 50 31 36	2010 2010 2010 2010 2010 2010 2010 2010 2011 2011 2011 2011 2011 2011 2011 2011
Jamel Kholy Adnan Hmamah Majed Abd Allah Manar Al Shably Sadkah Hosian Maisa Isber Weaam Qasem Iman Al Shaikha Ahmad Maher Nadia Shaaban Haian Al Muhamad Basem Kharboutly Farzat Mustafa Mustafa Daioub Radwan Seour	R.Damascus	Al Ghzlaniah Haran Halbon Al Tal Al Adliah Kiswah Al Otaiba Qutaifa Maslaha Saboura Harran Dair Salman Muaadamia Badda Mneen	Orchard Forest Rural Engineering Animal Production Rural Engineering Orchard General Crops Animal Production	27 27 27 37 26 26 50 31 36 40	2010 2010 2010 2010 2010 2010 2010 2010 2011 2011 2011 2011 2011 2011 2011 2011 2011
Jamel Kholy Adnan Hmamah Majed Abd Allah Manar Al Shably Sadkah Hosian Maisa Isber Weaam Qasem Iman Al Shaikha Ahmad Maher Nadia Shaaban Haian Al Muhamad Basem Kharboutly Farzat Mustafa Mustafa Daioub Radwan Seour Raafat Laqteena	R.Damascus	Al Ghzlaniah Haran Halbon Al Tal Al Adliah Kiswah Al Otaiba Qutaifa Maslaha Saboura Harran Dair Salman Muaadamia Badda Mneen Qatana	Orchard Forest Rural Engineering Animal Production Rural Engineering Orchard General Crops Animal Production Orchard	27 27 37 26 26 50 31 36 40 41	2010 2010 2010 2010 2010 2010 2010 2010 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011
Jamel Kholy Adnan Hmamah Majed Abd Allah Manar Al Shably Sadkah Hosian Maisa Isber Weaam Qasem Iman Al Shaikha Ahmad Maher Nadia Shaaban Haian Al Muhamad Basem Kharboutly Farzat Mustafa Mustafa Daioub Radwan Seour Raafat Laqteena Rania Al Hafian	R.Damascus	Al Ghzlaniah Haran Halbon Al Tal Al Adliah Kiswah Al Otaiba Qutaifa Maslaha Saboura Harran Dair Salman Muaadamia Badda Mneen Qatana Central Directorate	Orchard Forest Rural Engineering Animal Production Rural Engineering Orchard General Crops Animal Production Orchard Orchard	27 27 27 37 26 26 50 31 36 40 41 38	2010 2010 2010 2010 2010 2010 2010 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011
Jamel Kholy Adnan Hmamah Majed Abd Allah Manar Al Shably Sadkah Hosian Maisa Isber Weaam Qasem Iman Al Shaikha Ahmad Maher Nadia Shaaban Haian Al Muhamad Basem Kharboutly Farzat Mustafa Mustafa Daioub Radwan Seour Raafat Laqteena Rania Al Hafian Marwan Kiwan	R.Damascus	Al Ghzlaniah Haran Halbon Al Tal Al Adliah Kiswah Al Otaiba Qutaifa Maslaha Saboura Harran Dair Salman Muaadamia Badda Mneen Qatana Central Directorate Tafas	Orchard Forest Rural Engineering Animal Production Rural Engineering Orchard General Crops Animal Production Orchard Orchard Orchard Agronomy	27 27 27 37 26 26 50 31 36 40 41 38 38	2010 2010 2010 2010 2010 2010 2010 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2010
Jamel Kholy Adnan Hmamah Majed Abd Allah Manar Al Shably Sadkah Hosian Maisa Isber Weaam Qasem Iman Al Shaikha Ahmad Maher Nadia Shaaban Haian Al Muhamad Basem Kharboutly Farzat Mustafa Mustafa Daioub Radwan Seour Raafat Laqteena Rania Al Hafian Marwan Kiwan Waleed Al Sharif	R.Damascus	Al Ghzlaniah Haran Halbon Al Tal Al Adliah Kiswah Al Otaiba Qutaifa Maslaha Saboura Harran Dair Salman Muaadamia Badda Mneen Qatana Central Directorate Tafas Daiel	Orchard Forest Rural Engineering Animal Production Rural Engineering Orchard General Crops Animal Production Orchard Orchard Agronomy Animal Production	27 27 27 37 26 26 50 31 36 40 41 38 38 41	2010 2010 2010 2010 2010 2010 2010 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2010
Jamel Kholy Adnan Hmamah Majed Abd Allah Manar Al Shably Sadkah Hosian Maisa Isber Weaam Qasem Iman Al Shaikha Ahmad Maher Nadia Shaaban Haian Al Muhamad Basem Kharboutly Farzat Mustafa Mustafa Daioub Radwan Seour Raafat Laqteena Rania Al Hafian Marwan Kiwan	R.Damascus	Al Ghzlaniah Haran Halbon Al Tal Al Adliah Kiswah Al Otaiba Qutaifa Maslaha Saboura Harran Dair Salman Muaadamia Badda Mneen Qatana Central Directorate Tafas	Orchard Forest Rural Engineering Animal Production Rural Engineering Orchard General Crops Animal Production Orchard Orchard Orchard Agronomy	27 27 27 37 26 26 50 31 36 40 41 38 38	2010 2010 2010 2010 2010 2010 2010 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2010
	Amal Nour Din Zuhair Rajeh Wassim Ramadan Ahmad Ali Mhammad Walif Hassoun Amer Mazoukh Hussam Nakhleh Hussam Ghabra Ilham Zaidan Zaher Abdallah Janet Hasan Ossama Muhanna Rafiq Labbad Dalal Koshuha Amar Al Deen Al Madanly Yousef Salah Issa Jamal Abdah Basem Sami Mohammad Ahmad Sliman Mohammad Sabry Shawish Jihad Hmadah Walid Orfaly Masoud Shaheen Mostafa Khzai Asaad Ashy	Amal Nour DinR.DamascusZuhair RajehR.DamascusWassim RamadanR.DamascusAhmad Ali MhammadR.DamascusWalif HassounR.DamascusAmer MazoukhR.DamascusHussam NakhlehR.DamascusHussam GhabraR.DamascusIlham ZaidanR.DamascusZaher AbdallahR.DamascusJanet HasanR.DamascusOssama MuhannaR.DamascusRafiq LabbadR.DamascusDalal KoshuhaR.DamascusAmar Al Deen Al MadanlyR.DamascusYousef Salah IssaR.DamascusJamal AbdahR.DamascusBasem Sami MohammadR.DamascusMohammad SlimanR.DamascusMohammad Sabry ShawishR.DamascusJihad HmadahR.DamascusWalid OrfalyR.DamascusMasoud ShaheenR.DamascusMostafa KhzaiR.DamascusMohammad Diaf Allah Al HoishR.DamascusYousef Al SadyR.DamascusKhald BankadiR.DamascusKhald Al HawashR.DamascusIlahm Al ZeenR.DamascusRanda HabalR.DamascusJosephen ZarakR.DamascusRola HadadR.Damascus	Amal Nour DinR.DamascusBait TimaZuhair RajehR.DamascusBait TimaWassim RamadanR.DamascusBait SaberAhmad Ali MhammadR.DamascusBait SaberWalif HassounR.DamascusHaramoun MaslahaAmer MazoukhR.DamascusKafr HourHussam NakhlehR.DamascusSurghayaHussam GhabraR.DamascusDeir QanounZaher AbdallahR.DamascusExtension, SahanayaJanet HasanR.DamascusR.Woman, SahanayaOssama MuhannaR.DamascusZubdin, GoutaRafiq LabbadR.DamascusNashabiahDalal KoshuhaR.DamascusNashabiahAmar Al Deen Al MadanlyR.DamascusDomaYousef Salah IssaR.DamascusRihanJamal AbdahR.DamascusBalahBasem Sami MohammadR.DamascusSahanayaAhmad SlimanR.DamascusHaranMohammad Sabry ShawishR.DamascusMidaaJihad HmadahR.DamascusMidaaWalid OrfalyR.DamascusAl TalMostafa KhzaiR.DamascusAl TalMohammad Diaf Allah Al HoishR.DamascusAl TalMohammad Diaf Allah Al HoishR.DamascusKiswahYousef Al SadyR.DamascusKafer BatnahKhald BankadiR.DamascusKafer BatnahIahm Al ZeenR.DamascusDoer KanonRanda HabalR.DamascusDoer KanonJosephen ZarakR.DamascusArtoz <td>Amal Nour Din         R.Damascus         Bait Tima         Vegetable Production           Zuhair Rajeh         R.Damascus         Bait Tima         Agricultural Observer           Wassim Ramadan         R.Damascus         Bait Saber         Vegetable Production           Ahmad Ali Mhammad         R.Damascus         Bait Saber         Agricultural Observer           Walif Hassoun         R.Damascus         Haramoun Maslaha         Engineering           Amer Mazoukh         R.Damascus         Kafr Hour         Animal Production           Hussam Ghabra         R.Damascus         Burghaya         Vegetable Production           Hussam Ghabra         R.Damascus         Dieir Qanoun         Land Reform           Zaher Abdallah         R.Damascus         Extension, Sahanaya         Farms           Janet Hasan         R.Damascus         R. Woman, Sahanaya         Field Crops           Ossama Muhanna         R.Damascus         R. Woman, Sahanaya         Civil Eng. Assis           Ossama Muhanna         R.Damascus         Nashabiah         Vegetable Production           Dalal Koshuha         R.Damascus         Nashabiah         Vegetable Production           Palar Crops         Animal Production         Palar Protection           Pasaem Sami Mohammad         R.Damascus<td>Amal Nour DinR.DamascusBait TimaVegetable Production42Zuhair RajehR.DamascusBait TimaAgricultural Observer57Wassim RamadanR.DamascusBait SaberVegetable Production33Ahmad Ali MhammadR.DamascusBait SaberAgricultural Observer30Walif HassounR.DamascusHaramoun MaslahaEngineering38Amer MazoukhR.DamascusKafr HourAnimal Production42Hussam NakhlehR.DamascusSurghayaVegetable Production32Hussam GhabraR.DamascusDimasGeneral41Ilham ZaidanR.DamascusDieir QanounLand Reform43Zaher AbdallahR.DamascusExtension, SahanayaFarms37Janet HasanR.DamascusR.Woman, SahanayaField Crops43Ossama MuhannaR.DamascusNashabiahVegetable Production50Dalal KoshuhaR.DamascusHaranAgricultural Observer49Amar Al Deen Al MadanlyR.DamascusHaranAgricultural Observer49Amar Al Deen Al MadanlyR.DamascusRihanPlan Protection37Yousef Salah IssaR.DamascusRihanPlan Protection47Jamal AbdahR.DamascusBalahGeneral27Basem Sami MohammadR.DamascusNashabiahAnimal Production33Ahmad SlimanR.DamascusNashabiahAnimal Production33Mohammad Sabry Shawish</td></td>	Amal Nour Din         R.Damascus         Bait Tima         Vegetable Production           Zuhair Rajeh         R.Damascus         Bait Tima         Agricultural Observer           Wassim Ramadan         R.Damascus         Bait Saber         Vegetable Production           Ahmad Ali Mhammad         R.Damascus         Bait Saber         Agricultural Observer           Walif Hassoun         R.Damascus         Haramoun Maslaha         Engineering           Amer Mazoukh         R.Damascus         Kafr Hour         Animal Production           Hussam Ghabra         R.Damascus         Burghaya         Vegetable Production           Hussam Ghabra         R.Damascus         Dieir Qanoun         Land Reform           Zaher Abdallah         R.Damascus         Extension, Sahanaya         Farms           Janet Hasan         R.Damascus         R. Woman, Sahanaya         Field Crops           Ossama Muhanna         R.Damascus         R. Woman, Sahanaya         Civil Eng. Assis           Ossama Muhanna         R.Damascus         Nashabiah         Vegetable Production           Dalal Koshuha         R.Damascus         Nashabiah         Vegetable Production           Palar Crops         Animal Production         Palar Protection           Pasaem Sami Mohammad         R.Damascus <td>Amal Nour DinR.DamascusBait TimaVegetable Production42Zuhair RajehR.DamascusBait TimaAgricultural Observer57Wassim RamadanR.DamascusBait SaberVegetable Production33Ahmad Ali MhammadR.DamascusBait SaberAgricultural Observer30Walif HassounR.DamascusHaramoun MaslahaEngineering38Amer MazoukhR.DamascusKafr HourAnimal Production42Hussam NakhlehR.DamascusSurghayaVegetable Production32Hussam GhabraR.DamascusDimasGeneral41Ilham ZaidanR.DamascusDieir QanounLand Reform43Zaher AbdallahR.DamascusExtension, SahanayaFarms37Janet HasanR.DamascusR.Woman, SahanayaField Crops43Ossama MuhannaR.DamascusNashabiahVegetable Production50Dalal KoshuhaR.DamascusHaranAgricultural Observer49Amar Al Deen Al MadanlyR.DamascusHaranAgricultural Observer49Amar Al Deen Al MadanlyR.DamascusRihanPlan Protection37Yousef Salah IssaR.DamascusRihanPlan Protection47Jamal AbdahR.DamascusBalahGeneral27Basem Sami MohammadR.DamascusNashabiahAnimal Production33Ahmad SlimanR.DamascusNashabiahAnimal Production33Mohammad Sabry Shawish</td>	Amal Nour DinR.DamascusBait TimaVegetable Production42Zuhair RajehR.DamascusBait TimaAgricultural Observer57Wassim RamadanR.DamascusBait SaberVegetable Production33Ahmad Ali MhammadR.DamascusBait SaberAgricultural Observer30Walif HassounR.DamascusHaramoun MaslahaEngineering38Amer MazoukhR.DamascusKafr HourAnimal Production42Hussam NakhlehR.DamascusSurghayaVegetable Production32Hussam GhabraR.DamascusDimasGeneral41Ilham ZaidanR.DamascusDieir QanounLand Reform43Zaher AbdallahR.DamascusExtension, SahanayaFarms37Janet HasanR.DamascusR.Woman, SahanayaField Crops43Ossama MuhannaR.DamascusNashabiahVegetable Production50Dalal KoshuhaR.DamascusHaranAgricultural Observer49Amar Al Deen Al MadanlyR.DamascusHaranAgricultural Observer49Amar Al Deen Al MadanlyR.DamascusRihanPlan Protection37Yousef Salah IssaR.DamascusRihanPlan Protection47Jamal AbdahR.DamascusBalahGeneral27Basem Sami MohammadR.DamascusNashabiahAnimal Production33Ahmad SlimanR.DamascusNashabiahAnimal Production33Mohammad Sabry Shawish

No	Name	Governorate	Employment	Specialty	Age	Year
60	Muamar Al Khalil	Daraa	Mzerieb	General	37	2006
61	Husain Ramadan	Daraa	Jileen	Agronomy	40	2006
62	Muneeb Al Jibawi	Daraa	Jasem	Agricultural Planning	46	2006
	Kasem Abou Jabal	Daraa	Sheikh Saed	Field Research	38	2006
64	Ayham Zain Abideen	Daraa	Tseel	Animal Production	31	2006
65	Haisam Al Jelm	Daraa	Jasem	Animal Production	31	2006
66	Nidar Al Khalil	Daraa	Nawa	Agricultural Observer	38	2006
67	Husain Shinowan	Daraa	Extension, Daraa	Vegetable Production	37	2006
68	Nabeel Kiwan	Daraa	Tafas Maslaha	General	47	2006
69	Ibrahim Teisan	Daraa	Nawa Maslaha	Farms and Forestry	46	2006
	Mhamad Abdoullah	Daraa	Daraa Agriculture D	Animal Production	60	2006
	Muneer Warad	Daraa	Daraa Agriculture D	General	60	2006
	Mhamad Khraiba	Daraa	Jileen Irrigation S	Rural Engineering	34	2006
	Imad Al Haj Ali	Daraa	Ghazale	Agricultural Observer	31	2007
	Abdul Razak Saleme	Daraa	Karak	Agronomy	34	2007
	Ahmad Ali Rifai	Daraa	Sanamein	Vegetable Production	36	2007
	Abdul Hakim Al Hamid	Daraa	Enkhal		35	2007
	Khaldoun Al Ghazale	Daraa	Namer	Animal Production	34	2007
	Ghasan Al Sabsby	Daraa	Mzereeb	Animal Production	40	2009
	Mohammad Al Yousef	Daraa	Jleen	Plant Protection	28	2009
	Kasem Al Nator	Daraa	Sheikh Saad	Plant Protection	29	2009
	Talat Mohsen	Daraa	Ouia Ouia	Rural Engineering	33	2009
	Amar Al Hamad	Daraa	Yadora	Field Crops	41	2009
	Ahmad Al Jundi	Daraa	Nawa	Animal Production	40	2009
	Hkmat Al Zuaby	Daraa	Mliha Al-Garbiah	Animal Production	36	2009
	Naziah Qadah	Daraa	Hrak	Plant Protection	41	2009
	Naseem Salamah	Daraa	Ouniah	Seed Technology	42	2009
	Basher Al Naser	Daraa	Khabab	Agricultural Economy	39	2009
	Yaser Ershid	Daraa	Msifra supporting	Animal Production		2010
	Mnahal Abou Alsal	Daraa	Sheikh Saad	Animal Production		2010
	Ayman Mhamad Al Shraa	Daraa	Dael	General		2010
	Yaser Mhamad Aun	Daraa	Nawa	Plant Protection		2010
	Mhamad Nour Brumow	Daraa	Mzereeb	Crops		2010
93	AbdalRahman Abdullatif Al Khrat	Daraa	Hrak	General		2010
94	Ayman Yousef Al Muzeeb	Daraa	Sheikh Saad	Agricultural Economy		2010
95	Mhamoud Mhamad Abou Ngta	Daraa	Tafas	General		2010
	Ahamad Mustafa	Daraa	Yadooda	Rural Engineering	26	2011
	Aamer Barmo	Daraa	Mzereeb	Environment	27	2011
	Wedam Muslem	Daraa	Sheikh Saad	General	26	2011
	Muhammad Bashir Hareeri	Daraa	Ebtta	Animal Production	26	2011
	Rana Musa	Daraa	Ghariey Sharqi	Orchard	24	2011
	Haitham Isawi	Daraa	Daraa	Animal Production	26	2011
	Safaa Hareeri	Daraa	Sheikh Meskeen	Crops	25	2011
	Ahamad Abu Khashreen	Daraa	Ain Thiker	Plant Protection	26	2011
	Umara Faleh	Daraa	Tal shhab	Plant Protection	27	2011
	Mhamad Haj Hasan	Hama	Kafr Zeita	Orchard	36	2006
	Omar Omar	Hama	Latamne	Field Crops	50	2006
	AbdulNasr Al Qasoum	Hama	Hamamiat	General	52	2006
	Hasan Bazow	Hama	Kafr Zeita	Environment & Forest	33	2006
	AbdulMonam Al Shaar	Hama	Kafr Zeita	General	51	2006
	Asi Asi	Hama	Majdal	Animal Production	49	2006
	Ahmad Othman	Hama	Halfaya	General	44	2006
112	Ahmad AbdulMalik	Hama	Maerzaf	Soil & Land Reform	36	2006
113	Mahmoud Aziz A Abd	Hama	Zalaqiat		54	2006
114	Mohamad Omar	Hama	Shaikha	Field Crops	55	2006
115	Saleh Mansour	Hama	Rabiaa	General	52	2006
	Mohamad Moafak Al Najar	Hama	Tizeen	General	48	2006
	Obaida Agha	Hama	Hama	Orchard	36	2006
	Husam Obaysi	Hama	Extension, Hama	General	51	2006
	Mahmoud Al Nahir	Hama	Extension, Hama		54	2006
11/	IVIGITIIOUU AI INAIIII	1 141114	Latension, Haina	1	<b>∪</b> ¬	2000

	Name	Governorate	Employment	Specialty	Age	Year
	Mhamad Al Khalil	Hama	Tibet Al Imam, Soran	Agricultural Observer	56	2007
		Hama	Morek, Soran	Vegetable Production	45	2007
122	Abdul Moaen Gazallah	Hama	Khatab, Hama	General	50	2007
123	Abdullah Hayder	Hama	Tal Al Dara, Salamie	Land Reform	56	2007
		Hama	Deir Al Fardes,	Farms	55	2007
125	Hoda Al-Dobiat	Hama	Akyrbat	General	43	2009
126	Ahmad Al-Najar	Hama	Al Shiha	Animal Production	28	2009
127	Abed Al-Kareem Al Hamud	Hama	Mourk	Field Crops	38	2009
128	Mostafa Al Thaljah	Hama	Zlakiat	Field Crops	47	2009
129	Wadiaa Khalil	Hama	Misiaf center	Soil	30	2009
130	Baseem Al Boudi	Hama	Bareen	General	28	2009
131	Ibraheem Farasha	Hama	Al-Hamra supporting	Environment & Forest	30	2009
132	Ghada Abaad	Hama	Taldara supporting unit	Plant Protection	30	2009
133	George Al Sager	Hama	Mazraf	General	47	2009
134	Faisal Ahamad Al Mahmud	Hama	Tizeen	Soil	27	2010
	Usam Suidan	Hama	Akarib unit	Environment	29	2010
136	Abeer Garatly	Hama	Om Al Omad	Environment & Forest	27	2010
	Abd Allah Daoun	Hama	Khnafis	Orchard	41	2010
	Ali Abo Al Jadel	Hama	Rabo	Environment & Forest	28	2010
139	Yousef Al Mohammad	Hama	Bareen	General	27	2010
140	Mahmud Al Khatab	Hama	Mardas	Animal Production	28	2010
141	Safouan Madhy	Hama	Majdal	Rural Engineering	27	2010
142	Abed Al Kareem Al Qadour	Hama	Hamamaiat	Rural Engineering	27	2010
143	Mohammad Wasouf	Hama	Kafer Kadah		29	2010
144	Najat Sfaf	Hama	Hama Extension	Nutrient Science	30	2010
145	Najwa Meny	Hama	Salamia	Environment	26	2011
	Bahaa Alden Jammal	Hama	Sheeha	Orchard	28	2011
147	Usama Al Fahed	Hama	Khattab	General	27	2011
148	Ghasan Hamad	Hama	Rabeeaa	Soil Reclamation	28	2011
149	Mustafa Al Khani	Hama	Dair Al Fardis	Animal Production	27	2011
150	Farah Al Qaseer	Hama	Saboura	Orchard	26	2011
151	Hanna Sawaf	Hama	Maarzaf	Rural Engineering	26	2011
152	Abd Al Mutaleb Ahmad	Hama	Dair Al Fardis	General	26	2011
153	Hassan Houri	Aleppo	Kafar Nouran	General	50	2009
154	Samr Shamoqa	Aleppo	Agricultural Dept	Food sciences	31	2009
155	Ibrahim Bridi	Aleppo	Agricultural Dept	Food Industry	29	2009
156	Alli Alhallaq	Aleppo	Al Atareb	Field Crops	38	2009
157	Ahmad Houri	Aleppo	Jine	Basic sciences	52	2009
158	Jumaa Bakkour	Aleppo	Ibin	Horticulture	38	2009
159	Maroan Naoazi	Aleppo	Batbo	Basic sciences	57	2009
160	Alli Naji Alhusain Alobaid	Aleppo	Al Eis supporting	Soil Reclamation	41	2009
161	Ramadan Mohammad Al Shikh	Aleppo	Al Bab	General(Irrigation/Orchard)	47	2010
162	Wahib Balwi	Aleppo	Nbel	Plant Protection	41	2010
162		Aleppo	Om Hosh	Irrigation	57	2010
103	Mustafa Moslem	Alcppo	Omminosm			2010
	Mustafa Moslem Taha Al Saeed	Aleppo	Agricultural Dept	Plant Protection	29	2010
164 165	Taha Al Saeed Hasan Sheikh Miro	Aleppo Aleppo		Plant Protection Plant Protection	29 47	2010
164 165	Taha Al Saeed	Aleppo Aleppo Aleppo	Agricultural Dept	Plant Protection Crops		
164 165 166	Taha Al Saeed Hasan Sheikh Miro	Aleppo Aleppo Aleppo	Agricultural Dept Maskan	Plant Protection	47	2010
164 165 166 167	Taha Al Saeed Hasan Sheikh Miro Ayman Aboud	Aleppo Aleppo Aleppo	Agricultural Dept Maskan Al Kabisah	Plant Protection Crops	47 46	2010 2010
164 165 166 167 168	Taha Al Saeed Hasan Sheikh Miro Ayman Aboud Radwan Abed Al Rahman	Aleppo Aleppo Aleppo	Agricultural Dept Maskan Al Kabisah Al Ghazawiah	Plant Protection Crops Plant Protection Animal Production Orchard	47 46 32	2010 2010 2010
164 165 166 167 168 169	Taha Al Saeed Hasan Sheikh Miro Ayman Aboud Radwan Abed Al Rahman Ahmad Issa Basha	Aleppo Aleppo Aleppo Aleppo Aleppo	Agricultural Dept Maskan Al Kabisah Al Ghazawiah Job Al Safa	Plant Protection Crops Plant Protection Animal Production	47 46 32 43	2010 2010 2010 2010 2010 2010 2011
164 165 166 167 168 169 170	Taha Al Saeed Hasan Sheikh Miro Ayman Aboud Radwan Abed Al Rahman Ahmad Issa Basha Salman Al Tanje Hadi Istanbouly Mhammad Hasan Mhammad	Aleppo	Agricultural Dept Maskan Al Kabisah Al Ghazawiah Job Al Safa Shioukh Fokani	Plant Protection Crops Plant Protection Animal Production Orchard	47 46 32 43 33	2010 2010 2010 2010 2010
164 165 166 167 168 169 170	Taha Al Saeed Hasan Sheikh Miro Ayman Aboud Radwan Abed Al Rahman Ahmad Issa Basha Salman Al Tanje Hadi Istanbouly	Aleppo	Agricultural Dept Maskan Al Kabisah Al Ghazawiah Job Al Safa Shioukh Fokani Al Ais	Plant Protection Crops Plant Protection Animal Production Orchard Plant Protection	47 46 32 43 33 27 50 37	2010 2010 2010 2010 2010 2010 2011 2011
164 165 166 167 168 169 170 171	Taha Al Saeed Hasan Sheikh Miro Ayman Aboud Radwan Abed Al Rahman Ahmad Issa Basha Salman Al Tanje Hadi Istanbouly Mhammad Hasan Mhammad	Aleppo	Agricultural Dept Maskan Al Kabisah Al Ghazawiah Job Al Safa Shioukh Fokani Al Ais Hameema Kabir	Plant Protection Crops Plant Protection Animal Production Orchard Plant Protection General	47 46 32 43 33 27 50	2010 2010 2010 2010 2010 2011 2011
164 165 166 167 168 169 170 171 172 173	Taha Al Saeed Hasan Sheikh Miro Ayman Aboud Radwan Abed Al Rahman Ahmad Issa Basha Salman Al Tanje Hadi Istanbouly Mhammad Hasan Mhammad Zakaria Kujuk	Aleppo	Agricultural Dept Maskan Al Kabisah Al Ghazawiah Job Al Safa Shioukh Fokani Al Ais Hameema Kabir Al Sfeera	Plant Protection Crops Plant Protection Animal Production Orchard Plant Protection General Soil Reclamation	47 46 32 43 33 27 50 37 31 30	2010 2010 2010 2010 2010 2010 2011 2011
164 165 166 167 168 169 170 171 172 173 174	Taha Al Saeed Hasan Sheikh Miro Ayman Aboud Radwan Abed Al Rahman Ahmad Issa Basha Salman Al Tanje Hadi Istanbouly Mhammad Hasan Mhammad Zakaria Kujuk Mhammad Anas Alafandi	Aleppo	Agricultural Dept Maskan Al Kabisah Al Ghazawiah Job Al Safa Shioukh Fokani Al Ais Hameema Kabir Al Sfeera Tal Alm	Plant Protection Crops Plant Protection Animal Production Orchard Plant Protection General Soil Reclamation Nutrient Science	47 46 32 43 33 27 50 37 31	2010 2010 2010 2010 2010 2010 2011 2011
164 165 166 167 168 169 170 171 172 173 174 175	Taha Al Saeed Hasan Sheikh Miro Ayman Aboud Radwan Abed Al Rahman Ahmad Issa Basha Salman Al Tanje Hadi Istanbouly Mhammad Hasan Mhammad Zakaria Kujuk Mhammad Anas Alafandi Abd Al Rahman Al Mousa	Aleppo	Agricultural Dept Maskan Al Kabisah Al Ghazawiah Job Al Safa Shioukh Fokani Al Ais Hameema Kabir Al Sfeera Tal Alm Al Maamoura	Plant Protection Crops Plant Protection Animal Production Orchard Plant Protection General Soil Reclamation Nutrient Science Orchard	47 46 32 43 33 27 50 37 31 30	2010 2010 2010 2010 2010 2011 2011 2011 2011 2011
164 165 166 167 168 169 170 171 172 173 174 175 176	Taha Al Saeed Hasan Sheikh Miro Ayman Aboud Radwan Abed Al Rahman Ahmad Issa Basha Salman Al Tanje Hadi Istanbouly Mhammad Hasan Mhammad Zakaria Kujuk Mhammad Anas Alafandi Abd Al Rahman Al Mousa Abbas Dada	Aleppo	Agricultural Dept Maskan Al Kabisah Al Ghazawiah Job Al Safa Shioukh Fokani Al Ais Hameema Kabir Al Sfeera Tal Alm Al Maamoura Ajar Kabeer	Plant Protection Crops Plant Protection Animal Production Orchard Plant Protection General Soil Reclamation Nutrient Science Orchard Animal Production	47 46 32 43 33 27 50 37 31 30 25	2010 2010 2010 2010 2010 2010 2011 2011 2011 2011 2011 2011
164 165 166 167 168 169 170 171 172 173 174 175 176 177	Taha Al Saeed Hasan Sheikh Miro Ayman Aboud Radwan Abed Al Rahman Ahmad Issa Basha Salman Al Tanje Hadi Istanbouly Mhammad Hasan Mhammad Zakaria Kujuk Mhammad Anas Alafandi Abd Al Rahman Al Mousa Abbas Dada Usama Ali Yousef	Aleppo	Agricultural Dept Maskan Al Kabisah Al Ghazawiah Job Al Safa Shioukh Fokani Al Ais Hameema Kabir Al Sfeera Tal Alm Al Maamoura Ajar Kabeer Kharous	Plant Protection Crops Plant Protection Animal Production Orchard Plant Protection General Soil Reclamation Nutrient Science Orchard Animal Production Nutrient Science	47 46 32 43 33 27 50 37 31 30 25 27	2010 2010 2010 2010 2010 2011 2011 2011 2011 2011 2011 2011 2011
164 165 166 167 168 169 170 171 172 173 174 175 176 177	Taha Al Saeed Hasan Sheikh Miro Ayman Aboud Radwan Abed Al Rahman Ahmad Issa Basha Salman Al Tanje Hadi Istanbouly Mhammad Hasan Mhammad Zakaria Kujuk Mhammad Anas Alafandi Abd Al Rahman Al Mousa Abbas Dada Usama Ali Yousef Ahmad Darweesh	Aleppo	Agricultural Dept Maskan Al Kabisah Al Ghazawiah Job Al Safa Shioukh Fokani Al Ais Hameema Kabir Al Sfeera Tal Alm Al Maamoura Ajar Kabeer Kharous Ain Dara	Plant Protection Crops Plant Protection Animal Production Orchard Plant Protection General Soil Reclamation Nutrient Science Orchard Animal Production Nutrient Science General	47 46 32 43 33 27 50 37 31 30 25 27 48	2010 2010 2010 2010 2010 2011 2011 2011 2011 2011 2011 2011 2011

No	Name	Governorate	Employment	Specialty	Age	Year
181	Mhamad Al Abdo	Raqqa	Alskaria, Tal Abiad	Agronomist	41	2009
	AbdulRahman Deko	Raqqa	Tel abiad	Agronomist assistant	43	2009
	Rashid Ismael	Raqqa	Beer Arab supporting	Rural Engineering	31	2009
	Khalil Al Alawy	Raqqa	Hammam Altrkman	Agronomist – Forests &	30	2009
185	Mhamad Ali Arab	Raqqa	Ein Issa	Agronomist – Plant	33	2009
186	Awad AbdulRahman	Raqqa	Selwok	Field Crops	32	2009
	Amar Al Khdhr	Raqqa	Extension section	Agriculture	31	2009
188	Saleh AlShwakh	Raqqa	Agricultural Dept	Forests and Environment	35	2009
189	Ibraheem Moslem	Raqqa	Kherbat Al Riz	Soil and Land Reform	32	2010
190	Amer Al Said	Raqqa	Soukaria Al Jukhadar	General	31	2010
191	Fares Al Hamdon	Raqqa	Al Badia, Tal Abyad	Orchard	28	2010
192	Saer Hamodah	Raqqa	Al Wibda	Plant Protection	30	2010
193	Abd Al Kareem Al Bakr	Raqqa	Al Khaialah	Orchard	40	2010
194	Bassam Al Mohsen	Raqqa	Hazimah	General	34	2010
195	Loai Al Masri	Raqqa	Salhabia Sharqia	Animal Production	35	2010
	Waseem Dagmeh	Raqqa	Tishreen	Soil and Land Reform	31	2010
	Basel Amash	Raqqa	Agriculture Dept	Soil	31	2011
	Rasheed Al Saiad	Raqqa	Agriculture Dept	Food Production	30	2011
	Shaweesh Al Sherida	Raqqa	Al Sabkha	General	53	2011
	Mohamad Al Ibraheem	Raqqa	Al Sabkha	Animal Production	35	2011
	Taeemah Al Abed Alaha	Raqqa	Al Nemsa	General	48	2011
	Mohamad Al Hamaad	Raqqa	Tal Abyad	Animal Production	28	2011
	Ibraheem Al Akrab	Raqqa	Ain Esah	General	35	2011
	Ali Al Jabaree	Raqqa	Ber Al Hashem	Animal Production	33	2011
	Ali Alhouseen	Raqqa	Ber Al Hashem	Orchard	34	2011
	Mohamad Ahmad Omar	Raqqa	Khas Ojeel	General	28	2011
	Yaser Al Anzee	Raqqa	Al Karamah	Food Production	27	2011
	Housemen Al Shekh	Raqqa	Al Karamah	Animal Production	30	2011
	Abed Alrazak Hamedi	Raqqa	Slook	Soil	51	2011
	Abed Almajeed Al Nayef	Raqqa	Al Mansoora	Food Production	29	2011
	Mohamad Helal	Raqqa	Al Mansoora	Field Crops	33	2011
	Ily Hadad	RDamascus	DMIC	Agronomy	37	2006
	Diab Al Hanash	RDamascus	DMIC	Irrigation Engineer	43	2006
	Rasha Al Nabwanee	RDamascus	DMIC	Environment & forest	32	2006
	Safa Muhana	RDamascus	DMIC	Agricultural Engineering	42	2006
	Abdul Karem Wassof	RDamascus	DMIC		44	2006
	Samar Dibyat	RDamascus	DMIC	Irrigation Engineer	49	2007
	Shaker Zneqa	Daraa	DMIC	Soil & Land Reform	32	2006
	Mhamoud Shahadat	Daraa	DMIC	Orchard	36	2006
	Snaa Issa	Daraa	DMIC	Rural Engineering	34	2009
	Shadi Farouh	Hama	DMIC	Orchard	32	2006
11	Khudr Hamoud	Hama	DMIC	General	31	2006
12	Hanan Abidow	Hama	DMIC	General	46	2006
13	Sulaiman Shahin	Ghab	DMIC	Civil Eng. Assis	47	2007
14	Ali Saleh Rabia	Lattakia	DMIC	Agricultural Engineering	43	2007
15	Osama Douba	Aleppo	DMIC	Agronomist - Rural	28	2009
16	Othman Al Ali	Raqqa	DMIC	Basic sciences – diploma	45	2009
	AbdulHamoud AlShdeed	Raqqa	DMIC	Field Crops	41	2009
	Rokaia Deeb	Raqqa	DMIC	Rural Engineering	28	2010
-	Jasem Al Ramo	Raqqa	DMIC	Agricultural Engineering	34	2010
	Iad Al Arat	Raqqa	DMIC	Soil and Land Reform	31	2010
-	Heba Al Khalaf	Raqqa	DMIC	Irrigation & Drainage	26	2011
	Mostafa Al Oboo	Raqqa	DMIC	Environment	33	2011
	Khalf AlAbdullah	Raqqa	Irrigation Research, Raqqa	Rural Engineering	29	2009

List of Qualified Irrigation SMS as of July 2012

		dified Irrigation SMS as of						
No	Photo	Name	Governorate	Place of Employment	Specialty	Age	WE	SMS
1		Ahmad Ali Mhammad	R.Damascus	Bait Saber	Agricultural Observer	28	2006	2007
2		Amer Mazoukh	R.Damascus	Kafr Hour	Animal Production	40	2006	2007
3	9	Majd Al Housh	R.Damascus	Arne	Field Crops	38	2006	2007
4	(a)	Walif Hassoun	R.Damascus	Haramoun Maslaha	Engineering	36	2006	2007
5	1	Zaher Abdallah	R.Damascus	Kiswe	Farms	35	2006	2007
6		Hussam Nakhleh	R.Damascus	Surghaya	Vegetable Production	29	2006	2009
7		Wassim Ramadan	R.Damascus	Bait Saber	Vegetable Production	30	2006	2009
8		Dalal Koshuha	R.Damascus	Haran	Agricultural Observer	46	2007	2009
9	1	Ossama Muhanna	R.Damascus	Sahanaya, Extension Section	Field Crops	40	2007	2009
10	60	Khalid Trad	R.Damascus	Al Otibah	Soil and Land Reform	43	2010	2011
11		Rola Hadad	R.Damascus	Artouz	Agricultural Econony	33	2010	2011
12		Haisam Al Jelm	Daraa	Jasem	Animal Production	29	2006	2007
13		Kasem Abou Jabal	Daraa	Sheikh Saad	Field Research	36	2006	2007
14		Husain Shinowan	Daraa	Extension section, Daraa	Vegetable Production	34	2006	2009
15		Ibrahim Teisan	Daraa	Nawa Maslaha	Farms and Forestry	43	2006	2009
16	(50)	Marwan Kiwan	Daraa	Tal Shahab	Agronomy	36	2006	2009
17	1	Nabel Kiwan	Daraa	Nawa	General	45	2006	2009
18	(3)	Ahmad Al Rifai	Daraa	Sanamein	Vegetable Production	33	2007	2009
19	-	Imad Al Haj Ali	Daraa	Ghazale	Agricultural Observer	37	2007	2009
20		Khaldoun Al Ghazale	Daraa	Namer	Animal Production	31	2007	2009
21	(88)	Ahmad Al Jundi	Daraa	Sheikh Saad	Animal Production	39	2009	2011
22		Ghasan Al Sabsby	Daraa	Mzerieb	Animal Production	39	2009	2011
23	0	Hasan Bazow	Hama	Kafr Zeita Maslaha	Environment & Forest	31	2006	2007
24		Husam Obaysi	Hama	Hama Extension Section	General	49	2006	2007
25	1	Mahmoud Al Nahir	Hama	Hama Extension Section	General	46	2006	2007

No	Photo	Name	Governorate	Place of Employment	Specialty	Age	WE	SMS
26	8	Mohamad Moafak Al Najar	Hama	Tizeen	General	52	2006	2007
27	630	Omar Omar	Hama	Latamne	Field Crops	47	2006	2007
28		Abdul Munem Shaar	Hama	Latmeen	General	48	2006	2009
29	Co	Ahmad Abdul Malek Hasan	Hama	Maerzaf	Soil & Land Reform	33	2006	2009
30	80	Mohidin Adel Al Khalaf	Hama	Morek, Soran	Vegetable Production	42	2007	2009
31	3	Abed Al Kareem Al Hamud	Hama	Mourk	Field Crops	38	2009	2011
32		Najat Sfaf	Hama	Hama Extension division	Nutrient Science	30	2010	2011
33		Ahmad Houri	Aleppo	Jine	Basic sciences	51	2009	2011
34	4	Alli Alhallaq	Aleppo	Al Atareb	Field Crops	37	2009	2011
35	8	Hassan Houri	Aleppo	Kafar Nouran	General	49	2009	2011
36		Samr Shamoqa	Aleppo	Agricultural extension Department	Food sciences	30	2009	2011
37	345	Ayman Aboud	Aleppo	Al Kabisah	Crops	45	2010	2011
38		Hasan Sheikh Miro	Aleppo	Maskan	Plant Protection	46	2010	2011
39		Taha Al Saeed	Aleppo	Agricultural extension Department	Plant Protection	28	2010	2011
40		Wahib Balwi	Aleppo	Nbel	Plant Protection	40	2010	2011
41		AbdulRahman Deko	Raqqa	Tal abiad	Agronomist assistant	42	2009	2011
42		Rashid Ismael	Raqqa	Beer Arab	Rural Engineering	30	2009	2011
43	1	Abd Al Kareem Al Bakr	Raqqa	Al-Khaialah	Orchard	39	2010	2011
44	7.40	Fares Al Hamdow	Raqqa	Al Badia (Tal Abyad)	Orchard	27	2010	2011
45	3	Loai Al Masri	Raqqa	Salhabia Sharqia	Animal Production	34	2010	2011
46		Waseem Dagmeh	Raqqa	Tishreen	Soil and Land Reform	30	2010	2011
47	9	Ily Hadad	R.Damascus	DMIC	Agronomy	37	2006	2007
48	A	Rasha Al Nabwanee	R.Damascus	DMIC	Environment & forest	32	2006	2009
49		Shaker Zneqa	Daraa	DMIC	Soil & Land Reform	32	2006	2007
50		Shadi Farouh	Hama	DMIC	Orchard	32	2006	2007
51		Khudr Hamoud	Hama	DMIC	General	31	2006	2009

No	Photo Name	Governorate	Place of Employment	Specialty	Age	WE	SMS
52	Jasem Al Ramo	Raqqa	DMIC	Agricultural Engineering	34	2010	2011

### Annex 6

普及ツール/コンテンツ

### **List of Posters Produced under DEITEX**

Nu	mber of Poster	No. 1	No. 2	No. 3	No. 4
Tit	le of Poster	Control Unit	Filter Cleaning	Sprinkler	Flow Meter
Im	age of Poster	And Street At Land		الانسى الميانة الانسى الميانة الانسى الميانة الانسى الميانة	to sub-line get, such under singe famely
Со	ntents of Poster	Typical Layout of Control Unit	Importance of Cleaning Filter in Proper Manner	Importance of Fixing Rubber Fitting for Sprinkler Riser	Importance of Installing Flow Meter in Control Unit
	Damascus	225	225	225	225
To	Daraa	225	225	225	225
ited	Hama	225	225	225	225
Distributed	Aleppo				
Dis	Raqqa				
	Total	800 in All Syria	800 in All Syria	800 in All Syria	800 in All Syria

Nu	mber of Poster	No. 5	No. 6	No. 7	No. 8	
Tit	le of Poster	Spagetti Tube	Water Saving	Water Saving	Warning	
Image of Poster		State calls have cauchy appeals			برز فنادتبار ارتباعتران ا	
Co	ntents of Poster	Importance of Fix Emitter at the End of Spagetti Tube	Importance of Saving Irrigation Water	Importance of Saving Irrigation Water	Present Situation of Groundwater Depletion	
	Damascus	225		225		
To	Daraa	225		225		
	Hama	225		225		
Distributed	Aleppo					
Dis	Raqqa					
	Total	800 in All Syria	21 in All Syria	800 in All Syria	30 in All Syria	

Nu	mber of Poster	No. 9	No. 10	No. 11	No. 12	
Tit	le of Poster	Water Conservation	Water Saving	Water Saving	Water Saving	
Image of Poster		The Continue of the Continue o	Hard State of the		Law Dec (1.3	
Co	ntents of Poster	Modern Irrigation for Water Conservation	Importance of Saving Irrigation Water	Importance of Saving Irrigation Water	Importance of Saving Irrigation Water	
	Damascus			225		
Го	Daraa			225		
rted,	Hama			225		
Distributed To	Aleppo					
Ď.	Raqqa					
	Total	5,000 in All Syria	50 in All Syria	800 in All Syria	50 in All Syria	

### List of posters produced under DEITEX 2

Nu	mber of Poster	No. 13	No. 14	No. 15	No. 16
Tit	le of Poster	Drip Emitter	Warning	Water Saving	Sprinkler
Image of Poster		(2) Sal 2 (2) (2) (3) Albert Y	2020 2006	Y EX. (a. b.) Discopell (b.) Discope	Service Color Control of the Color of the Co
Co	ntents of Poster	Drip Emitter For Tree	Importance of Water Conservation	Importance of Water Saving	Pressure Control for Sprinkler
	Damascus				
To	Daraa				
	Hama				
Distributed	Aleppo	25	25	25	25
Dis	Raqqa	25	25	25	25
	Total	50	50	50	50

Nu	mber of Poster	No. 17	No. 18	No. 19	No. 20
Tit	le of Poster	Advantage	Warning	Advantage	Control Unit
Im	age of Poster	فواند آنظمة الري الحديثة در تنظيم در تنظيم من سائر شدر عد من الأراض من المائر	بيتما أنت تهتر للو	A COMPANY OF THE PROPERTY OF T	مخاننا هنا على الشيخة
Co	ntents of Poster	Advantage of Modern Irrigation	Warning	Advantage of modern irrigation	Equipment in control unit
	Damascus	225		150	150
To	Daraa	225		150	150
nted	Hama	225		150	150
Distributed	Aleppo			150	150
Ďį	Raqqa			150	150
	Total	800 in All Syria		750	750

Nι	mber of Poster	No. 21	No. 22	No. 23	No. 24
Ti	le of Poster	Proper water amount	Extension activity	Training activity	
Im	age of Poster	الرو المعمدة الروال و يسعد الفجارك	deposit the fall glosel growing health artifalls		
Co	ntents of Poster	150	Extension activity	Training activity	
	Damascus	150	150	150	
To	Daraa	150	150	150	
nted	Hama	150	150	150	
Distributed	Aleppo	150	150	150	
Dis	Raqqa	150	150	150	
	Total	750	750	750	

Number of Brochure	No. 1	No. 2	No. 3	No. 4
Title of Brochure	DEITEX	Filter Cleaning	Installation	Crop Water Requirement
force of Deceluor	The second secon	Service and the service and th		SECOND STATE OF SECOND STATE O
Image of Brochure		Supple September 1992		
Contents of Brochure	Introduction of DEITEX Project	Timing and Method of Filter Cleaning	Proper Installation of Irrigation System	Calculation of Irrigation Interval and Irrigation
O Damascus	200	2500	2500	2500
Daraa	200	2500	2500	2500
Hama	200	2500	2500	2500
Daraa Hama Others  Total	1,400	1500	1500	500
Total	2,000	9000	9000	8000
Number of Brochure	No. 5	No. 6	No. 7	No. 8
Title of Brochure	Upper and Lower Stream	Improper Irrigation System		Agricultural Loan
<i>D.</i> Ooma	Special and 25 No. Street	The special sp	return of the property of the	· ground Estat

Number of Brochure	No. 5	No. 6	No. 7	No. 8
Title of Brochure	Upper and Lower Stream	Improper Irrigation System	Water Conservation	Agricultural Loan
Love of Declare	part is call    In the call	Section of the section of a final section of the se	The state of the s	
Image of Brochure			Epili Theema	
Contact of Decilor	Water Resource is	Improper System does not	Modern Irrigation for	Agricultural Loan for
Contents of Brochure	Common Resource for All	assure anticipated yield	Water Conservation	Modern Irrigation
O Damascus	2500	2500	2500	
	2500	2500	2500	
Daraa Hama Others Total	2500	2500	2500	
Others	500	500	500	
□ Total	8,000	8,000	8,000	15,000 in All Syria

Nu	mber of Brochure	No. 9	No. 10	No. 11	No. 12
Titl	e of Brochure	Advantage	Improved surface irrigation	Irrigation notebook	
Image of Brochure		The second secon	And the second s	Flavor max	
mia	ge of Biochure	Co true Co true	The second secon	Final States	
C		Advantage of Modern	Various methods of	How to use irrigation	
Coi	ntents of Brochure	Irrigation	improved surface	notebook	
•	Damascus	2500		200	
l To	Daraa	2500		200	
ıtec	Hama	2500		200	
Distributed	Aleppo	500	500	200	
Jist	Raqqa		500	200	
Ι	Total	8,000	1,000	1,000	

List of DEITEX news		T	T	1
Number of Newsletter	No. 1	No. 2	No. 3	No. 4
Date of issue	May, 2009	August, 2009	November, 2009	February, 2010
Image of Newsletter		The state of the		The state of the
Contents	Introduction of DEITEX Project	Introduction of training activity	Introduction of demonstration farm and extension activity	Holding DEITEX seminar and taskforce meeting
Damascus	100	100	100	100
Daraa	100	100	100	100
Hama	100	100	100	100
Aleppo	100	100	100	100
Daraa Hama Aleppo Raqqa	100	100	100	100
Total	500	500	500	500
·				
Number of Newsletter	No. 5	No. 6	No. 7	No. 8
Date of issue	May, 2010	August, 2010	November, 2010	February, 2011
Image of Newsletter		The second secon	annial and regime past	general region for
	The second secon			
Contents	Holding GCSAR workshop and reports from local WEs	Opening ceremony of Arne satellite plot	Training course in Japan and reports from local WEs	Midterm eveluation and reports from local WEs
Damascus	100	320	250	250
Daraa Hama	100	320	250	250
플 Hama	100	320	250	250
Aleppo	100	320	250	250
Raqqa	100	320	250	250
Total	500	1,600	1,250	1,250
•				
Number of Newsletter	No. 9	No. 10	No. 11	No. 12
Date of issue	May, 2011	December, 2011		
Image of Newsletter	published region false	general effective flags		
anage of Actionated	The second of th			
Contents	Holding DEITEX seminar and reports from local WEs	Training course in Japan and reports from local WEs		
Damascus	250	240		
Daraa Hama Aleppo Raqqa	250	240		
Hama	250	240		
Aleppo	250	240		
Raqqa	250	240		1
Total	1,250	1,200		
	1,400	19#00	i .	•

### List of Extension tools Produced under DEITEX

Number	No. 1	No. 2	No. 3
Name	Discharge measurement kit	Irrigation calendar (vegetable)	Irrigation calendar (trees)
Image		jica)	TOTAL COLUMN TO THE PARTY OF TH
Distribution	150 farmers	500 Farmers (4 kinds of crops for 5 governorates)	30 Farmers (Rural Damascus only)

Number	No. 4	No. 5	No. 6
Name	Irrigation notebook	Digital irrigation note	
Image	COST JACK	1	
Distribution	1000 books printed	8 Extension units	

