Results from Group Works (1)

Comparison Table between NVS-appraised values and Current Values

Type of Property: LAND

Parcel #	SV	Area Size	NAW	Appraised Values (1: NVS)	Appraised Values (2: current)	Ratio (1/2)
23	250	705	1.08	190,350[*1]	4,230 (2010)	45.0
9	250	669	0.892	149,253.9[*2]	4,014	37.2
18	350	716	1.165	292,036.7[*3]	5,012 (2010)[*4]	58.3

Type of Property: Building

Parcel #	SV	Area Size	NAW	Appraised Values (NVS)	Appraised Values (current)	Ratio (1/2)
12	20	130[*5]	1.20	3,129.6	375	8.3
29	20	180[*6]	0.98	3,522.6	250	14.1
18	30	300[*7]	1.22	10,936.6	17,500	0.6
40	30	150[*8]	1.15	5,175.0	750	6.9

*1: Results of Group 1 and 2 on the first day were taken.

*2: Results of Group 1 and 2 on the last day were taken.

*3: Results of four individual participants on the last day were taken.

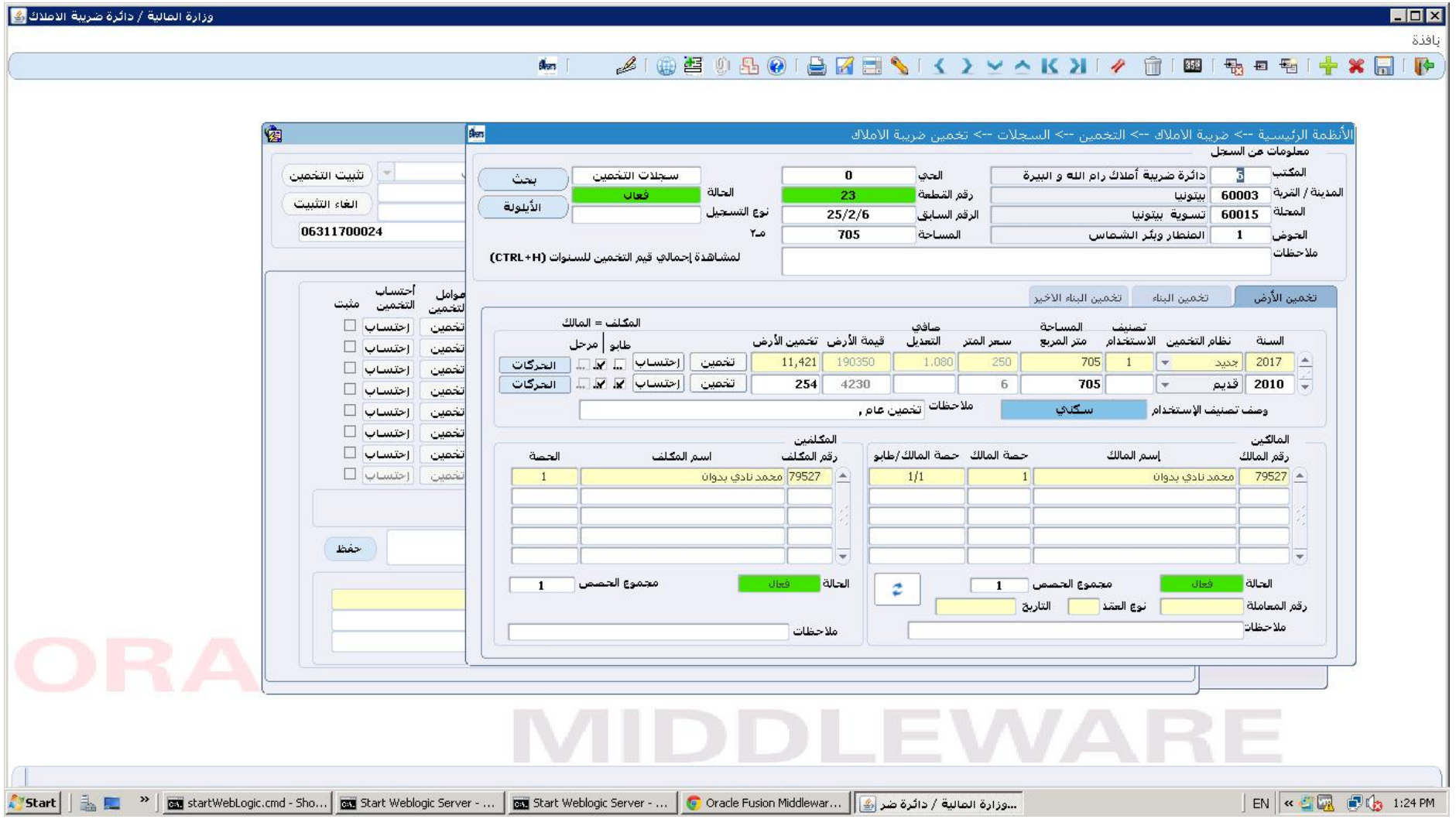
*4: When the building on parcel #18 was appraised in 2014, the land was not subject to valuation because of its area size with less than 1.7 dunums. Thus, value appraised in 2010 when land was vacant was extracted from P-TAX for the comparison purpose.

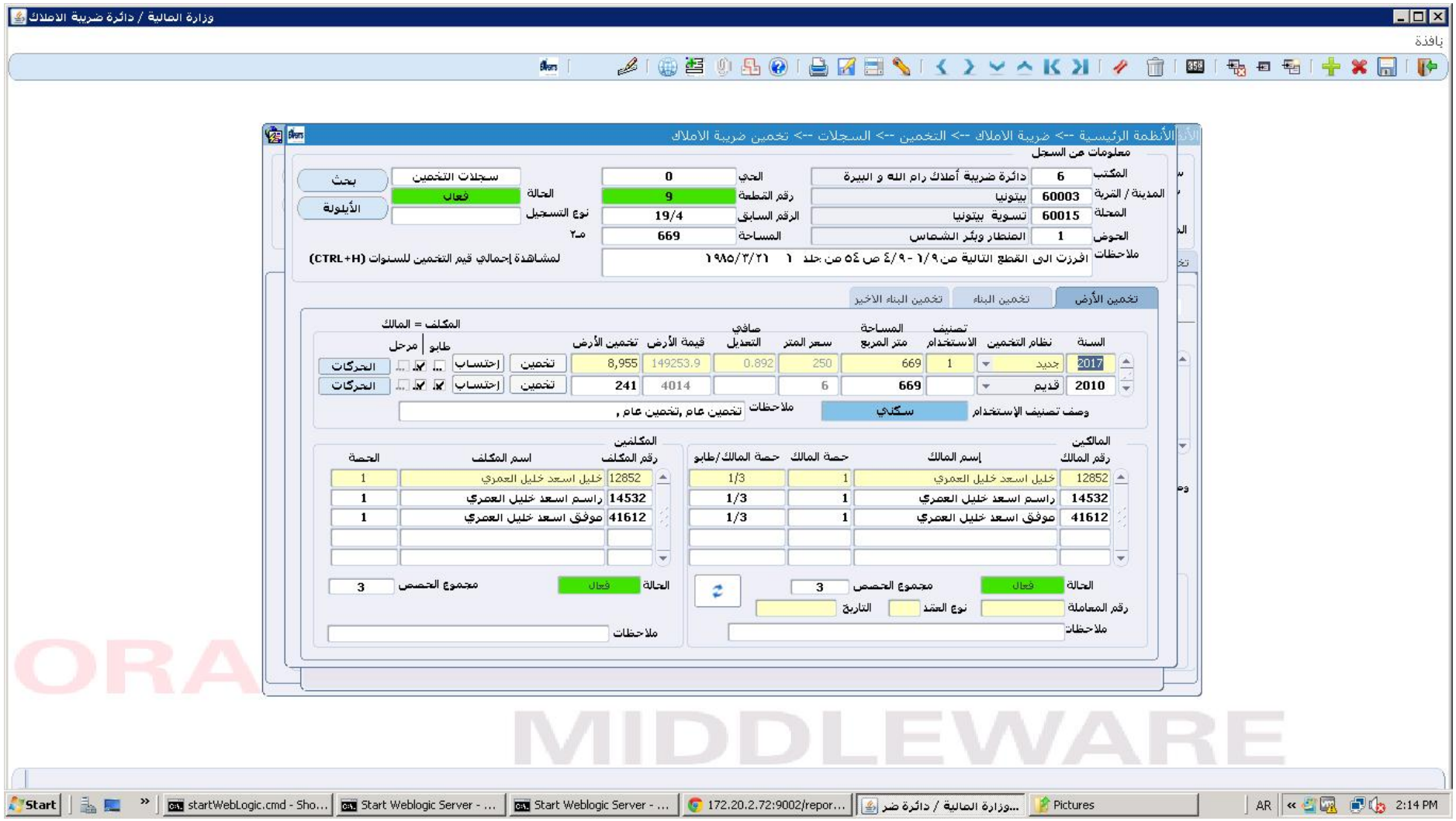
*5: Though 120 ^{m2} was given through the estimation by GIS, some groups have adopted 130 m2 for valuation during the field exercise.

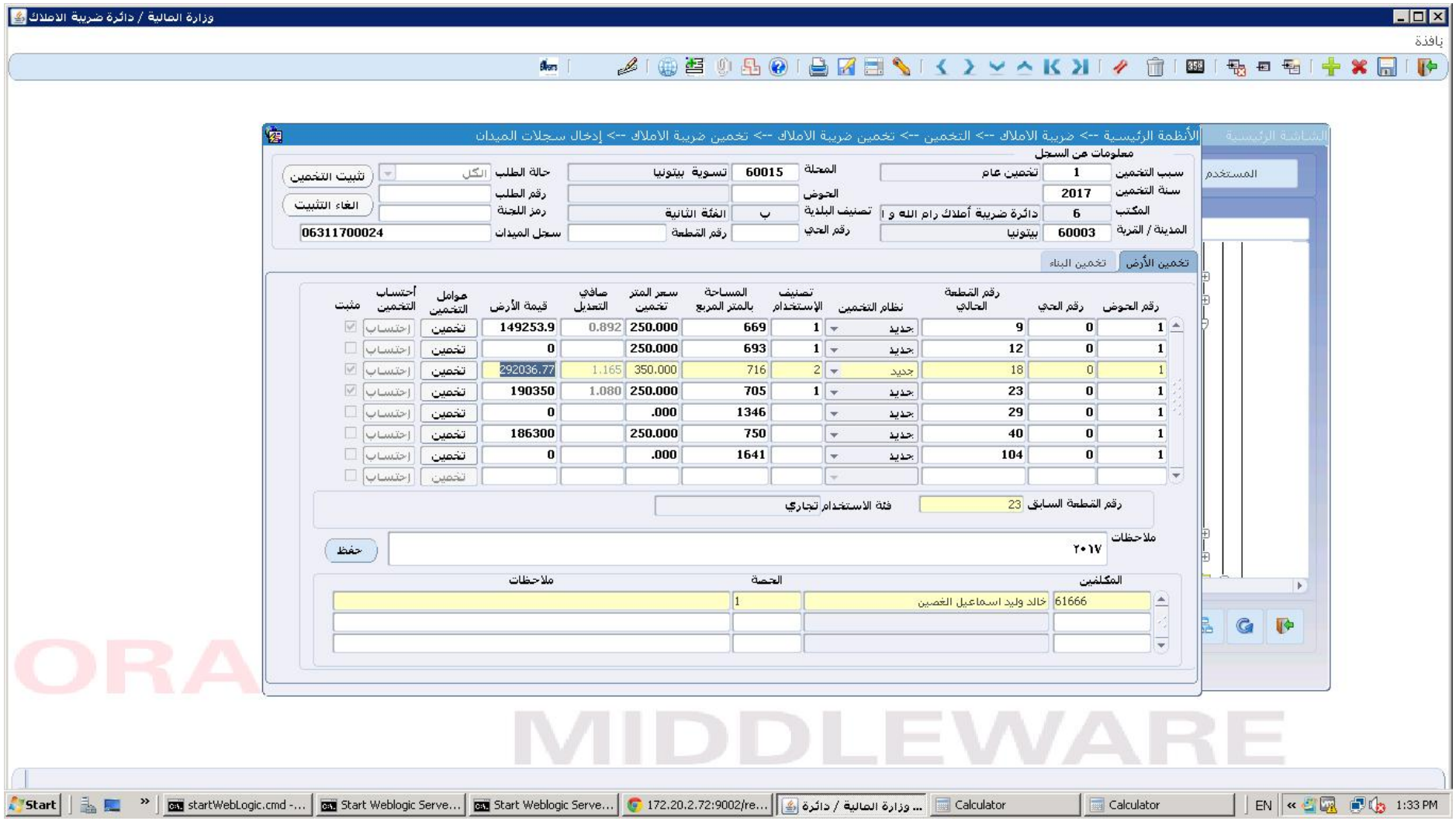
*6: An area-size with 180 ^{m2}, which one participant estimated by using a measuring tape taking into considerations the inclusion of balcony into the area, was taken for this paper. It is noted herewith that a lots of arguments can be made whether or not a balcony should be included. In reference to definitions of building stated in the Technical Manual, a balcony should not be included in the property subject to valuation.

*7: 156 ^{m2} as an estimated area size by GIS was given, but 300 ^{m2} was adopted by participants through their field observation. This difference in estimation of flat area size by GIS may be assumed to incur concerning on how to delineate a building by GIS without field investigation on a building which connects with adjacent next buildings.

*8: Even though GIS-estimated figure with 60 m2 was given, participants took 150 m2 as flat-area size. Reasons behind remain unknown since no discussion on this particular issue was made during the session.






وزارة المالية / دائرة ضريبة الاملاك
نافذة
الأنظمة الرئيسية --> ضريبة الاملاك --> التخمين --> تخمين ضريبة الاملاك --> تخمين ضريبة الاملاك --> إدخال سجلات الميدان
الشاشة الرئيسية
المستخدم
معلومات من السجل
سبب التخمين 1 تخمين عام
سنة التخمين 2017
المكتب 6 دائرة ضريبة أملاك رام الله و ا
المدينة / القرية 60003 بيتونيا
المحلة 60015 تسوية بيتونيا
الحوض
تصنيف البلدية ب الفئة الثانية
رقم الحي
رقم القطعة
سجل الميدان 06311700024
حالة الطلب الكل
رقم الطلب
رمز اللجنة
تثبيت التخمين
الغاء التثبيت
تخمين الأرض
تخمين البناء
رقم الحوض
رقم الحي
رقم القطعة الحالي
نظام التخمين
تصنيف الإستخدام
المساحة بالمتر المربع
سعر المتر تخمين
صافي التعديل
قيمة الأرض
هوامل التخمين
أحتساب التخمين
مثبت
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1 0 12 جديد 1 693 250.000 0 تخمين إحتساب
1 0 18 جديد 2 716 350.000 1.165 292036.77 تخمين إحتساب
1 0 23 جديد 1 705 250.000 1.080 190350 تخمين إحتساب
1 0 29 جديد 1346 .000 0 تخمين إحتساب
1 0 40 جديد 750 250.000 186300 تخمين إحتساب
1 0 104 جديد 1641 .000 0 تخمين إحتساب
رقم القطعة السابق 23 فئة الاستخدام تجاري
ملاحظات ٢٠١٧
حفظ
المكلفين الحصة ملاحظات
61666 خالد وليد اسماعيل الخصين 1
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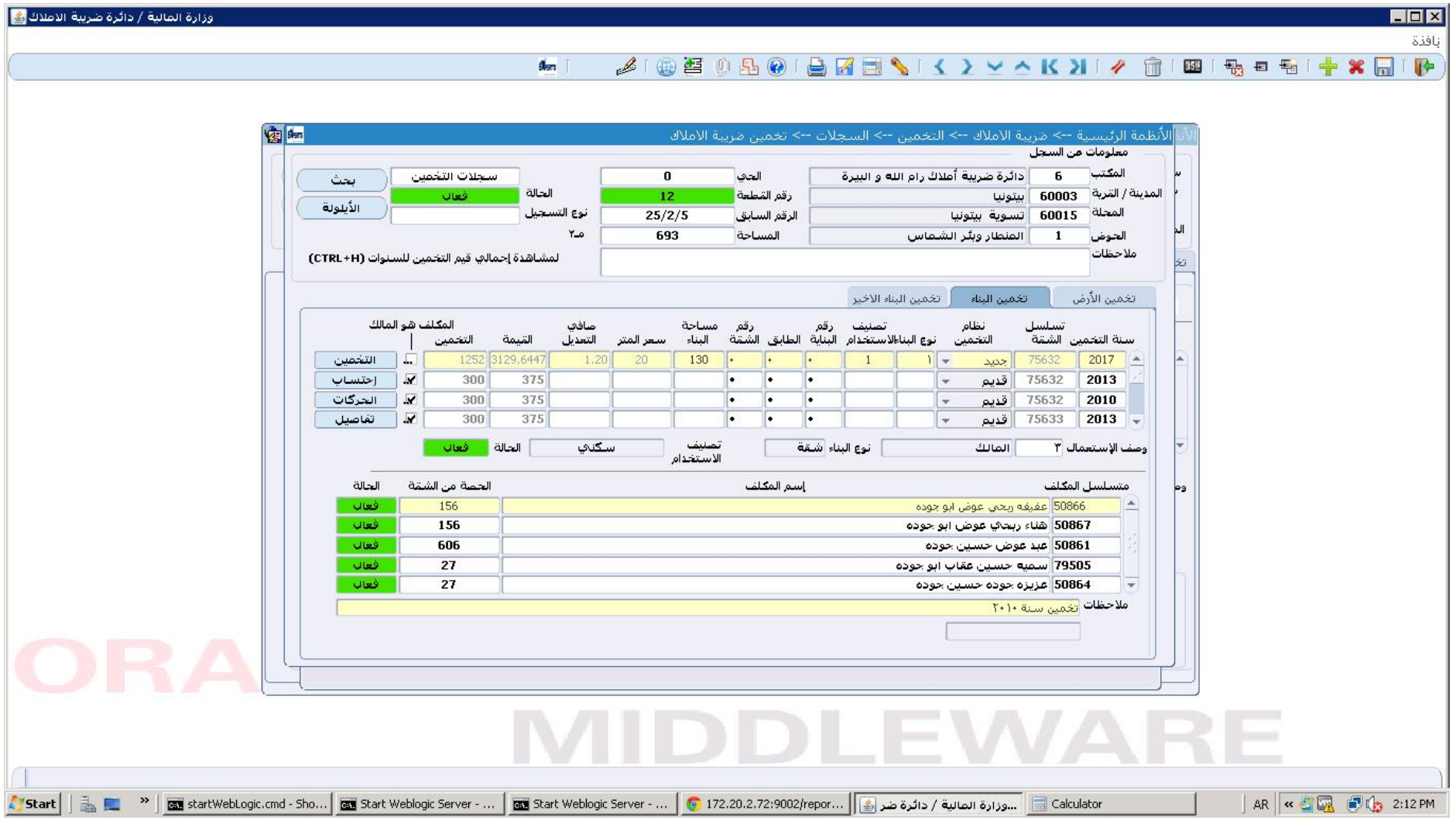
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الأنظمة الرئيسية --> ضريبة الاملاك --> التخمين --> السجلات --> تخمين ضريبة الاملاك
معلومات عن السجل
المكتب 6 دائرة ضريبة أملاك رام الله و البيرة
المدينة / القرية 60003 بيتونيا
المحلة 60015 تسوية بيتونيا
الحوض 1 المنطار وبئر الشماس
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المساحة 693 م٢
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سجلات التخمين
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تخمين البناء
تخمين البناء الاخير
سنة التخمين
تسلسل الشقة
نظام التخمين
نوع البناء
تصنيف الاستخدام
رقم البناية
الطابق
رقم الشقة
مساحة البناء
سعر المتر
صافي التعديل
القيمة
التخمين
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2013 75632 قديم 300 375 300
2010 75632 قديم 300 375 300
2013 75633 قديم 300 375 300
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إحتساب
الحركات
تفاصيل
وصف الإستعمال ٣ المالك
نوع البناء شقة
تصنيف الاستخدام سكني
الحالة فعال
متسلسل المكلف
إسم المكلف
الحصة من الشقة
الحالة
50866 عفيفه ريحي عوض ابو جوده 156 فعال
50867 هناء ريحي عوض ابو جوده 156 فعال
50861 عبد عوض حسين جوده 606 فعال
79505 سميه حسين عقاب ابو جوده 27 فعال
50864 عزيزه جوده حسين جوده 27 فعال
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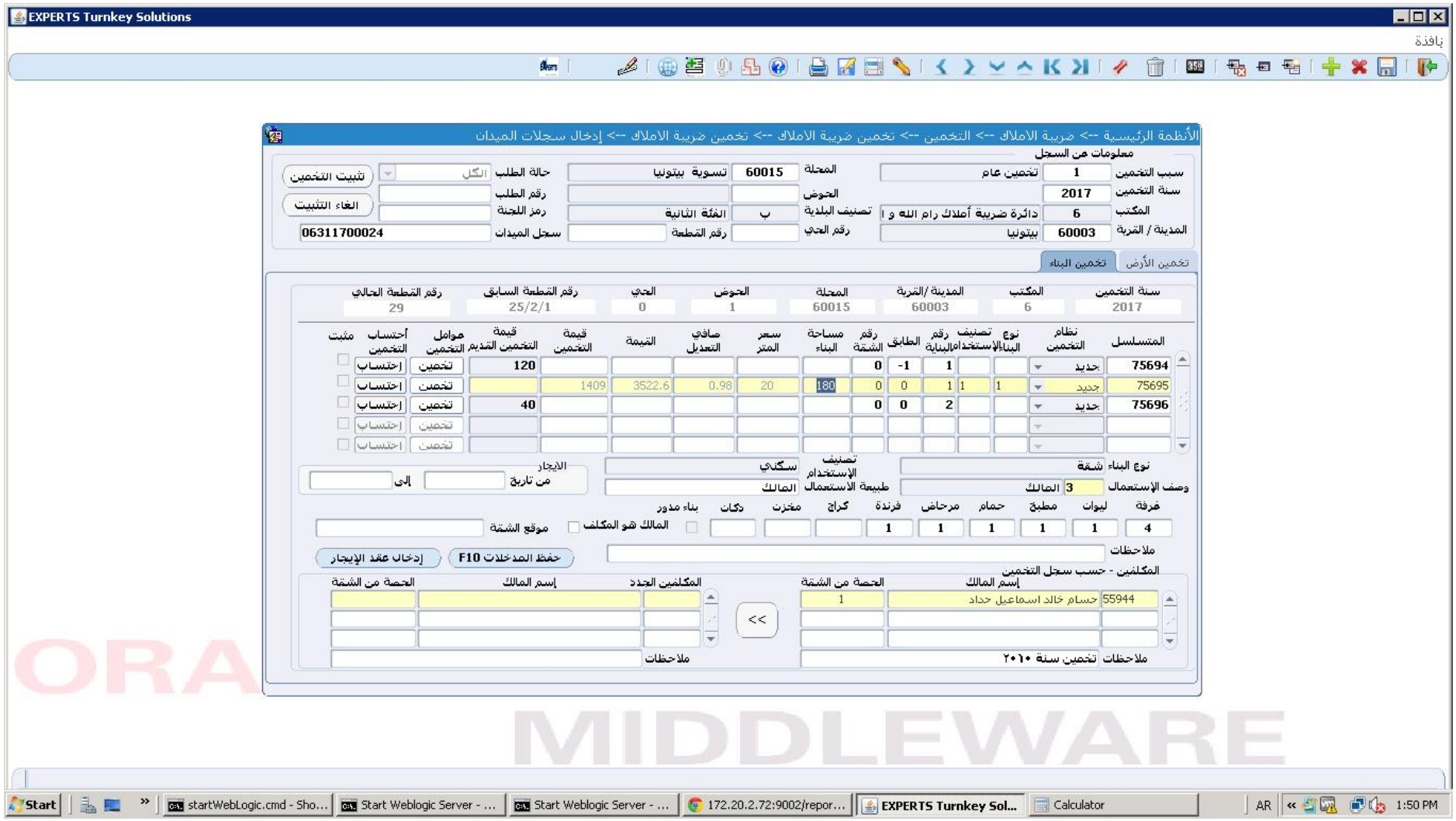
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الأنظمة الرئيسية --> ضريبة الاملاك --> التخمين --> تخمين ضريبة الاملاك --> تخمين ضريبة الاملاك --> إدخال سجلات الميدان
معلومات من السجل
سبب التخمين 1 تخمين عام
سنة التخمين 2017
المكتب 6 دائرة ضريبة أملاك رام الله و ا
المدينة / القرية 60003 بيتونيا
المحلة 60015 تسوية بيتونيا
الحوض
تصنيف البلدية ب الفئة الثانية
رقم الحي
رقم القطعة
سجل الميدان 06311700024
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رقم الطلب
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رقم القطعة الحالي 29
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أحتساب التخمين
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75696 جديد 2 0 0 40 تخمين إحتساب
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تصنيف الإستخدام سكني
وصف الإستعمال 3 المالك
طبيعة الاستعمال المالك
الإيجار من تاريخ إلى
غرفة 4
ليوان 1
مطبخ 1
حمام 1
مرحاض 1
فرندة 1
گراج
مخزن
دكان
بناء مدور
المالك هو المكلف
موقع الشقة
ملاحظات
حفظ المدخلات F10
إدخال عقد الإيجار
المكلفين - حسب سجل التخمين
إسم المالك
الحصة من الشقة
55944 حسام خالد اسماعيل حداد 1
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المكلفين الجدد
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الحصة من الشقة
ملاحظات تخمين سنة ٢٠١٠
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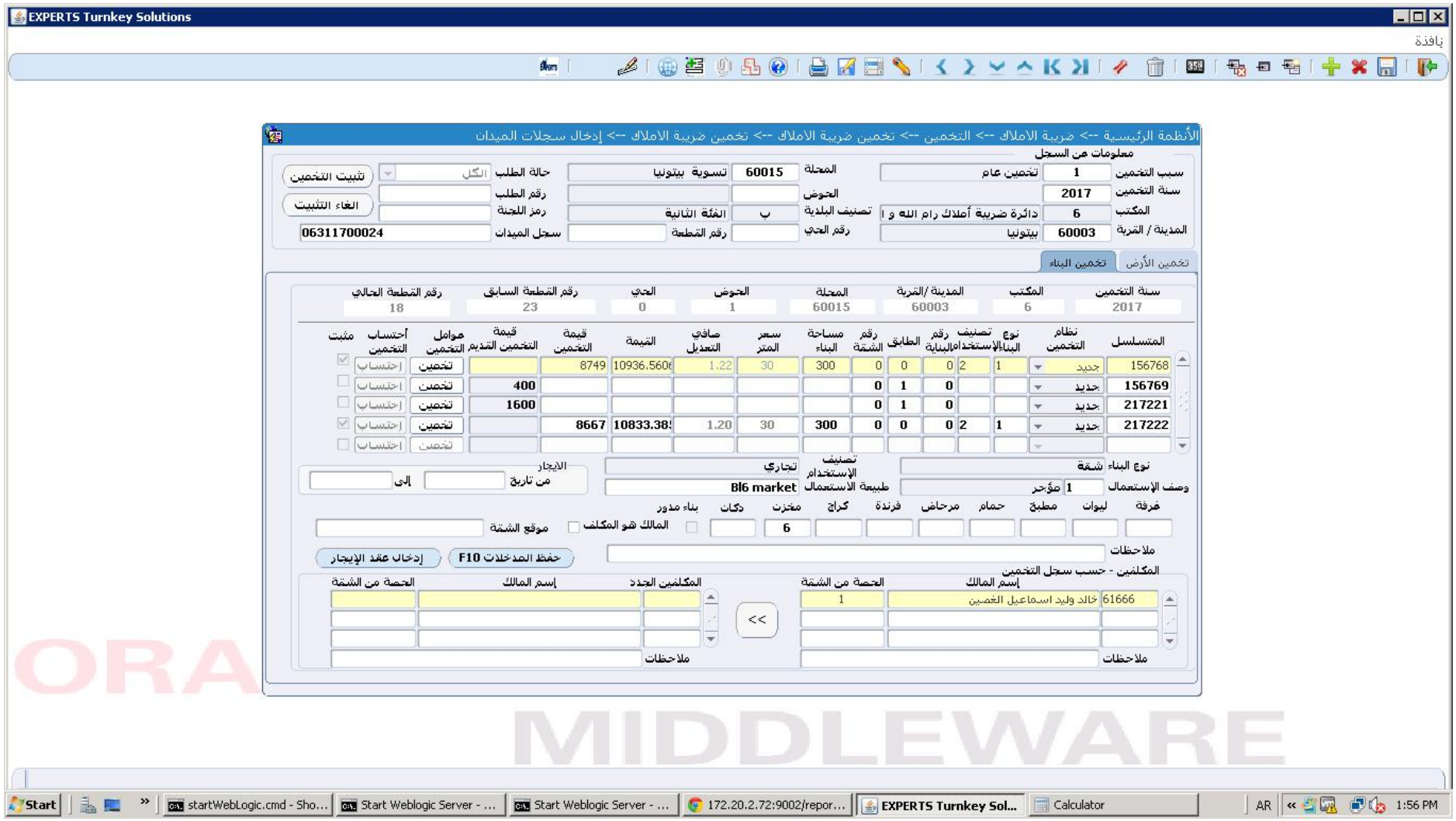
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نافذة
الأنظمة الرئيسية --> ضريبة الاملاك --> التخمين --> تخمين ضريبة الاملاك --> تخمين ضريبة الاملاك --> إدخال سجلات الميدان
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رقم القطعة السابق 23
رقم القطعة الحالي 18
المتسلسل
نظام التخمين
نوع البناء
تصنيف الإستخدام
رقم البناية
الطابق
رقم الشقة
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القيمة
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قيمة التخمين القديم
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أحتساب التخمين
مثبت
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156769 جديد 0 1 0 400 تخمين إحتساب
217221 جديد 0 1 0 1600 تخمين إحتساب
217222 جديد 1 2 0 0 0 300 30 1.20 10833.38 8667 تخمين إحتساب
تخمين إحتساب
نوع البناء شقة
تصنيف الإستخدام تجاري
وصف الإستعمال 1 مؤجر
طبيعة الاستعمال Bl6 market
الإيجار من تاريخ إلى
غرفة ليوان مطبخ حمام مرحاض فرندة كراج مخزن 6 دكان بناء مدور
الملك هو المكلف
موقع الشقة
ملاحظات
حفظ المدخلات F10
إدخال عقد الإيجار
المكلفين - حسب سجل التخمين
إسم الملك
الحصة من الشقة
61666 خالد وليد اسماعيل الخصين 1
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المكلفين الجدد
إسم الملك
الحصة من الشقة
ملاحظات
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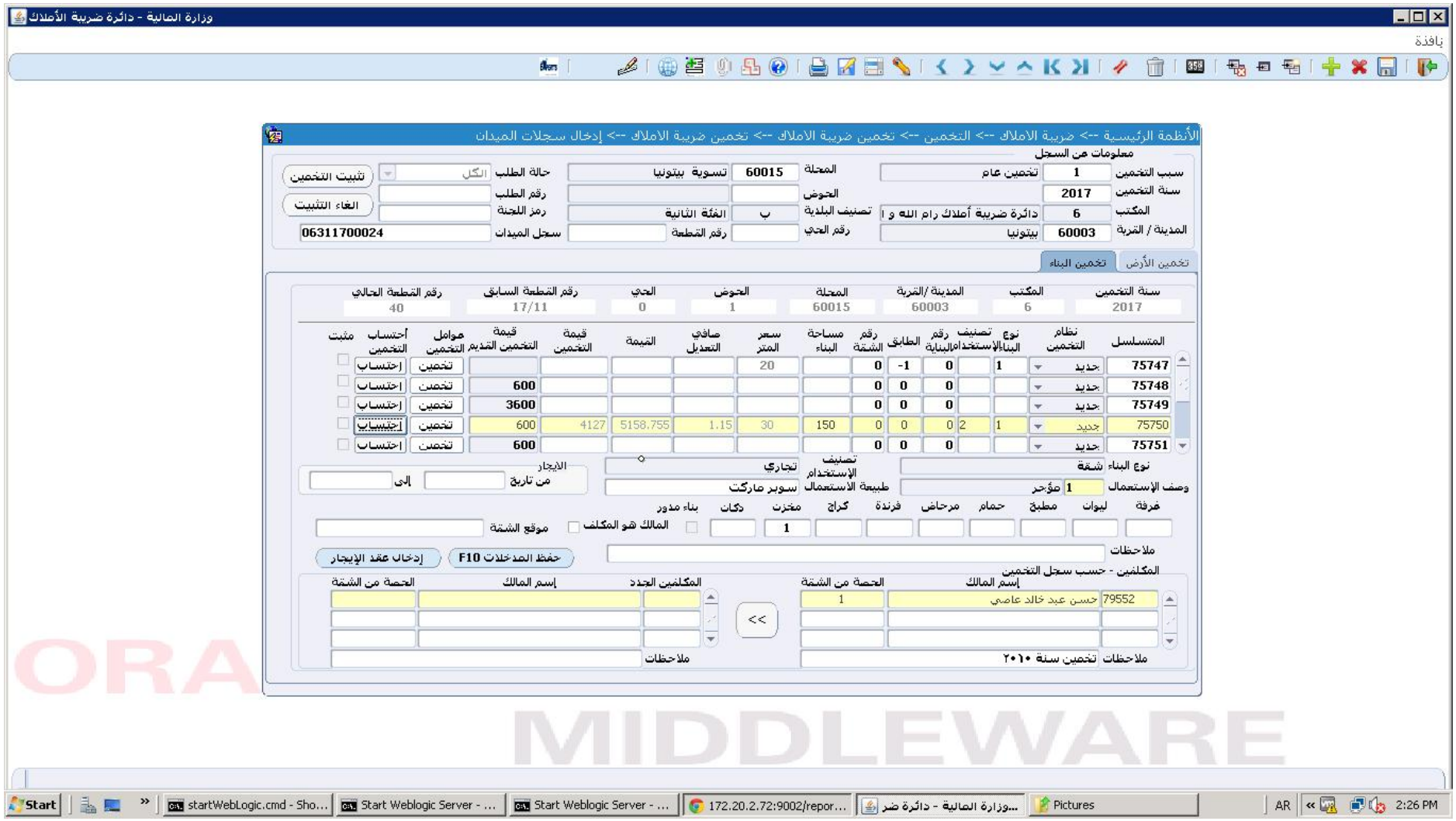


Training in Field Trial Application: Data Processing Sheet of Group Work (For Internal use for trainers and GDPT officials only)

Parcel #	Type	Group	SV	x	Area Size	x	VIF 1 Road Width	x	VIF 2 Location	x	VIF 3 Topograpgy	x	VIF 4 Shape	x	VIF 5 Frontage	=	Appraisaed Value (NVS)	Values appraised before
23	Land	Group 1	250	x	705	x	1.00	x	1.08	x	1.00	x	1.00	x	1.00	=	190,350.00	4,230
		Group 2	250	x	705	x	1.00	x	1.08	x	1.00	x	1.00	x	1.00	=	190,350.00	4,230
		Group 3	250	x	705	x	1.08	x	1.08	x	1.00	x	1.00	x	1.03	=	211,745.34	4,230
9	Land	Group 1	250	x	669	x	0.92	x	1.08	x	1.00	x	1.00	x	0.97	=	161,194.21	4,014
		Group 2	250	x	669	x	0.92	x	1.00	x	1.00	x	1.00	x	0.97	=	149,253.90	4,014
		Group 3	250	x	669	x	0.92	x		x	1.00	x	1.00	x	0.97	=	0.00	4,014
18 (L)	Land	Group 1	350	x	716	x	1.08	x	1.08	x	1.00	x	1.00	x	1.03	=	301,068.84	5,012
		Group 2	350	x	716	x	1.08	x	1.08	x	1.00	x	1.00	x	1.03	=	301,068.84	5,012
		Group 3	350	x	716	x	1.08	x	1.08	x	1.00	x	0.97	x	1.03	=	292,036.77	5,012

* Standard: 1 Inferior: See VIF; Superior: See VIF

** Net Adjustment Weight: VIF 1 x VIF 2 x VIF 3 x VIF 4 x VIF 5 = NAW

Training in Field Trial Application: Data Processing Sheet of Group Work (For Internal use for trainers and GDPT officials only)

Parcel #	Group #	SV	x	Area Size	x	(1) Road Width	x	(2) Location	x	(3) Topography	x	(4) Shape of Parcel	x	(5) Fondatge	=	Appraisaed Value (NVS)	Values appraised before
9	Group 1	250	x	669	x	0.92	x	1	x	1	x	1	x	0.97	=	149,253.9	4,014
	Group 2	250	x	669	x	0.92	x	1	x	1	x	1	x	0.97	=	149,253.9	4,014

* Standard: 1 Inferior: See VIF; Superior: See VIF

** Net Adjustment Weight: VIF 1 x VIF 2 x VIF 3 x VIF 4 x VIF 5 = NAW

Training in Field Trial Application: Data Processing Sheet of Group Work (For Internal use for trainers and GDPT officials only)

Parcel #	Valuator	SV	x	Area Size	x	(1) Road Width	x	(2) Location	x	(3) Topography	x	(4) Shape of Parcel	x	(5) Fondatge	=	Appraisaed Value (NVS)	Values appraised before
18 Land	A	350	x	716	x	1.08	x	1.08	x	1	x	0.97	x	1.03	=	292,036.8	5,012
	B	350	x	716	x	1.08	x	1.08	x	1	x	0.97	x	1	=	283,530.8	
	C	350	x	716	x	1.08	x	1.08	x	1	x	1	x	1.03	=	301,068.8	
	D	350	x	716	x	1.08	x	1.08	x	1	x	0.97	x	1.03	=	292,036.8	5,012
	E	350	x	716	x	1.08	x	1.08	x	1	x	0.97	x	1.03	=	292,036.8	5,012
	F	350	x	716	x	1.08	x	1.08	x	1	x	0.97	x	1.03	=	292,036.8	5,012

* Standard: 1 Inferior: See VIF; Superior: See VIF

** Net Adjustment Weight: VIF 1 x VIF 2 x VIF 3 x VIF 4 x VIF 5 = NAW

Training in Field Trial Application: Data Processing Sheet of Group Work (For Internal use for trainers and GDPT officials only)

Parcel #	Type	Group	SV	x	Area Size	x	VIF 1 Quality and Conditions	x	VIF 2 Localtion	x	VIF 3 Services	x	VIF 4 Floor Location	x	VIF 5 Building Age	=	Appraisaed Value (NVS)	Values appraised before
12	Building	Group 1	20	x	130	x	1.00	x	1.06	x	1.05	x	1.03	x	1.05	=	3,129.64	375
		Group 2	20	x	130	x	1.00	x	1.06	x	1.05	x	1.03	x	1.05	=	3,129.64	375
		Group 3	20	x	120	x	1.00	x	1.06	x	1.05	x	1.03	x	1.05	=	2,888.90	

* Standard: 1 Inferior: See VIF; Superior: See VIF

** Net Adjustment Weight: VIF 1 x VIF 2 x VIF 3 x VIF 4 x VIF 5 = NAW

Training in Field Trial Application: Data Processing Sheet of Group Work (For Internal use for trainers and GDPT officials only)

Parcel #	Group #	SV	x	Area Size	x	(1) Qiality & Condition2	x	(2) Location	x	(3) Services	x	(4) Floor Location	x	(5) Building Age	=	Appraisaed Value (NVS)	Values appraised before
29	Group 1	20	x	150	x	1	x	1	x	1	x	1.03	x	0.95	=	2,935.5	250
	Group 2	20	x	180	x	1	x	1	x	1	x	1.03	x	0.95	=	3,522.6	250

* Standard: 1 Inferior: See VIF; Superior: See VIF

Training in Field Trial Application: Data Processing Sheet of Group Work (For Internal use for trainers and GDPT officials only)

Parcel #	Valuator	SV	x	Area Size	x	(1) Qiality & Condition	x	(2) Location	x	(3) Services	x	(4) Floor Location	x	(5) Building Age	=	Appraisaed Value (NVS)	Values appraised before
18 Building	A	30	x	300	x	1.06	x	1.06	x	1.05	x	1.03	x	1.05	=	11,483.4	
	B	30	x	300	x	1	x	1	x	0.95	x	1.03	x	1.05	=	9,246.8	
	C	30	x	310	x	1.06	x	1.06	x	1.05	x	1.03	x	1.05	=	11,866.2	
	D	30	x	270	x	1	x	1.06	x	1	x	1.03	x	1.05	=	9,285.8	
	E	30	x	300	x	1.06	x	1.06	x	1.05	x	1.03	x	1.05	=	11,483.4	
	F	30	x	300	x	1.06	x	1.06	x	1	x	1.03	x	1.05	=	10,936.6	17,500

* Standard: 1 Inferior: See VIF; Superior: See VIF

** Net Adjustment Weight: VIF 1 x VIF 2 x VIF 3 x VIF 4 x VIF 5 = NAW

Discussion Note for Operation Improvement GDPT
Performance Monitoring Structure

Monitoring Category	Monitoring Report Title	Frequency	Contents	Submission		Target Setting (Report Title)	Quantitative Indicator	Purpose	Note	Steps for Operationalization
				1	2					
Individual Performance Monitoring	Daily Work Report	Daily	Activities done in the day	Staff→Director	Director→ Performance Monitoring Committee	N/A	N/A	1. Check daily work of each staff 2. Evaluate Individual performance of the day	Commence in the middle of February, 2014	1. Fix the reporting format
	Monthly Work Report	Monthly	Activities done in the month			(to be confirmed)	(to be confirmed)	1. Check monthly work of each staff 2. Evaluate Individual performance of the month		
	Daily Individual Performance Monitoring Summary	Weekly	Verificatin result of the Daily Work Report	Performance Monitoring Committee→DG	N/A	N/A	N/A	1. Report verification result to DG 2. Advise DG the staff to be inspected		
	Monthly Individual Performance Monitoring Summary	Monthly	Verificatin result of the Monthly Work Report			N/A	N/A	1. Report verification result to DG 2. Advise DG the staff to be inspected		
Branch Office Performance Monitoring	Daily Office Data Summary	Daily	Daily data to measure office performance	1. IT Department→ DG 2. IT Department→ Office Director	N/A	N/A	(to be confirmed)	Check daily performance of each Office		1. Identify the data required 2. Check the data availability 3. Design reporting format 4. Fix the reporting format 5. Develop IT sysytem for reporting
	Weekly Office Data Summary	Weekly	Weekly data to measure office performance			GDPT Annual Plan (Monthly Target)	(to be confirmed)	1. Check weekly performance of each Office 2. Evaluate office performance of the week		
	Montly Office Data Summary	Monthly	Monthly data to measure office performance			GDPT Annual Plan (Monthly Target)	(to be confirmed)	1. Check monthly performance of each Office 2. Evaluate Office performance of the month 3. Adjust annual monthly target of the Office		
	Yearly Office Data Summary	Yearly	Yearly data to measure office performance			GDPT Annual Plan GDPT Master Plan (Yearly Target)	(to be confirmed)	1. Check yearly performance of each Office 2. Evaluate Office performance of the year 3. Adjust next year's target of the Office		
	Weekly Office Report	Weekly	Weekly qualitative summary of office operatoin	Office Director → DG	N/A	GDPT Annual Plan (Monthly Target)	N/A	1. Identify the issues the Office of the week 2. Identify the reasons of high/low performance of the Office of the week		
	Monthly Office Report	Monthly	Monthly qualitative summary of office operatoin			GDPT Annual Plan (Monthly Target)	N/A	1. Identify the issues of the Office of the month 2. Identify the reasons of high/low performance of the Office of the month 3. Adjust annual monthly target of the Office		
	Yearly Office Report	Yearly	Yearly qualitative summary of office operatoin			GDPT Annual Plan GDPT Master Plan (Yearly Target)	N/A	1. Identify the issues of the Office of the year 2. Identify the reasons of high/low performance of the Office of the year 3. Adjust annual target of the Office		
Departmetnt Performance Monitoring	Weekly Department Report	Weekly	Weekly summary (quontative, auolitative) of Department operatoin	Department Director → DG	N/A	GDPT Annual Plan (Monthly Target)	(to be confirmed)	1. Check weekly performance of the Department 2. Evaluate Department performance of the week 3. Identify the issues of the Department of the week 4. Identify the reasons of high/low performance of the Department of the week	Quantitative indicator should be decided by each Department rexsectively	
	Monthly Department Report	Monthly	Monthly summary (quontative, auolitative) of Department operatoin			GDPT Annual Plan (Monthly Target)	(to be confirmed)	1. Check monthly performance of the Department 2. Evaluate Department performance of the month 3. Identify the issues of the Department of the month 4. Identify the reasons of high/low performance of the Department of the month 5. Adjust annual monthly target of the Department	Quantitative indicator should be decided by each Department rexsectively	
	Yearly Department Report	Yearly	Yearly summary (quontative, auolitative) of Department operatoin			GDPT Annual Plan GDPT Master Plan (Yearly Target)	(to be confirmed)	1. Check yearly performance of the Department 2. Evaluate Department performance of the year 3. Identify the issues of the Department of the year 4. Identify the reasons of high/low performance of the Department of the year 5. Adjust annual target of the Department	Quantitative indicator should be decided by each Department rexsectively	
GDPT Performance Monitoring	Monthly GDPT Data Summary	Monthly	Monthly data to measure office performance	IT Department → DG IT Department → all the Directors	N/A	N/A	(to be confirmed)	1. Check monthly performance of GDPT 2. Evaluate GDPT performance of the month 3. Identify the issues of GDPT of the month 4. Identify the reasons of high/low performance of GDPT of the month 5. Adjust annual monthly target of GDPT		1. Identify the data required 2. Check the data availability 3. Design reporting format 4. Fix the reporting format 5. Develop IT sysytem for reporting
	Annual GDPT Report	Yearly	Yearly report (quontative, auolitative) of GDPT operatoin	TDMU → DG	DG → Minister, MoF	GDPT Annual Plan	(to be confirmed)	1. Check yearly performance of GDPT 2. Evaluate GDPT performance of the year 3. Identify the issues of GDPT of the year 4. Identify the reasons of high/low performance of GDPT of the year 5. Adjust annual target of GDPT		
	3 Years GDPT Report	3 years	3 year report (quontative, auolitative) of GDPT operatoin			GDPT Master Plan	(to be confirmed)	1. Check 3 years performance of GDPT 2. Evaluate GDPT performance of the 3 years 3. Identify the issues of GDPT of the 3 years 4. Identify the reasons of high/low performance of GDPT of the 3 years 5. Set nest 3 years target		

GDPT Training System Structure (Draft)

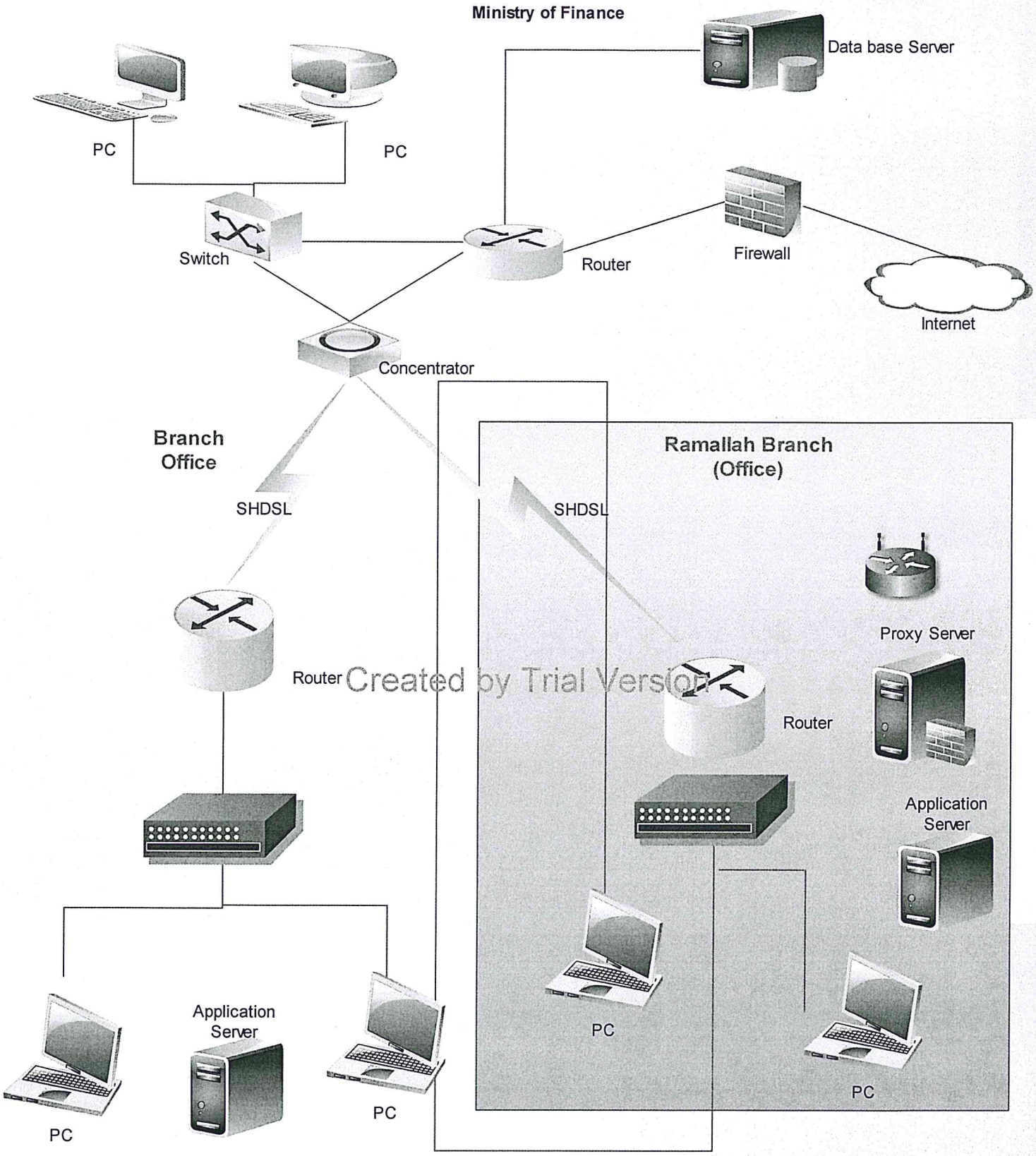
Group	Course Category	Newly Employed Staff	Fresh Staff	Mid-Level Staff	Senior Staff	Management Level
Common Training	GDPT Common	Intoroduction to GDPT	Workshop: Mission of GDPT I	Workshop: Mission of GDPT II	Workshop: Mission of GDPT III	
		Compliance				
	Property Tax	Basics of Property Tax	Property Tax Administration I	Property Tax Administration II	Property Tax Administration	PT Administration in other countries
		Legal Framework or Property Tax I		Legal Framework or Property Tax II		
	Interpersonnal & Human Skill			Team Building		Leadership
				Coaching		
	Business Skill	Documentation	Customer Satisfaction I	Customer Satisfaction II	Customer Relationship II	Top Management
		Business Writing		Customer Relationship I	Management Basic	Strategic Planning
				Meeting Management		Business Anaysis
				Time Management		Human Resource Management
				Business Planning	Management Planning	Performance Monitoring and Evaluation
	IT System	PC Basic				
		Sharepoint Basic				
		P-Tax Basic				
Specialized Training						
Valuation	Valuation	Introduction of New Valuation Standard				
		Basics of Valuation	Workshop: Valuation Case I	Workshop: Valuation Case II	Workshop: Valuation Case III	
		Valuation Procedure				
		Legal Framework of Valuation I		Legal Framework of Valuation II		
Collection	Collection	Introduction of New Valuation Standard				
		Basics of Collection	Workshop: Collection Case I	Workshop: Collection Case II	Workshop: Collection Case III	
		Collectoin Procedures		Detection of Fraud and Forgery		
		Legal Framework of Collection I		Legal Framework of Collection II		
			Negotiation Skill	Negotiation Simulation I	Negotiation Simulation II	
Accountanting	Accounting					
IT	IT					
Other Training	Other Training					

Conducted by J-PVP

【Development Area】

Knowlege　Skill　Attitude　Value

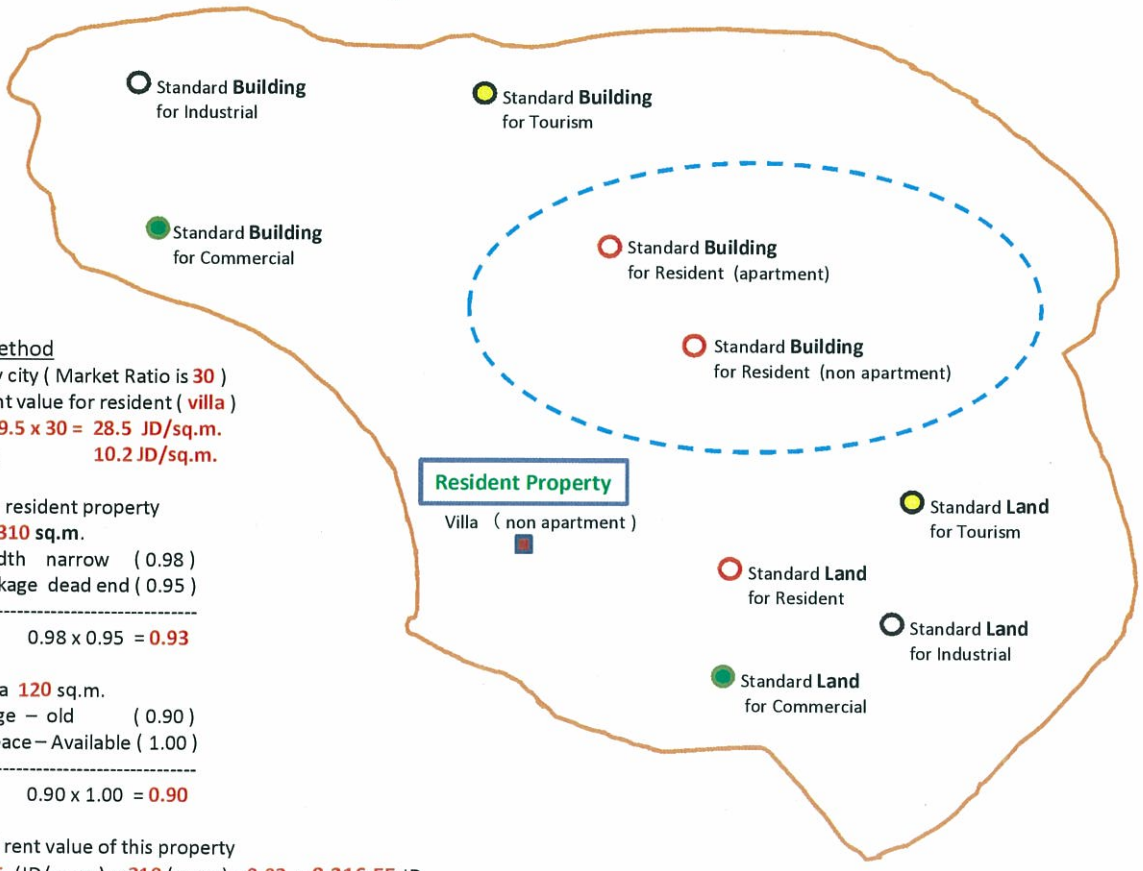
GDPT Network



添付資料 33

General System Design of P-TAX Modification to Operationalize the New Valuation Standards

Quarter



Valuation Method
First Category city (Market Ratio is 30)
Standard point value for resident (villa)
land 9.5 x 30 = 28.5 JD/sq.m.
building 10.2 JD/sq.m.

Valuation for resident property
land area 310 sq.m.
Road – width narrow (0.98)
Road – linkage dead end (0.95)

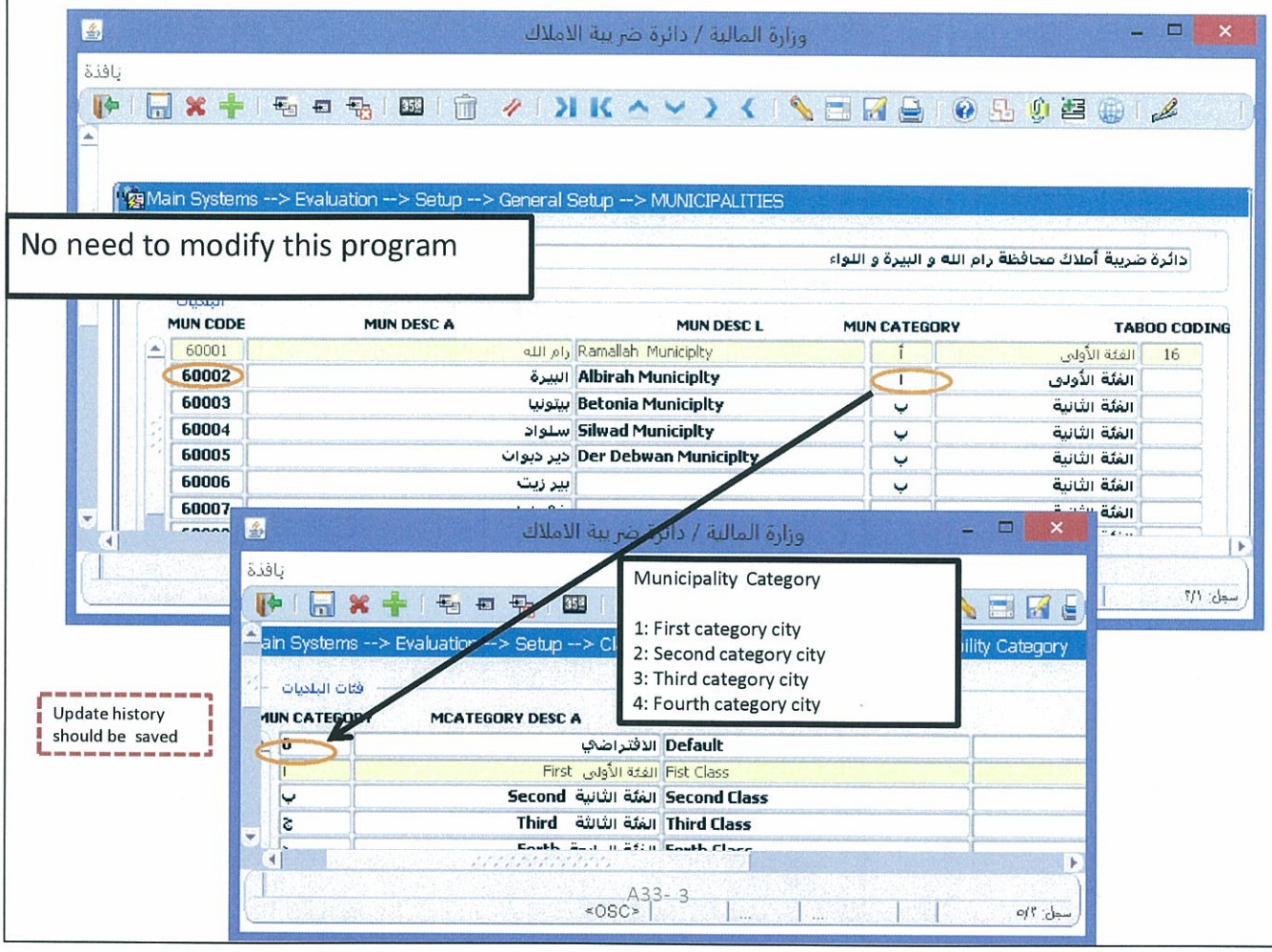
0.98 x 0.95 = 0.93

building area 120 sq.m.
Building age – old (0.90)
Parking Space – Available (1.00)

0.90 x 1.00 = 0.90

Calculation of rent value of this property
land 28.5 (JD/sq.m.) x 310 (sq.m.) x 0.93 = 8,216.55 JD
building 10.2 (JD/sq.m.) x 120 (sq.m.) x 0.90 = 1,101.60 JD

SETUP-1 Municipality Category



SETUP-2 Property type

Two columns for Arabic and English (same as other screens)

code	Property_type
1	Commercial
2	Residential
3	Industrial
4	Tourism
5	Other
6	
7	
8	
9	
10	
11	
12	
13	
14	

Update history should be saved

SETUP-3 Matrix Factor

code	Indicators	Land or Building	Validity for Property type
1	Width	Land	☑ Commercial ☑ Residential ☑ Industrial ☑ Tourism ☐ Other
2	linkage	Land	☑ Commercial ☑ Residential ☑ Industrial ☑ Tourism ☐ Other
3	Pavement	Land	☑ Commercial ☑ Residential ☑ Industrial ☑ Tourism ☐ Other
4	Access to the Central of Municipality	Land	☑ Commercial ☑ Residential ☑ Industrial ☑ Tourism ☐ Other
5	Access to the Main Street or Road	Land	☑ Commercial ☑ Residential ☑ Industrial ☑ Tourism ☐ Other
6	Availability of Public Transportation	Land	☑ Commercial ☑ Residential ☑ Industrial ☑ Tourism ☐ Other
7	Proximity to Retail Stores	Land	☐ Commercial ☑ Residential ☐ Industrial ☑ Tourism ☐ Other
8	Proximity to Public Facilities	Land	☑ Commercial ☑ Residential ☑ Industrial ☐ Tourism ☐ Other
9	Water, Electricity, etc.	Land	☑ Commercial ☑ Residential ☑ Industrial ☑ Tourism ☐ Other
10	esidential Environment	Land	☐ Commercial ☑ Residential ☐ Industrial ☐ Tourism ☐ Other
11	usiness Environment	Land	☑ Commercial ☐ Residential ☐ Industrial ☐ Tourism ☐ Other
12	Proximity to Nuisances	Land	☐ Commercial ☑ Residential ☐ Industrial ☐ Tourism ☐ Other
13	Frontage	Land	☑ Commercial ☑ Residential ☑ Industrial ☑ Tourism ☐ Other
14	Shape	Land	☑ Commercial ☑ Residential ☑ Industrial ☑ Tourism ☐ Other
15	Area	Land	☑ Commercial ☑ Residential ☑ Industrial ☑ Tourism ☐ Other
16	Topography	Land	☑ Commercial ☑ Residential ☑ Industrial ☑ Tourism ☐ Other
17	Location of the Building on the Site	Building	☑ Commercial ☑ Residential ☑ Industrial ☑ Tourism ☐ Other
18	Building Age	Building	☑ Commercial ☑ Residential ☑ Industrial ☑ Tourism ☐ Other
19	Quality of Construction	Building	☑ Commercial ☑ Residential ☑ Industrial ☑ Tourism ☐ Other
20	Floor Location	Building	☑ Commercial ☑ Residential ☐ Industrial ☐ Tourism ☐ Other

Update history should be saved

....

SETUP-4 Valuation Matrix Table

Year 2016 | Municipality Category | Type of Property |

Commercial
Residential
Industrial
Tourism

First category
Second category
Third category
Fourth category

Find

Valid/non-valid

Width	Standard	1.00	☑
	Wide	1.05	☑
	Narrow	0.95	☑
	Slightly Inferior	0.95	☐ non-valid
Linkage	Standard	1.00	☑
	Dead End	0.90	☑
Pavement	Paved	1.00	☑
	Unpaved	0.99	☑
Access to the Center of Municipality	Standard	1.00	☑
	Superior	1.02	☑
	Inferior	0.98	☑

Update history should be saved

....

This is the image of adding data.

Width
Linkage
Pavement
Access to the Center of Municipality
....

Save

Linkage | Inferior | 0.96 | Add

SETUP-5 Standard Point Value

Year 2016 | Department 6 Ramallah

City 60001 Ramallah **First** category Block 10

Local 60001 Ramallah

Find

Quarter	Property Category	Type of Property	Type of building	Standard value (JD/sq.m.)
01	Land	Commercial		9.0
		Residential		8.0
		Industrial		7.0
		Tourism		9.0
	Building	Commercial		8.0
		Residential	Apartment	10.0
			non Apartment	11.0
		Industrial		9.0
		Tourism		8.0

Update history should be saved

Save

SETUP-6 Type of Valuation

code	Property_type
1	New valuation
2	Re valuation
3	objection
4	Etc_1
5	Etc_2
6	
7	
8	
9	
10	
11	
12	
13	
14	

Update history should be saved

Land valuation

Department 6 Ramallah | Block 10 | Year 2016 |
City 60001 Ramallah | Quarter 0
Local 60001 **First** Category city | Parcel 106 | Find

Print Valuation Record Sheet

Other input data
Valuation Date
name of owner
rented or (owner use, not rented)
area info source
type of valuation (pull down menu)
etc

Building | Land

'New VS' programs run independent.
'Old VS' programs will not be changed !!
'New VS' and 'Old VS' run parallel.

Display Data

Commercial
Residential
Industrial
Tourism

Type of Property: Residential |

Get Standard value

Matrix value Data entry

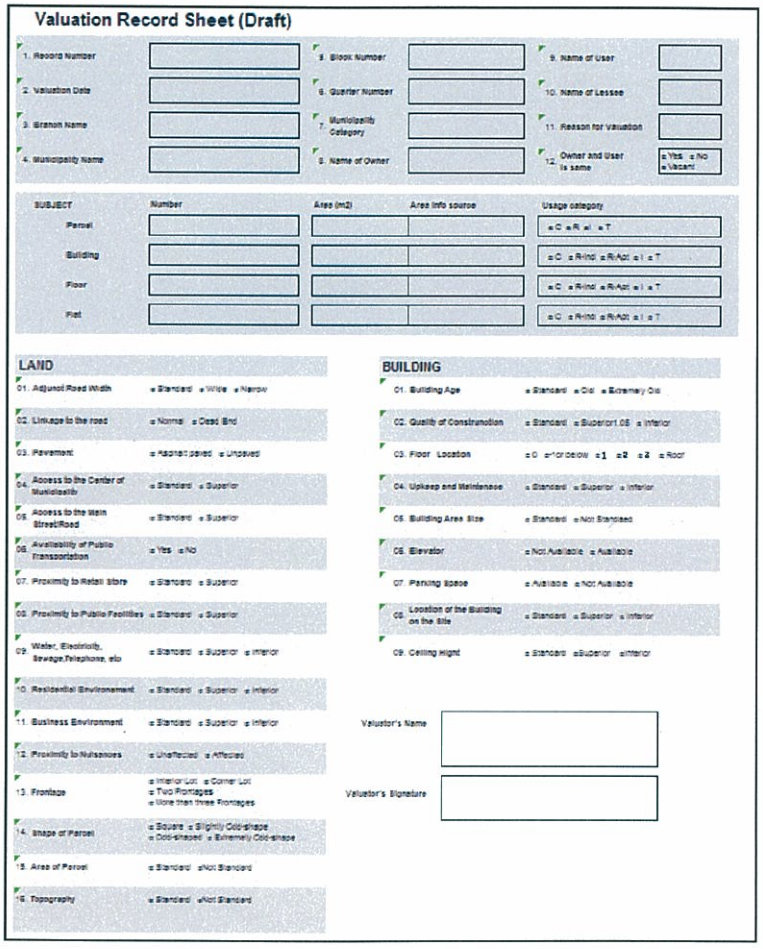
	Standard Value/ sq.m.		Area (sq.m.)				Value of Land	Annual Net Value
Land	9	X	1820	X		=		
								(x 0.06)

If area data exists, display area data.

Print Valuation Record Sheet
Land

Dept_NO	6		
CITY_ID	60002		
BLOCK_NO	28		
QUARTER_ID	0		
PARCEL NO	0	---	0

print



Valuation data entry

First Category city **Residential** Property **Land**

Width	○ Standard	◉ Wide	○ Narrow	
Linkage	○ Standard	○ Dead End		
Pavement	○ Paved	○ Unpaved		
Access to the Center of Municipality	○ Standard	○ Superior	○ Inferior	
Access to the Main Street/Road	○ Standard	○ Superior	○ Inferior	
Availability of Public Transportation	○ Yes	○ No		
Proximity to Retail Stores	○ Standard	○ Superior	○ Inferior	
Water, Electricity, etc.	○ Standard	○ Superior	○ Inferior	
Residential Environment	○ Standard	○ Superior	○ Inferior	
Frontage	○ Inferior Lot	○ Comer Lot	○ 2 Frontages	○ 3 or 4 Frontages
Shape	○ Standard	○ Slightly Odd-shaped	○ Odd-shaped	○ Extremely Odd-shaped
Area	○ Standard	○ Not Standard		
Topography	○ Standard	○ Not Standard		

....

Save

A33- 11

Land valuation

Department	6	Ramallah	Block	10	Year 2016 |
City	60001	Ramallah	Quarter	0	
Local	60001	**First** Category city	Parcel	106	Find

Building | Land

Display Data

Commercial
Residential
Industrial
Tourism

Type of Property: Residential |

Get Standard value

Matrix value Data entry

automatic calculation

	Standard Value/ sq.m.		Area (sq.m.)				Value of Land	Annual Net Value
Land	9	X	1,820	X	0.92	=	15,069.60	904.18

(x 0.06)

A33-12

Building valuation

Department 6 Ramallah | Block 10 | Year 2016

City 60001 Ramallah | Quarter 0

Local 60001 **First** Category city | Parcel 106

Find

Print Valuation Record Sheet

Other input data
- Valuation Date
- name of owner
- rented or (owner use, not rented)
- area info source
- type of valuation (pull down menu)
- etc

Building | Land

Display Data

Flat Seq	Building No	Floor No	Flat No
105	10	2	4

In case of Apartment, 'Floor No.' and 'Flat No. ' should be inputted

Commercial
Resident (Apartment)
Resident (Non-Apartment)
Industrial
Tourism

Type of Property: Residential

Get Standard value | Matrix value Data entry

	Standard Value/ sq.m.		Area (sq.m.)			Value of Building	Annual Net Value
Building	14	X		X		=	

(x 0.80)

Print Valuation Record Sheet
Building

Dept_NO	6		
CITY_ID	60002		
BLOCK_NO	28		
QUARTER_ID	0		
PARCEL NO	0	---	0
Flat Sequence	0		
Building NO	0	---	0
Floor		---	0
[illegible] No	0	---	

?

print

Valuation Record Sheet (Draft)

1. Record Number		5. Block Number		9. Name of User	
2. Valuation Date		6. Quarter Number		10. Name of Lessee	
3. Branch Name		7. Municipality Category		11. Reason for Valuation	
4. Municipality Name		8. Name of Owner		12. Owner and User is same	≡ Yes ≡ No ≡ Vacant

SUBJECT	Number	Area (m2)	Area info source	Usage category
Parcel				≡ C ≡ R ≡ I ≡ T
Building				≡ C ≡ R/Rnd ≡ R/Apt ≡ I ≡ T
Floor				≡ C ≡ R/Rnd ≡ R/Apt ≡ I ≡ T
Flat				≡ C ≡ R/Rnd ≡ R/Apt ≡ I ≡ T

LAND

01. Adjunct Road Width	≡ Standard ≡ Wide ≡ Narrow
02. Linkage to the road	≡ Normal ≡ Dead End
03. Pavement	≡ Asphalt paved ≡ Unpaved
04. Access to the Center of Municipality	≡ Standard ≡ Superior
05. Access to the Main Street/Road	≡ Standard ≡ Superior
06. Availability of Public Transportation	≡ Yes ≡ No
07. Proximity to Retail Store	≡ Standard ≡ Superior
08. Proximity to Public Facilities	≡ Standard ≡ Superior
09. Water, Electricity, Sewage,Telephone, etc	≡ Standard ≡ Superior ≡ Inferior
10. Residential Environment	≡ Standard ≡ Superior ≡ Inferior
11. Business Environment	≡ Standard ≡ Superior ≡ Inferior
12. Proximity to Nuisances	≡ Unaffected ≡ Affected
13. Frontage	≡ Interior Lot ≡ Corner Lot ≡ Two Frontages ≡ More than three Frontages
14. Shape of Parcel	≡ Square ≡ Slightly Odd-shape ≡ Odd-shaped ≡ Extremely Odd-shape
15. Area of Parcel	≡ Standard ≡ Not Standard
16. Topography	≡ Standard ≡ Not Standard

BUILDING

01. Building Age	≡ Standard ≡ Old ≡ Extremely Old
02. Quality of Construction	≡ Standard ≡ Superior ≡ Inferior
03. Floor Location	≡ 0 ≡ 1or below ≡ 1 ≡ 2 ≡ 2 ≡ Roof
04. Upkeep and Maintenance	≡ Standard ≡ Superior ≡ Inferior
05. Building Area Size	≡ Standard ≡ Not Standard
06. Elevator	≡ Not Available ≡ Available
07. Parking Space	≡ Available ≡ Not Available
08. Location of the Building on the Site	≡ Standard ≡ Superior ≡ Inferior
09. Ceiling Hight	≡ Standard ≡ Superior ≡ Inferior

Valuator's Name

Valuator's Signature

Print format is the same as 'Land'.

Valuation data entry

First Category city **Residential** Property **Building**

Building	Building Age	○ Standard(2000-)	● Old	○ Extremely Old			
	Quality of construction	○ Standard	○ Superior	○ Inferior			
	Floor Location	○ Ground Floor(0)	○ -1 or Below	○ 1	○ 2	○ 3 or above	○ Roof
	Upkeep and Maintenance	○ Standard	○ Superior	○ Inferior			
	Building Area	○ Standard	○ Not Standard				
	Elevators	○ Available	○ Not Available				
	Parking space	○ Available	○ Not Available				
	Location of the Building on the Site	○ Standard	○ Good	○ Bad			

Save

Building valuation

Department	6	Ramallah	Block	10	Year 2016 |
City	60001	Ramallah	Quarter	0	
Local	60001	**First** Category city	Parcel	106	Find

Building | Land

Display Data

Flat Seq	Building No	Floor No	Flat No
105	10	2	4

Commercial
Resident (Apartment)
Resident (Non-Apartment)
Industrial
Tourism

Type of Property: Commercial |

Get Standard value

Matrix value Data entry

automatic calculation

	Standard Value/ sq.m.		Area (sq.m.)			Value of Building	Annual Net Value
Building	14	X	90.00	X	1.02	= 1,285.20	1028.16

(x 0.80)

Valuation Record Sheet (Draft)

1. Record Number		5. Block Number		9. Name of User	
2. Valuation Date		6. Quarter Number		10. Name of Lessee	
3. Branch Name		7. Municipality Category		11. Reason for Valuation	
4. Municipality Name		8. Name of Owner		12. Owner and User is same	≈ Yes ≈ No ≈ Vacant

SUBJECT	Number	Area (m2)	Area info source	Usage category
Parcel				≈C ≈R ≈I ≈T
Building				≈C ≈R-Ind ≈R-Apt ≈I ≈T
Floor				≈C ≈R-Ind ≈R-Apt ≈I ≈T
Flat				≈C ≈R-Ind ≈R-Apt ≈I ≈T

LAND

01. Adjunct Road Width	≈ Standard ≈ Wide ≈ Narrow
02. Linkage to the road	≈ Normal ≈ Dead End
03. Pavement	≈ Asphalt paved ≈ Unpaved
04. Access to the Center of Municipality	≈ Standard ≈ Superior
05. Access to the Main Street/Road	≈ Standard ≈ Superior
06. Availability of Public Transportation	≈ Yes ≈ No
07. Proximity to Retail Store	≈ Standard ≈ Superior
08. Proximity to Public Facilities	≈ Standard ≈ Superior
09. Water, Electricity, Sewage,Telephone, etc	≈ Standard ≈ Superior ≈ Inferior
10. Residential Environement	≈ Standard ≈ Superior ≈ Inferior
11. Business Environment	≈ Standard ≈ Superior ≈ Inferior
12. Proximity to Nuisances	≈ Unaffected ≈ Affected
13. Frontage	≈ Interior Lot ≈ Corner Lot ≈ Two Frontages ≈ More than three Frontages
14. Shape of Parcel	≈ Square ≈ Slightly Odd-shape ≈ Odd-shaped ≈ Extremely Odd-shape
15. Area of Parcel	≈ Standard ≈Not Standard
16. Topography	≈ Standard ≈Not Standard

BUILDING

01. Building Age	≈ Standard ≈ Old ≈ Extremely Old
02. Quality of Construction	≈ Standard ≈ Superior1.05 ≈ Inferior
03. Floor Location	≈ 0 ≈-1or below ≈1 ≈2 ≈3 ≈ Roof
04. Upkeep and Maintenace	≈ Standard ≈ Superior ≈ Inferior
05. Building Area Size	≈ Standard ≈ Not Standard
06. Elevator	≈ Not Available ≈ Available
07. Parking Space	≈ Available ≈ Not Available
08. Location of the Building on the Site	≈ Standard ≈ Superior ≈ Inferior
09. Ceiling Hight	≈ Standard ≈Superior ≈Inferior

Valuator's Name

Valuator's Signature

END

2015/11/25

- add 'Annual Net Value' to P8, P11, P12, P15

添付資料34

<table>
<tr><th colspan="3">GDPT J-PVP's Action Plan for 'Initializing GIS[1] for GDPT'</th></tr>
<tr><td>Purpose</td><td colspan="2">To enhance technical capacity of valuators on GIS through initializing GIS in valuation activities of GDPT</td></tr>
<tr><td>Specifications</td><td colspan="2">a) Parameters: necessary data for valuation and other information (to be determined).
b) Map data including shapefiles of buildings, parcels, blocks/quarters, physical plan (if available) and others.
c) Raster data including aerial photography and block maps (if not digitalized).
d) Visualization and retrieval of a) to c).</td></tr>
<tr><td>Target Area</td><td colspan="2">Beitounia municipality.</td></tr>
<tr><td>Organizational arrangement</td><td colspan="2">a) Management Unit: GIS Working Group in GDPT TDMMU
Head: Director General
Member: Head of IT Dept., Valuation Dept., and GDPT GIS team as below.
b) Production Unit: GDPT GIS team
Head: GIS Engineer assisted by Valuation Standards Facilitator (J-PVP)
Member: GIS Assistant(J-PVP), Database Assistant(J-PVP) and Valuators.
c) Support Unit: IT Department, Valuation Department, and others.</td></tr>
<tr><td>Development partners</td><td colspan="2">MoLG[2], PLA, Municipalities, Notary public, Electric company, relevant organizations and individuals.</td></tr>
<tr><td>Work place(s)</td><td colspan="2">GDPT (base station), MoLG, Municipalities.</td></tr>
<tr><td>Tentative Timeframe</td><td colspan="2">At least 36 weeks in total
a) Planning Stage 1 week
b) Preparation Stage 3 weeks
c) Digital Imaging Creation Stage 12 weeks
d) GeoDatabase Integration Stage 12 weeks
e) Examination Stage 2 weeks
f) Modification Stage 2 weeks
g) Pilot Action Compilation Stage 4 weeks</td></tr>
<tr><td rowspan="5">Inputs</td><td>GDPT</td><td>JICA</td></tr>
<tr><td>(1) Letter of Intent</td><td>(1) Human resources</td></tr>
<tr><td rowspan="3">An official note to be issued by GDPT addressing to JICA with cc to JICA Project Office which outlines basic institutional arrangements including organizational and budgetary setting-up to be required for the establishment, operation and management of a GIS unit or equivalent entity within GDPT's organizational structure.</td><td>JICA Expert 1
GIS Engineer[3] 1
GIS Assistant 2</td></tr>
<tr><td>(2) Equipment</td></tr>
<tr><td>Desktop PC with 2 monitors 6[4]
External Hard Disk 6
ArcGIS 6
AutoCAD 6
MS Office 6
Adobe CS 6
Laser Measure 5</td></tr>
<tr><td>(2) Human resources</td><td rowspan="2"></td></tr>
<tr><td>Valuators with basic operation skills to use PC and Ms-office 2</td></tr>
<tr><td>(3) Office space for production unit.</td><td></td></tr>
</table>

1 'Initializing GIS' can be defined as a module which is created to start developing GDPT-GIS focusing on a field of valuation activity with a wishful intention of expanding it little by little in the future for Palestine.

2 Relevant works related to exchange of data with MoLG and PLA is of significant importance for attaining the purpose. Such works involve exchange of views on data for elaborating data for the purpose set as above.

3 GIS Engineer shall be assisted by the Valuation Standards Facilitator (VSF). Yet VSF is not listed in the above item 'Human Resources' as VSF will work as overall facilitation.

4 A total quantity with 6 is accounted for 1 for VSF, 1 for GIS engineer, 2 for GIS assistants and 2 for valuators, while the number of laser measure is 5 excluding one for VSF.

Attachment-1

Main Procedures

a) Planning Stage:
   1) Evaluation and finalization of this action plan.
   2) Specification/Needs determination and finalization.
   3) Monitoring of proceedings.
   4) Other decision-makings.

b) Preparation Stage:
   1) Set up working environment.
   2) Acquire existing physical plan, existing GIS data, block maps and others.
   3) Digitalize 2) if not digitalized.
   4) Place 2) with geophysical coordinates.

c) Digital Imaging creation:
   1) Creation of base map.
   2) Creation of block / quarter shape-files.
   3) Creation of parcel shapefiles.
   4) Creation of building shaplefiles.
   5) Creation of other necessary shapefiles.
   6) Examination of basemap and shapefiles.

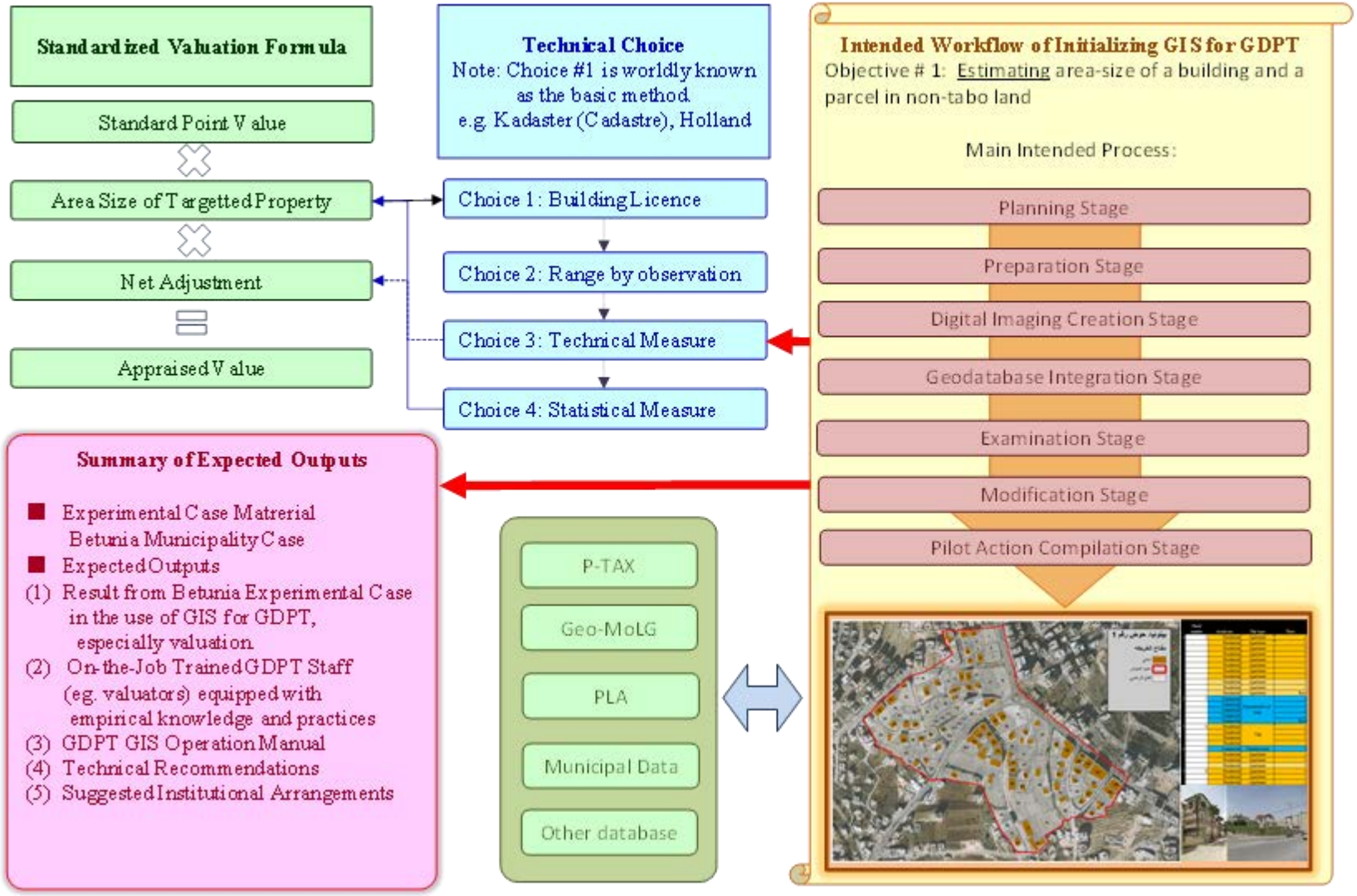
d) GeoDatabase creation:
   1) Creation of serial ID code for GeoDatabase attribute table.
   2) Transfer and examination of attributes from GDPT database.
   3) Extraction of building area readings.
   4) Creation of analyses tools.
   5) Examination of GeoDatabase.

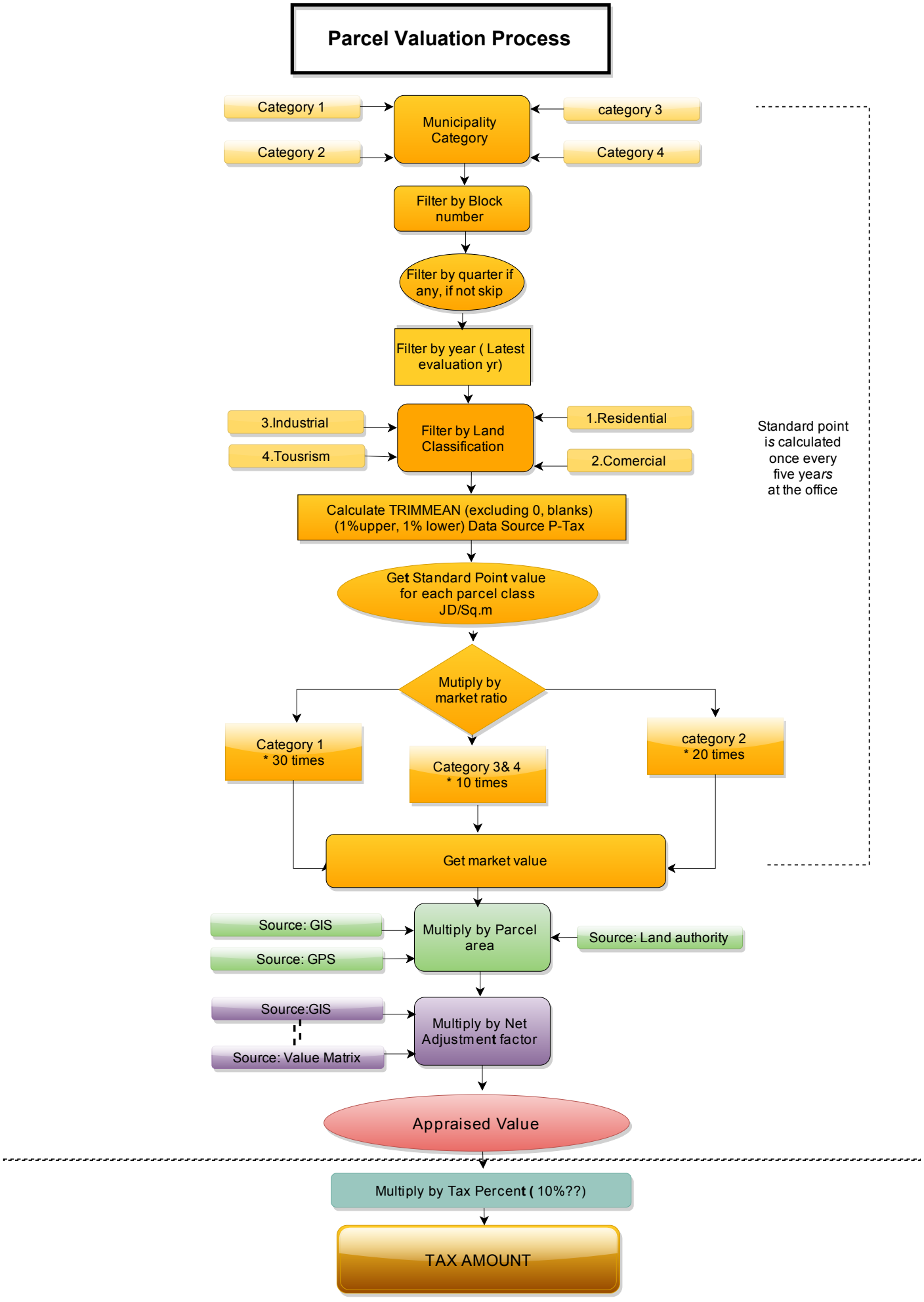
e) Examination Stage:
   1) Error checks, faults extraction and correction.
   2) Operation manual drafting.
   3) Presentation to Management Unit.
   4) Acquire demand for modification.

f) Modification Stage:
   1) Modification of the system according to e 4).

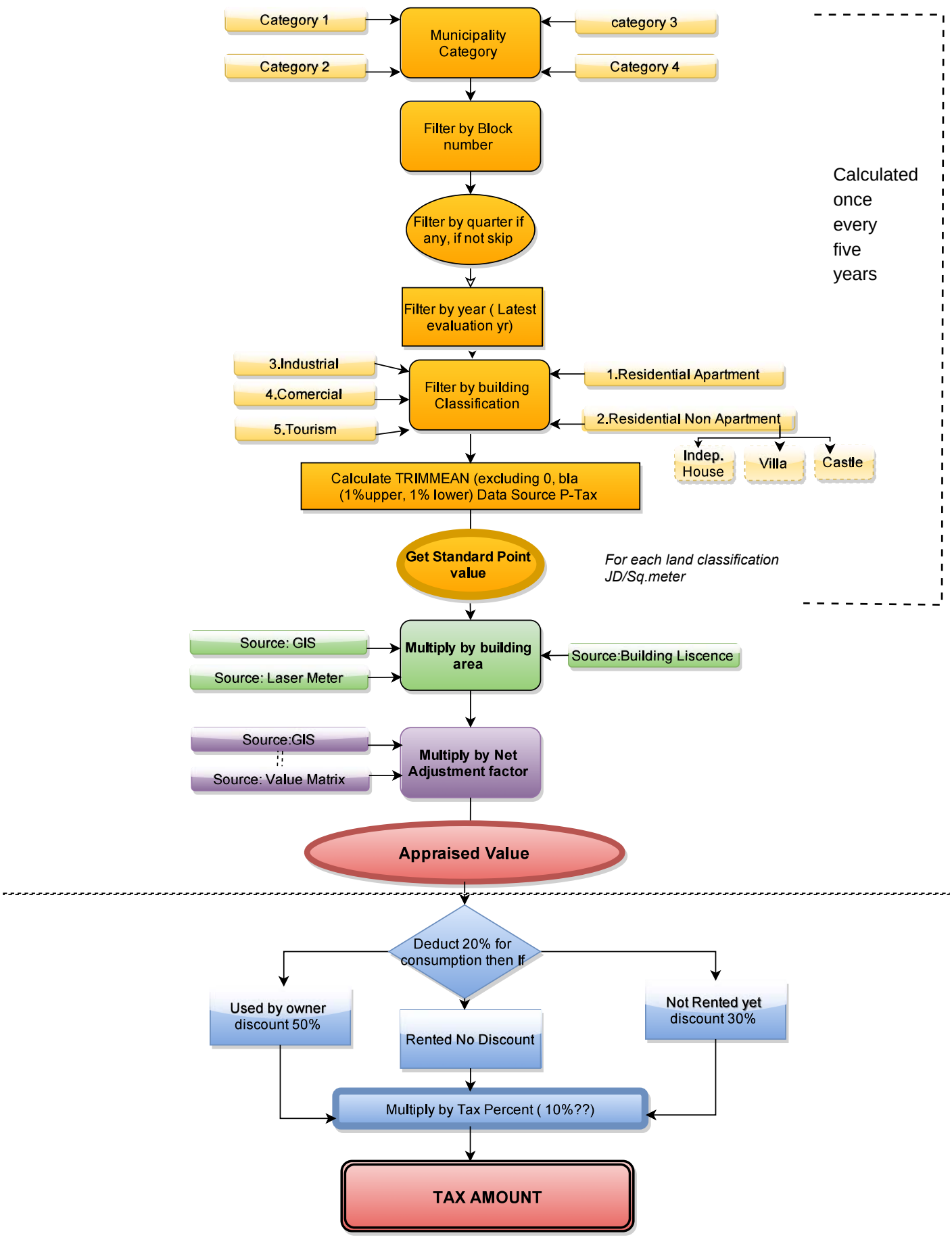
g) Pilot Action Compilation Stage:
   1) Training for Valuators.
   2) GIS Operation manual finalization.
   3) Preparation of technical recommendations for planning an action for dissemination

Illustrated Diagram of a Scope of Work for 'Initializaing GIS for GDPT' in the Operationalization of Valuation Standards




Parcel Valuation Process
Category 1
Category 2
Municipality Category
category 3
Category 4
Filter by Block number
Filter by quarter if any, if not skip
Filter by year (Latest evaluation yr)
3.Industrial
4.Tousrism
Filter by Land Classification
1.Residential
2.Comercial
Standard point is calculated once every five years at the office
Calculate TRIMMEAN (excluding 0, blanks) (1%upper, 1% lower) Data Source P-Tax
Get Standard Point value for each parcel class JD/Sq.m
Mutiply by market ratio
Category 1 * 30 times
Category 3& 4 * 10 times
category 2 * 20 times
Get market value
Source: GIS
Source: GPS
Multiply by Parcel area
Source: Land authority
Source:GIS
Source: Value Matrix
Multiply by Net Adjustment factor
Appraised Value
Multiply by Tax Percent (10%??)
TAX AMOUNT

Building Valuation Process



Ministry of Finance

General Directorate of Property Tax

GDPT

The Incorporation of GIS\GPS Techniques *Within the Framework of* the Enhanced Property Valuation System in Palestine

Diagnostic Report

Jamal NUMAN

Tuesday, August 23, 2016

Diagnostic Report_Property Valuation System in Palestine_JICA_GDPT_Jamal NUMAN_11.docx

Contents

1 Introduction

For the purpose of the JICA-Palestine Valuation Project (J-PVP) addressed to the General Directorate for Property Tax (GDPT) that aims at improving the current financial system, Betonia, within the boundary of the approved urban master plan, is selected as pilot area as shown in Figure 1.

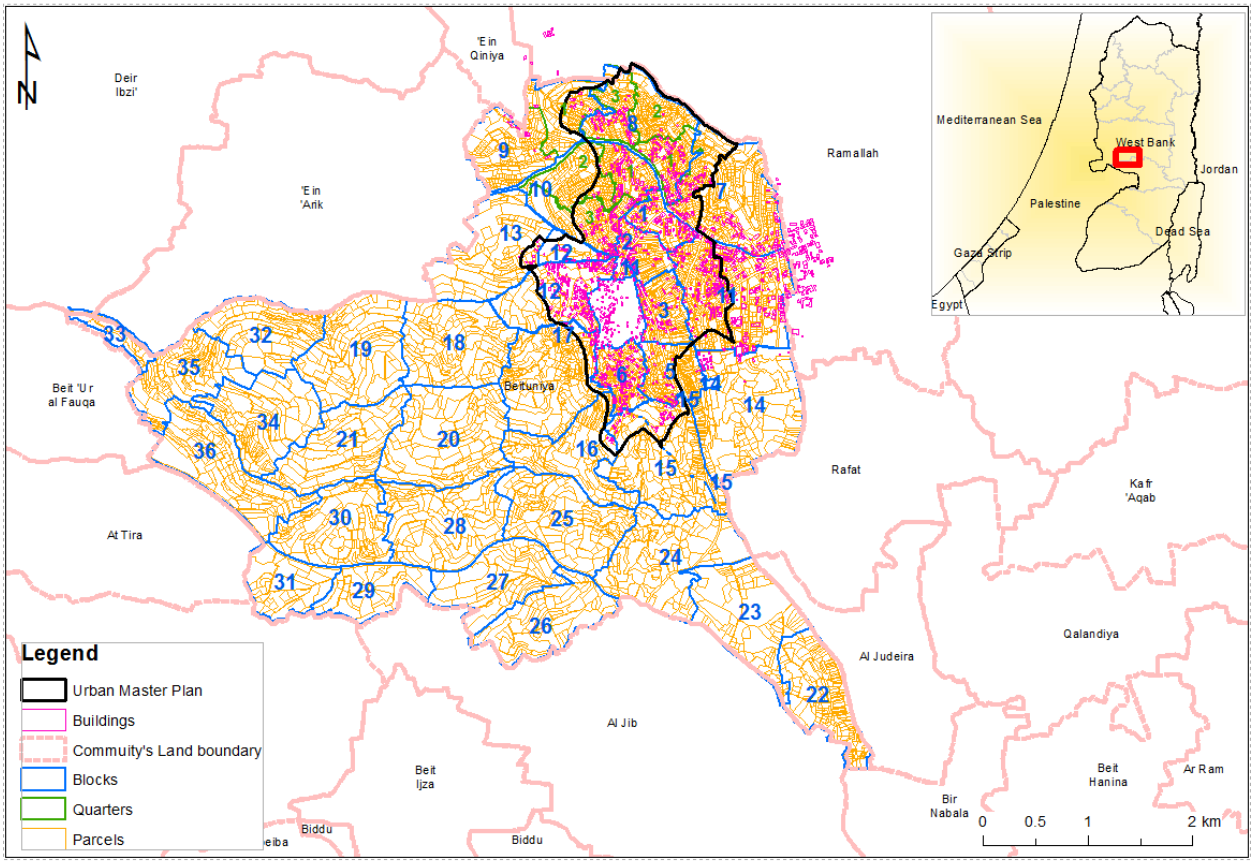


Figure 1: Pilot area

The entire area of Betonia lands is about 23 km where the area of its urban master plan is about 4 km^2. Table 1 includes important information about its cadaster and improvements structure

Item	Total	Inside Urban Master Plan	Outside Urban Master Plan
Number of blocks		37	19
Number of parcels		3,061	3,640
Number of buildings		1800	323
Number of units (flats)		14,000	4,208
Number of parcel owners		8,708	2,203
Number of buildings owners			
Number of units (flats) owners		12,431	4,637

Table 1: Cadaster structure, improvements and owners in Betonia.

In the same context, it should be kept in mind that the findings of JPVP in Betonia are intended to be disseminated at the national level. The table below gives some idea about the data size at the level of West Bank.

Item	Number of Records in PTAX
Parcels	810,803

Parcels' Owners	473,772
Parcels' Tax Payers	353,676
Estimated Parcels	262,692
Units (Estimated) in PTAX	262,656
Buildings	179,814
Units' Owners (the owner is also the tax payer)	129,293

Table 2: Cadaster structure, improvements and owners in West Bank.

2 GeoPTAX

Within the scope of J-PVP, it is aimed to develop the GeoPTAX application in order to bridge the gap between the spatial and tabular data and thus to better understand patterns about property valuation and taxation data including all its relevancies. At the present, efforts are exerted to achieve the following:

1. Empowering valuers with visual spatial context regarding the data (parcels\buildings) traditionally accommodated in tabular fashion with no locational dimension (Beta version of GeoPTAX is available by now). The direct advantages are:
    a. The spatial component provides mature insight and portrays patterns that are hidden within the table format
    b. The GIS\GPS integration delivers proper tool for the valuers to better identify locations of properties while working in the field (3G is assumed to be available by next July)
    c. Marking the buildings\units that are under construction to give them priority for visit in the next year. GeoPTAX can highlight these buildings\units and propose plan for visit.
2. Developing the PTAX database to better respond to the JPVP approach to estimate sale and rent values by adding new fields and relations.
3. The GeoPTAX enables displaying the sale\rent values obtained from the PTAX database and JPVP in terms of maps and thus sale\rent values are linked with their features in the ground that provides an exceptional opportunity to double check the estimated values for lands and buildings.
4. The GeoPTAX offers a good way to identify lands\buildings that are physically existing on the reality but have no records in the PTAX database. On other words, GeoPTAX guarantees that there are no missing taxable entities, and thus tax cannot be avoided. However, this depends on the availability of recent orthophoto with high resolution (10 cm)
5. In addition to the JPVP approach to estimate the sale\rent values, the two methods below can be considered to avoid heavy data entry particularly when it comes to lands
    a. GIS with Statistical method such as Multiple Regression Analysis (MRA)
    b. GIS with Artificial method such as Neural Network (ANN)

3 Taxation formula: PTAX and J-PVP

In this section, it is intended to compare between the taxation formulas applied in the PTAX and J-PVP. However, the difference refers to methods by which the sale\rent values are estimated but not the taxation formula itself.

According to the PTAX, taxation equation for **lands** is written as below:

$$T_p = 10\% * 6\% * S * A \quad (1)$$

Where T_p is the taxation value for a parcel (p) in JD, 10% is the taxation percent out of the rent value of the land, 6% is the percent that is multiplied by the sale value of land (JD/m2) to produce the net rent value ($Net\ Rent\ value\ for\ a\ parcel = 6\% * S$), S is the **sale** (market) value of the land in JD/m^2 and A is the area of the land.

In return, the PTAX taxation equation for **buildings** is expressed as below:

$$T_u = 17\% * 80\% * E * R \quad (2)$$

Where T_u is the taxation value for a unit (u) in a building in JD, 17% is the taxation percent out of the net rent value of a unit, 80% is a percent multiplied by the rent value to obtain the net rent value (20% is deducted for maintenance), E is a factor that takes care of the occupants of unit (u); if the unit is occupied by the owner, then E=50%, if u is rented, then E=100%, if the unit is vacant, then E=70%, R is the **rent** value for the unit in JD/year.

According to JPVP approach, the **land** taxation equation is formulated as below

$$T_p = 10\% * 6\% * K * M * S * A \quad (3)$$

Where T_p is the taxation value for a parcel (P) in JD, 10% the taxation percent out of the rent value of the land, 6% is the percent that is multiplied by the sale value of land (JD/m2) to obtain the rent value ($Rent\ value\ for\ a\ parcel = 6\% * S$), K is a coefficient that accounts for parcel characteristics (location, utilities, etc.) and can be obtained by multiplying the k coefficient of each variable (K=k1*k2*…k_n) as shown in Table 3 (the values of K for residential areas ranges from 0.45 to 1.2), M is a constant that considers the classification of the municipality: if the classification of the municipality is grade 1, then M=30, if the classification is grade 2 then M=20, if the classification is Grade 3 or 4 then M=10, S is the trim average of the **sale** values stored in PTax of all parcels of similar land use contained within the same block\quarter in JD/m^2 and A is the area of the land. Mathematically, S can be expressed as below:

$$S = \frac{\sum_{l=1}^{n} s_{lij}}{n} \quad (4)$$

Where s_{lij} is the sale value (stored in the PTAX database) for the l^{th} parcel with i^{th} land use in the j^{th} block (or quarter if any), and n is the number of parcels in the j^{th} block (or quarter if any) with same land use.

Initially, it should be indicated that M value has calculated by converting the sale values stored in the ledger of GDPT to their actual values in the real market. Mathematically, it can be expressed as follows:

$$M = \frac{\sum_{l=1}^{n} \left(\frac{S_{ai}}{S_{ri}}\right)}{n} \quad (5)$$

Where, Sai is the actual sale value of ith parcel, Sri is its corresponding sale value stored in the registered

				Coefficient (k)			
Category		**Variable**	**Class**	**Residential**	**Commercial**	**Industrial**	**Tourism**
Road	1	Width (k1)	Standard	1	1	1	1
			Wide	1.02	1.02	1.02	1.02
			Narrow	0.98	0.98	0.98	0.98
	2	Linkage (k2)	Standard	1	1	1	1
			Dead End	0.95	0.95	0.95	0.95
	3	Pavement (k3)	Paved	1	1	1	1

			Unpaved	0.98	0.98	0.98	0.98
Access	4	Access to the Center of Municipality (k4)	Standard	1	1	1	1
			Superior	1.02	1.02	1.02	1.02
	5	Access to the Main Street/Road (k5)	Standard	1	1	1	1
			Superior	1.02	1.02	1.02	1.02
	6	Availability of Public Transportation (k6)	Yes	1	1	1	1
			No	0.9	0.9	0.9	0.9
	7	Proximity to Retail Stores (k7)	Standard	1	1	1	1
			Superior	1.02	1.02	1.02	1.02
	8	Proximity to Public Facilities (k8)	Standard	1	1	1	1
			Superior	1.02	1.02	1.02	1.02
	9	Water, Electricity, Sewage, Telephone, etc. (k9)	Standard	1	1	1	1
			Superior	1.05	1.05	1.05	1.05
			Inferior	0.95	0.95	0.95	0.95
	10	Residential Environment (k10)	Standard	1	1	1	1
			Superior	1.02	1.02	1.02	1.02
			Inferior	0.98	0.98	0.98	0.98
	11	Commercial Environment (k11)	Standard				
			Superior				
			Inferior				
	12	Proximity to Nuisances (k12)	Unaffected	1	1	1	1
			Affected	0.95	0.95	0.95	0.95
	13	Frontage (k13)	Interior Lot	1	1	1	1
			Corner Lot	1.02	1.02	1.02	1.02
			2 Frontages	1.01	1.01	1.01	1.01
			3 or 4 Frontages	1.03	1.03	1.03	1.03
	14	Shape (k14)	Standard	1	1	1	1
			Slightly Odd-shaped	0.95	0.95	0.95	0.95
			Odd-shaped	0.85	0.85	0.85	0.85
			Extremely Odd-shaped	0.7	0.7	0.7	0.7
	15	Area (k15)	Standard	1	1	1	1
			Not Standard	0.9	0.9	0.9	0.9
	16	Topography (k16)	Standard	1	1	1	1
			Not Standard	0.9	0.9	0.9	0.9

Table 3: K-coefficient that takes care of parcel characteristics such as location, topography and utilities.

Factors		Category 1				Category 2				Category 3				Category 4			
Land	Options	Residential	Commercial	Industrial	Tourism	Residential	Commercial	Industrial	Tourism	Residential	Commercial	Industrial	Tourism	Residential	Commercial	Industrial	Tourism
Road width	Standard	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Wide	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.01	1.01	1.01	1.02	1.01	1.01	1.01	1.01
	Narrow	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.99	0.99	0.99	0.98	0.99	0.99	0.99	0.99
Frontage	Interior Lot	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Corner Lot	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.01	1.02	1.02	1.02	1.01	1.02
	Two Frontages	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
	More than three Frontages	1.03	1.03	1.03	1.03	1.02	1.03	1.02	1.03	1.02	1.03	1.01	1.03	1.02	1.03	1.01	1.03
Location	Standard	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Superior	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
	Inferior	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Shape of Parcel	Standard	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Not Standard	0.85	0.85	0.85	0.85	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.90	0.90	0.90	0.95	0.90
Topography	Standard	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Not Standard	0.90	0.90	0.90	0.90	0.92	0.92	0.95	0.92	0.95	0.95	0.97	0.95	0.95	0.95	0.97	0.95

In return, the taxation equation is written as below:

$$T_u = 17\% * 80\% * E * K * R * A \quad (6)$$

Where T_u is the taxation value for a unit (u) in a building in JD, 17% is the taxation percent out of the net rent value of a unit, 80% is a percent multiplied by the rent value to obtain the net rent value (20% is deducted for maintenance), E is a factor that takes care of the occupants of unit (u); if the unit is occupied by the owner, then E=50%, if u is rented, then E=100%, if the unit is vacant, then E=70%, K is a coefficient that accounts for building characteristics (location, condition,

utilities, etc.) and can be obtained by multiplying the k coefficient for each variable ($K=k1*k2*\ldots k_n$) as shown in Table 4, R is the trim average of the **rent** values (stored in PTAX) of all units of similar land use in same block\quarter in JD/m^2, A is the area of the unit. Mathematically, R can be expressed as below:

$$R = \frac{\sum_{u=1}^{n} r_{uij}}{n} \tag{7}$$

Where r_{uij} is the rent value (stored in the PTAX database) for the uth unit with ith use in the jth block (or quarter if any), and n is the number of units in the jth block (or quarter if any) with same land use.

	Variable	Class	Coefficient (k) Residential	Commercial	Industrial	Tourism
1	Building Age (k1)	Standard	1	1	1	1
		Old	0.9	0.9	0.9	0.9
		Extremely Old	0.8	0.8	0.8	0.8
2	Quality of Construction (k2)	Standard	1	1	1	1
		Superior	1.05	1.05	1.05	1.05
		Inferior	0.95	0.95	0.95	0.95
3	Floor level (k3)	Ground Floor (0)	1	1		1
		-1 or below	0.95	0.95		0.8
		1	0.95	1		0.9
		2	0.95	1		0.8
		3 or above	1.05	1.05		0.7
4	Upkeep and Maintenance (k4)	Standard	1	1	1	1
		Superior	1.02	1.02	1.02	1.02
		Inferior	0.98	0.98	0.98	0.98
5	Building Area (k5)	Standard	1.1	1	1	1
		Not Standard	1	0.9	0.9	0.9
6	Elevator (k6)	Available	1.1	1.1	1.1	1.1
		No Available	1	1	1	1
7	Parking Space (k7)	Available	1	1	1	1
		No Available	0.95	0.9	0.9	0.9
8	Location of the Building on the Site (k8)	Standard	1	1	1	1
		Good	1.05	1.05	1.05	1.05
		Bad	0.95	0.95	0.95	0.95
9	Celling Height (k9)	Standard		1	1	1
		High		1.05	1.05	1.05
		Low		0.95	0.95	0.95

Table 4: K-coefficient that takes care of building characteristics such as location, condition and utilities.

Factors		Category 1				Category 2				Category 3				Category 4			
	Options	Residential	Commercial	Industrial	Tourism	Residential	Commercial	Industrial	Tourism	Residential	Commercial	Industrial	Tourism	Residential	Commercial	Industrial	Tourism
Building	Options																
Building Age	Standard	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Old	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
	Extremely Old	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Quality and Condition	Standard	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Superior	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
	Inferior	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Floor Location	0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	-1or below	0.95	0.80	1.00	0.80	0.95	0.90	1.00	0.90	0.97	0.90	1.00	0.90	0.97	0.90	1.00	0.90
	1	1.00	0.90	1.00	0.90	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
	2	1.00	0.80	1.00	0.80	1.00	0.90	1.00	0.90	1.00	0.90	1.00	0.90	1.00	0.90	1.00	0.90
	3 or above	1.05	0.70	1.00	0.70	1.03	0.80	1.00	0.80	1.02	0.85	1.00	0.85	1.02	0.85	1.00	0.85
	Roof	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Services	Standard	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Superior	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
	Inferior	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Elevator	Available	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
	Not Available	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Apparently, the current PTAX database need to be enhanced to include information about unit area and unit use.

3.1 Example 1

Calculate the taxation value levied on parcel#10, block # 1 Betonia shown in Figure 2 according to the current approach.

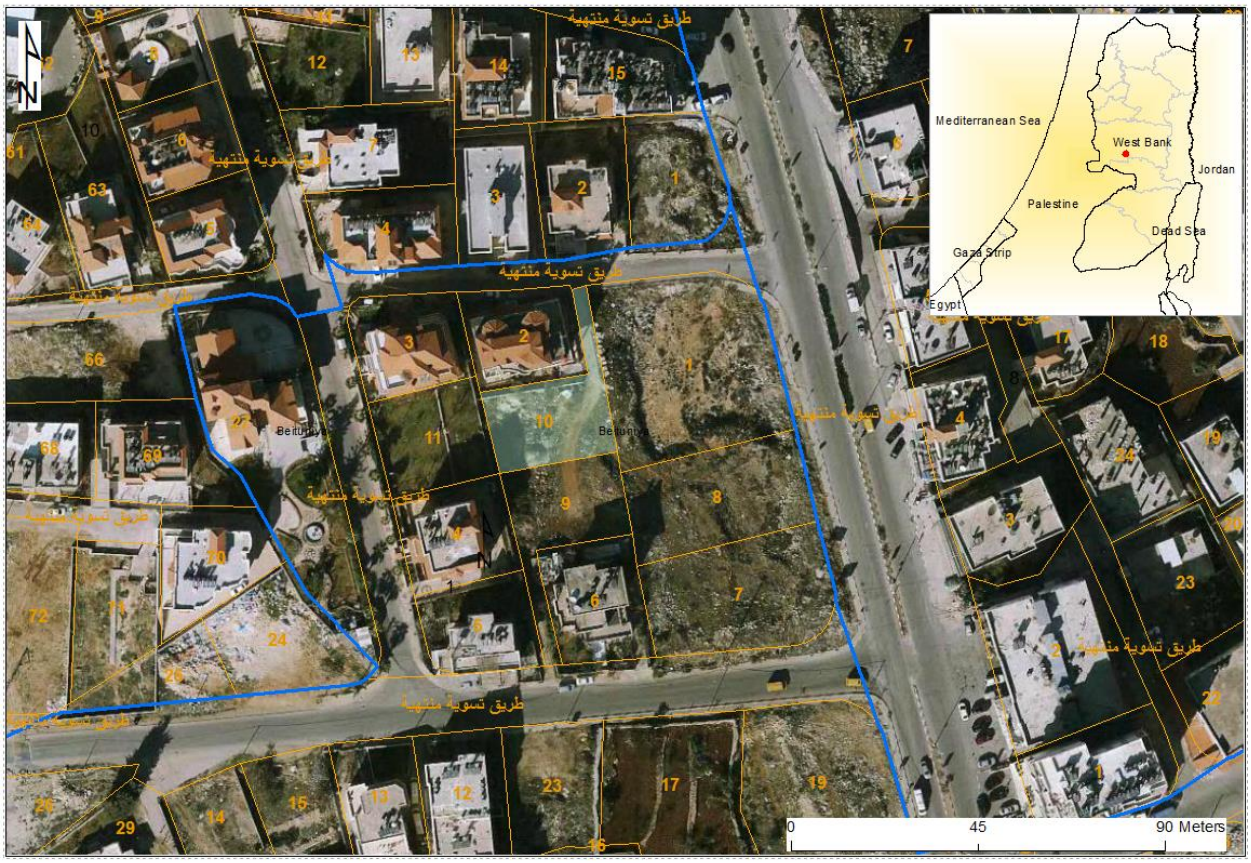


Figure 2: location of parcel number 10, block number 1 in Betonia.

Solution

The area of the parcel #10 (Figure 3): is **654** m^2

The sale value is **6** JD/m^2

The total sale price of the parcel = 6x654=**3,924** JD

The rent value of the parcel = 6%x3924= **235 JD**

The taxation value of the parcel=10%x235=**23** JD

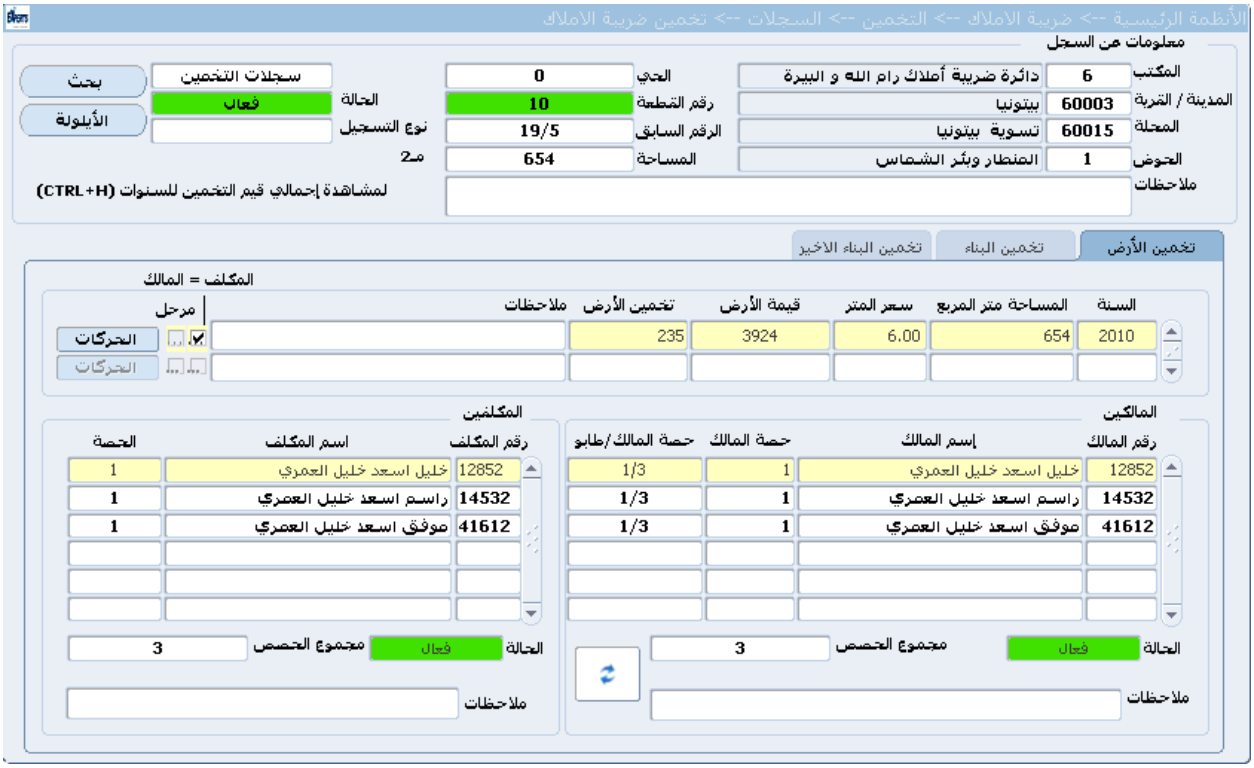


Figure 3: Sale value and estimated valuation for parcel number 10, block number 1 in Betonia in 2010.

As the parcel is owned by three, then the taxation value is divided by three

Taxation per owner = 23/3 = **7.8 JD**

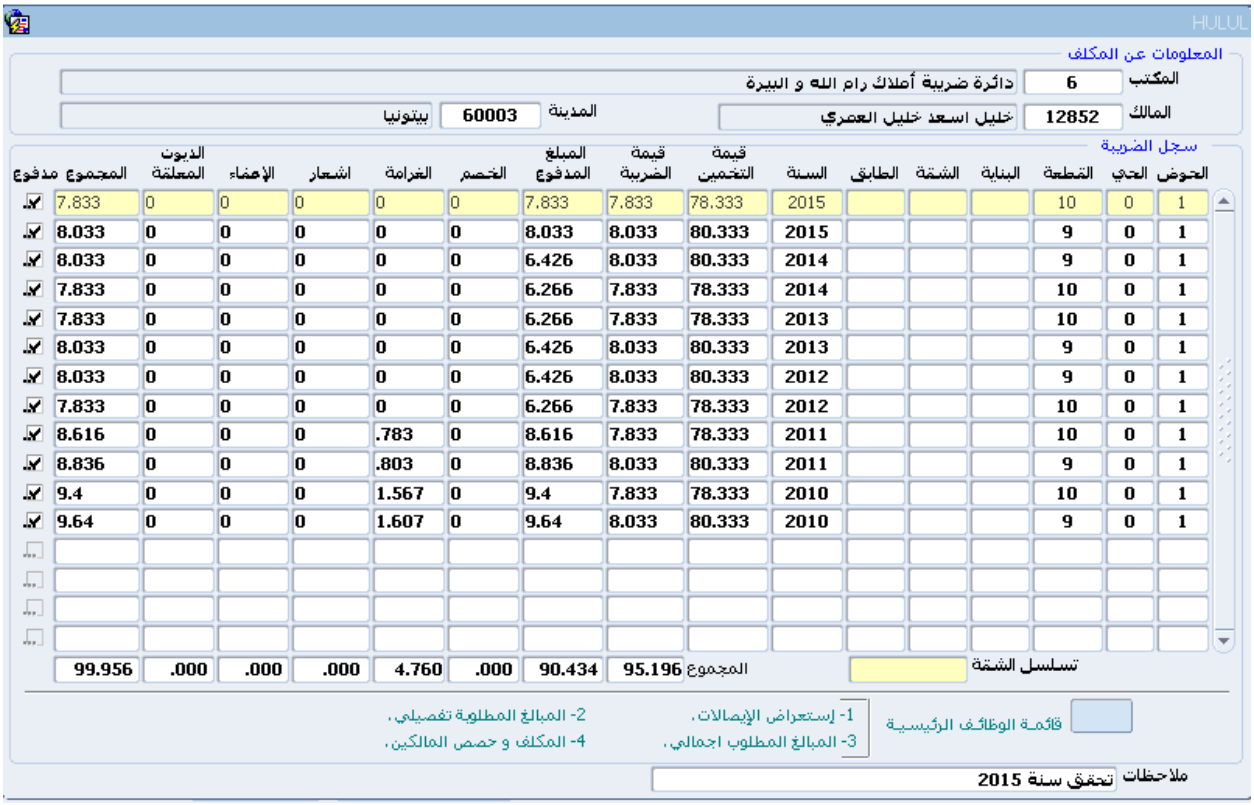


Figure 4: Taxation values imposed on parcel number 10 block number 1 in Betonia in 2010 and other years. The tax is equally distributed on three owners.

3.2 Example 2

Calculate the taxation value levied on parcel#10, block # 1, Betonia shown in Figure 6 according to the JPVP approach.

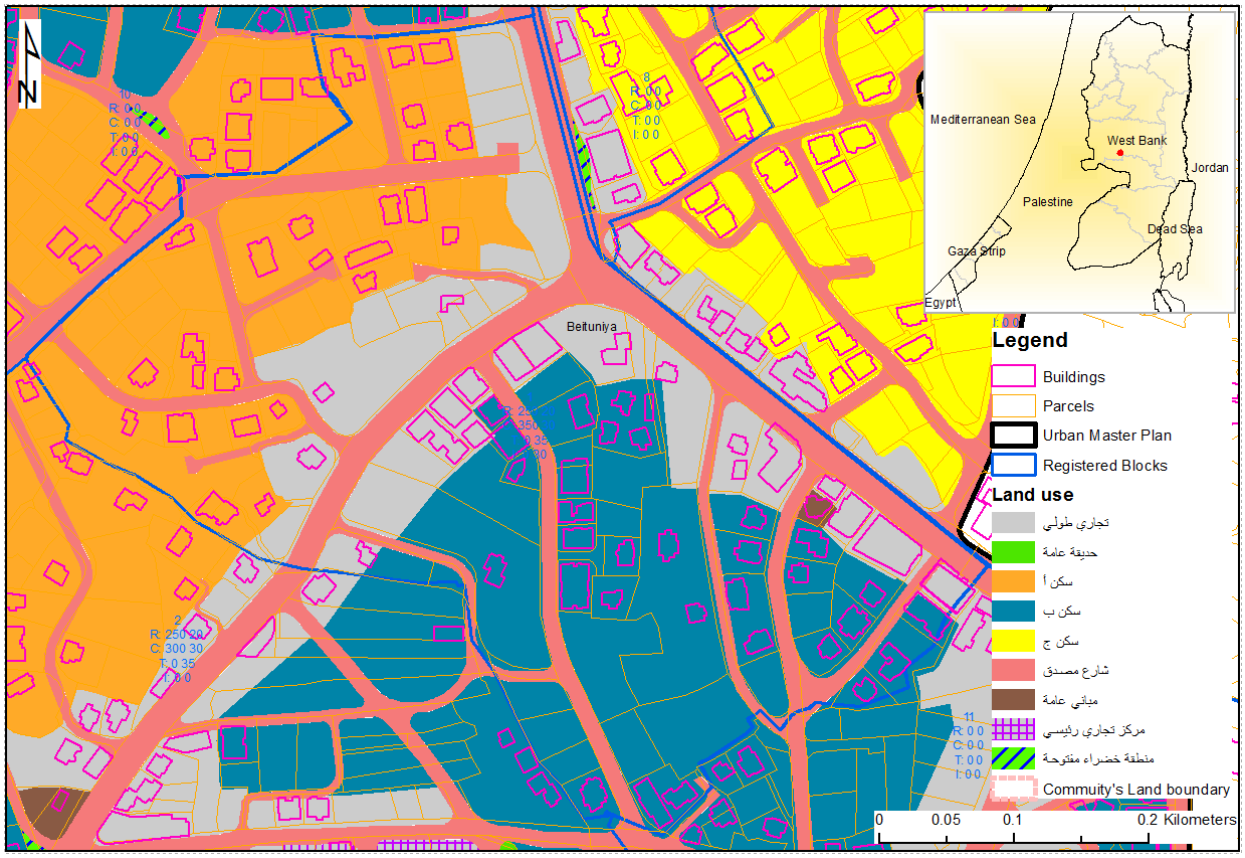


Figure 5: The land use in block one according to the urban master plan of Betonia

Table 6 below shows how the data of parcels is tabulated in the Oracle database

PARCEL_NO	BLOCK_NO	CommunityName	EST_YEAR	EST_AREA	EST_METER_PRICE	EST_PARCEL_VALUE
1	1	Beituniya	2010	1768	7	12376
7	1	Beituniya	2010	1135	7	7945
8	1	Beituniya	2010	998	7	6986
9	1	Beituniya	2010	669	6	4014
10	1	Beituniya	2010	654	6	3924
11	1	Beituniya	2010	642	6	3852
14	1	Beituniya	2010	776	6	4656
15	1	Beituniya	2010	730	6	4380
17	1	Beituniya	2010	2617	6	15702
19	1	Beituniya	2010	2435	7	17045
23	1	Beituniya	2010	705	6	4230
24	1	Beituniya	2010	790	6	4740
26	1	Beituniya	2010	1277	6	7662
30	1	Beituniya	2010	921	6	5526
31	1	Beituniya	2010	1010	6	6060
32	1	Beituniya	2010	885	6	5310
35	1	Beituniya	2010	2749	7	19243
36	1	Beituniya	2010	1183	6	7098

38	1	Beituniya	2010	568	6	3408
41	1	Beituniya	2015	2383	6	14298
43	1	Beituniya	2010	2000	7	14000
47	1	Beituniya	2010	790	6	4740
53	1	Beituniya	2010	562	6	3372
58	1	Beituniya	2010	976	6	5856
62	1	Beituniya	2015	938	6	5628
63	1	Beituniya	2015	1919	6	11514
65	1	Beituniya	2015	815	7	5705
66	1	Beituniya	2010	1000	6	6000
67	1	Beituniya	2010	3602	5	18010
68	1	Beituniya	2010	409	6	2454
71	1	Beituniya	2010	1000	6	6000
72	1	Beituniya	2013	8000	7	56000
78	1	Beituniya	2012	3661	6	21966
79	1	Beituniya	2010	816	6	4896
80	1	Beituniya	2013	1201	6	7206
81	1	Beituniya	2010	3947	6	23682
82	1	Beituniya	2010	1134	6	6804
83	1	Beituniya	2010	1231	6	7386
89	1	Beituniya	2015	1743	7	12201
96	1	Beituniya	2010	744	6	4464
98	1	Beituniya	2010	956	6	5736
99	1	Beituniya	2010	6000	6	36000
109	1	Beituniya	2010	1326	6	7956
115	1	Beituniya	2015	1014	6	6084
121	1	Beituniya	2013	707	7	4949
122	1	Beituniya	2013	707	7	4949

Table 5: Tabular data for parcels in block number 1 in Betonia

3.3 Example 3

Calculate the taxation value levied on building#0, parcel#13, block # 1 Betonia shown in Figure 6 according to the PTAX approach.

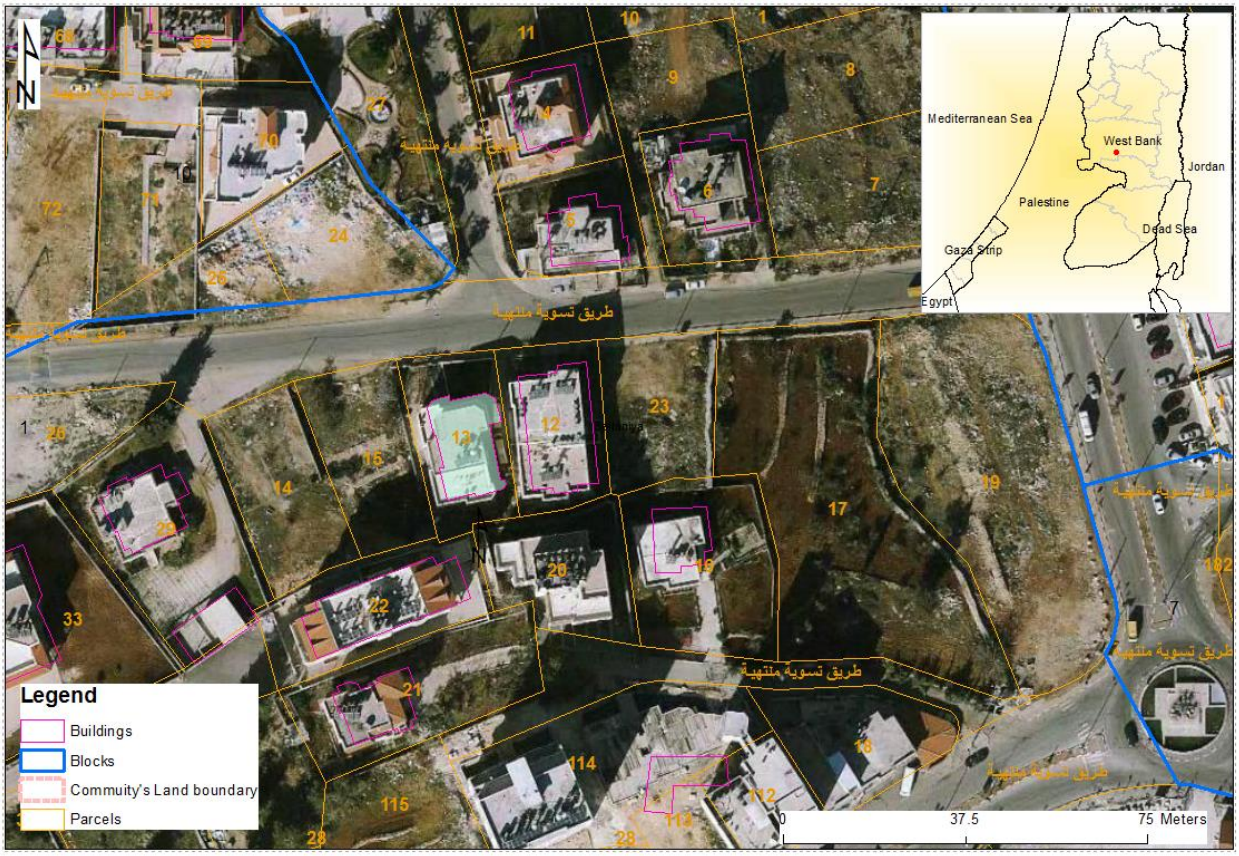


Figure 6: location of building #zero constructed in parcel number 13, block number 1 in Betonia

The building#0 has two floors

The ground floor has two units (each unit has unique ID)

The first floor has one unit

The rent value of unit with ID 75637 is **500** JD/year

The rent value of unit with ID 75638 is **500** JD/year

The rent value of unit with ID 75639 is **75** JD/year

The reduced rent value for the unit with ID 75637 = 80%x500 =**400** JD/year

The reduced rent value for the unit with ID 75638 = 80%x500=**400** JD/year

The reduced rent value for the unit ID 75639 is 500 JD/year=80%x75=**60** JD/year

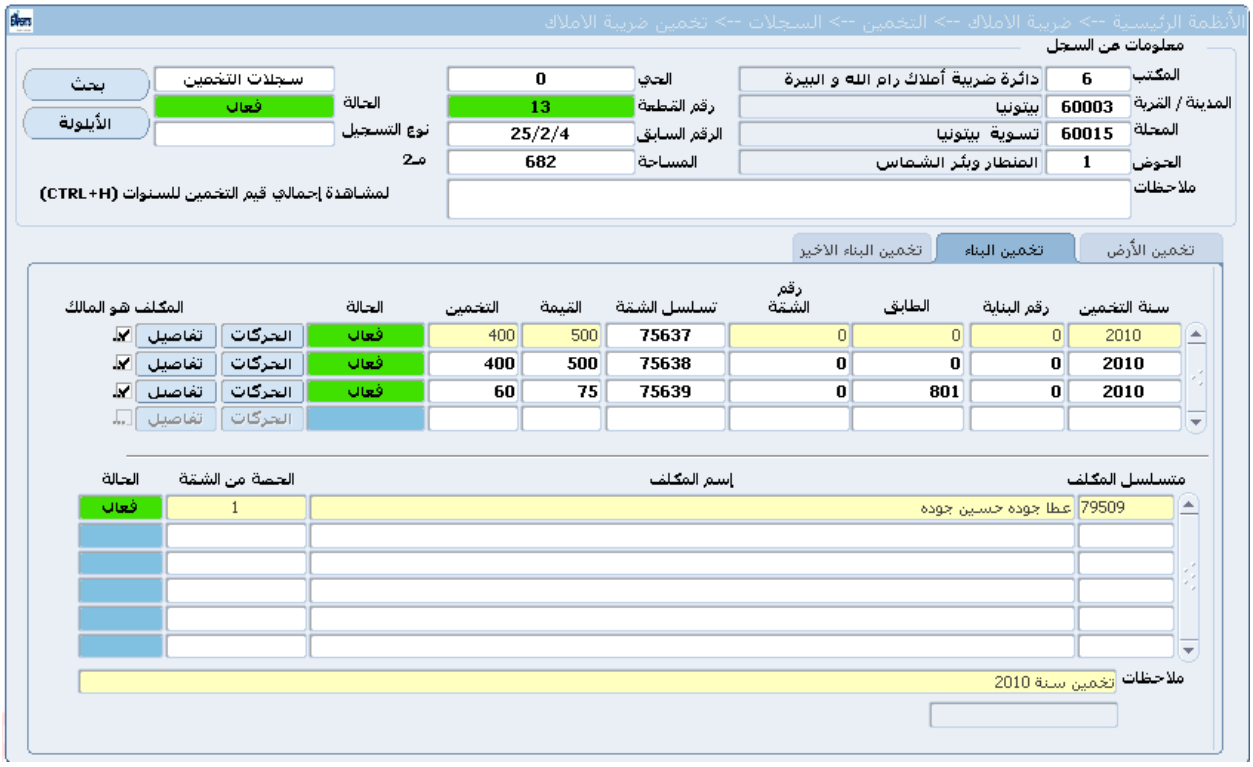


Figure 7: The rent values in 2010 for units contained in building number zero constructed in parcel number 13, block number 1 in Betonia

The taxation value for the unit with ID 75637 = 17%*400 =**68** JD/year

The taxation value for the unit with ID 75638 = 17%*400 =**68** JD/year

The taxation value for the unit with ID 75639 =17%*60 =**10.2** JD/year

The Taxation value for the gross building=68+68+10.2=**146.2** JD

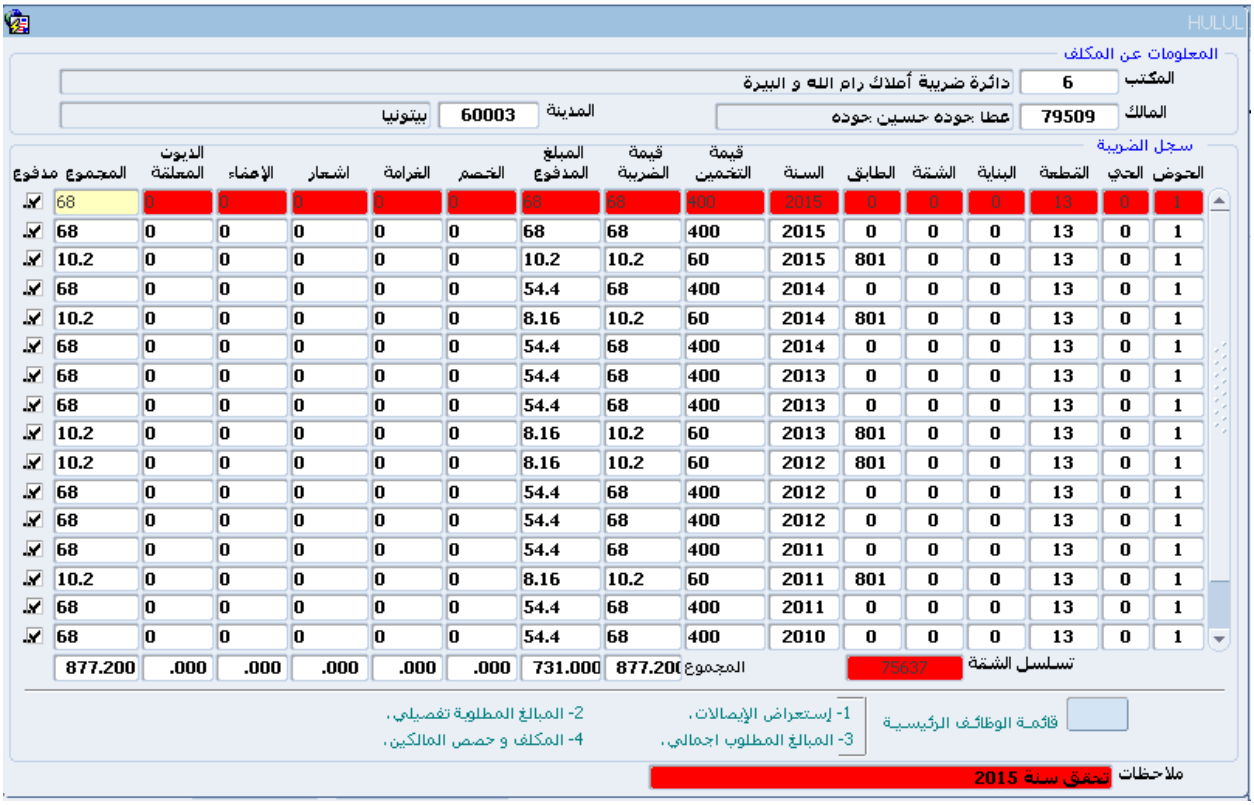


Figure 8: The taxation values in 2010 for units contained in building number zero constructed in parcel number 13, block number 1 in Betonia

3.4 Example 4

Calculate the taxation value levied on building#0, parcel#13, block # 1 Betonia according to the JPVP approach.

Table 6 below shows how the data of units (flats) is tabulated in the database

FLT_SEQ	PARCEL	BLOCK	Community	BLD_NO	EST_YEAR	**EST_FLAT_RENT**	FLAT_NO	ROOM	EST_FLAT_RENT1	RENT_VALUE_USED
75582	2	1	Beituniya	0	2010	400	0	3		400
75583	2	1	Beituniya	0	2010	500	0	4		500
75584	2	1	Beituniya	0	2010	500	0	4		500
75589	3	1	Beituniya	0	2010	25000	0	2	25000	25000
75594	4	1	Beituniya	0	2010	2500	0	3		2500
75602	5	1	Beituniya	0	2010	750	0		750	750
75603	5	1	Beituniya	0	2010	550	0		550	550
75604	5	1	Beituniya	0	2010	250	0	3	250	250
75605	5	1	Beituniya	0	2010	375	0	4	375	375
75610	6	1	Beituniya	1	2010	375	0	4	375	375
75618	6	1	Beituniya	2	2010	100	0		100	100
75612	6	1	Beituniya	1	2010	375	0	4	375	375
75617	6	1	Beituniya	1	2010	250	0	2	250	250
75632	12	1	Beituniya	0	2013	375	0	4	375	375
75633	12	1	Beituniya	0	2013	375	0	4	375	375
75634	12	1	Beituniya	0	2013	375	0	4	375	375
75635	12	1	Beituniya	0	2013	375	0	4	375	375
75636	12	1	Beituniya	0	2013	375	0	4	375	375
75637	13	1	Beituniya	0	2010	500	0	5	500	500
75638	13	1	Beituniya	0	2010	500	0	5	500	500
75639	13	1	Beituniya	0	2010	75	0	2	75	75
75640	16	1	Beituniya	0	2010	200	0	2		200

75641	16	1	Beituniya	0	2010	400	0	4		400
156768	18	1	Beituniya	0	2014	16800	0		16800	16800
156769	18	1	Beituniya	0	2014	500	0	4		500
217221	18	1	Beituniya	0	2014	2000	0	4		2000
75654	20	1	Beituniya	1	2013	2250	0	4		2250
75655	20	1	Beituniya	1	2013	2250	0	4		2250
75666	20	1	Beituniya	2	2013	500	0	1		500
75656	20	1	Beituniya	1	2013	2250	0	4		2250
75657	20	1	Beituniya	1	2013	2250	0	4		2250
75658	20	1	Beituniya	1	2013	2250	0	4		2250
75659	20	1	Beituniya	1	2013	2250	0	4		2250
75660	20	1	Beituniya	1	2013	2250	0	4		2250
75661	20	1	Beituniya	1	2013	2250	0	4		2250
75662	20	1	Beituniya	1	2013	2700	0	4		2700
75663	20	1	Beituniya	1	2013	2250	0	4		2250
75664	20	1	Beituniya	1	2013	3500	0	4		3500
75665	20	1	Beituniya	1	2013	1000	0	4		1000
75667	21	1	Beituniya	0	2010	250	0	2	300	250
75668	21	1	Beituniya	0	2010	300	0	3	375	300
75669	21	1	Beituniya	0	2010	300	0	3	375	300
75670	21	1	Beituniya	0	2010	300	0	3	375	300
75671	21	1	Beituniya	0	2010	250	0	2	300	250
217193	22	1	Beituniya	1	2015	600	1			600
217194	22	1	Beituniya	1	2015	600	2			600
217195	22	1	Beituniya	1	2015	700	1			700

Table 6: Sample of tabular data for building units constructed in block #1 in Betonia.

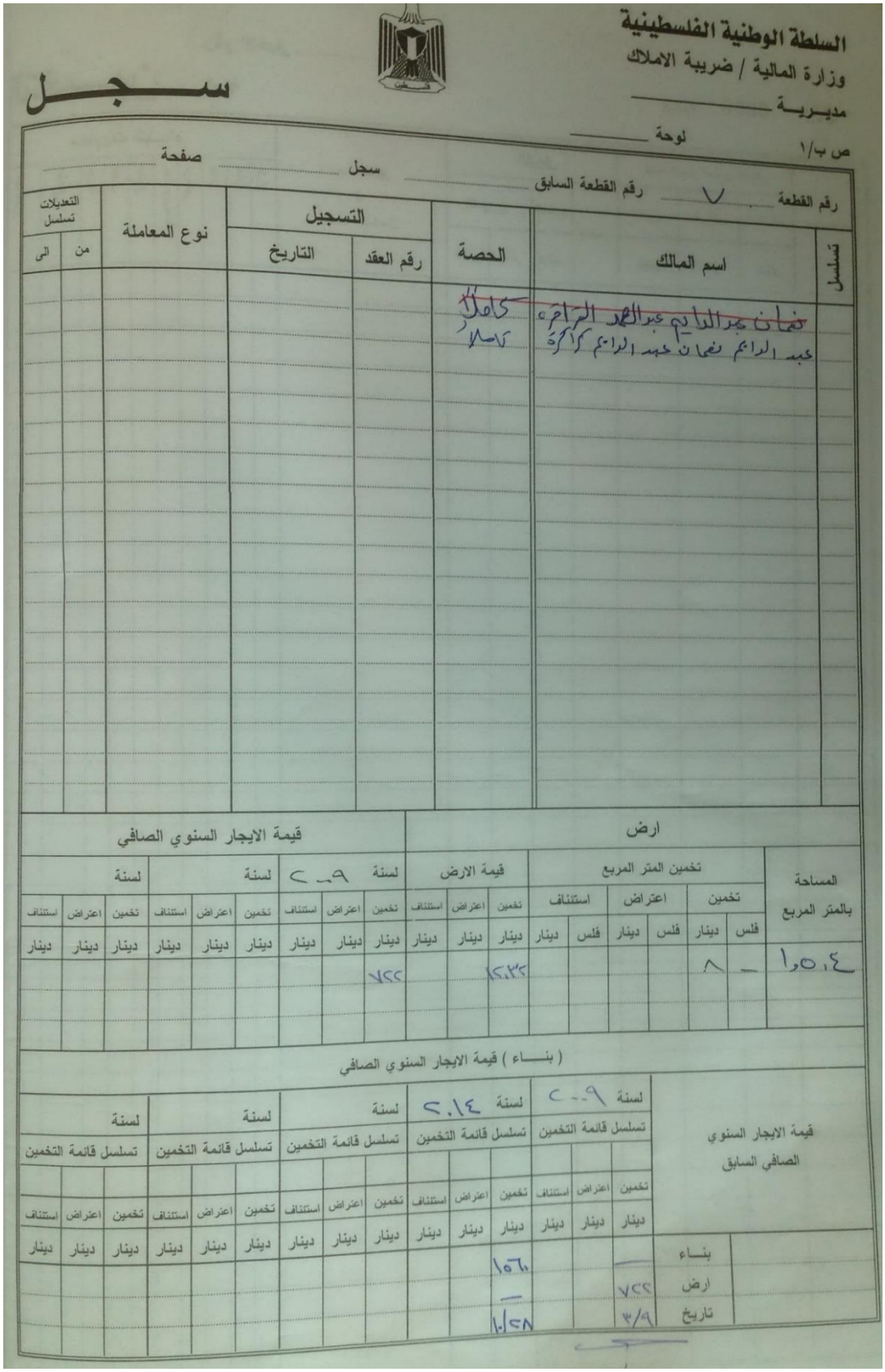


Figure 9: The content of hard copy records regarding net sale value of lands and net rent value for buildings.

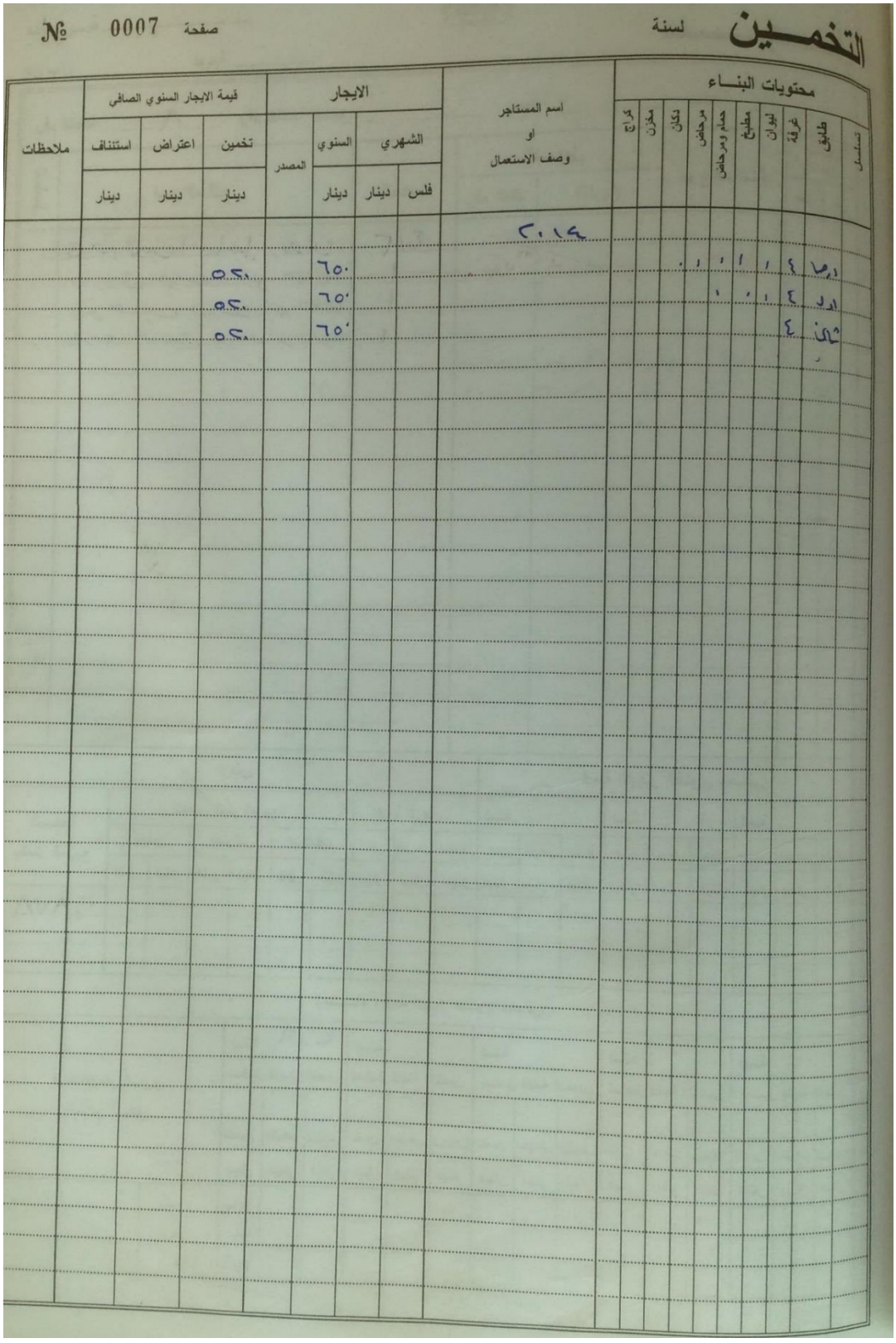


Figure 10: The content of hard copy records regarding the net rent values of units for particular building.

4 How the S and R values are determined?

Apparently, the critical challenge in the valuation process is to estimate the sale value (S) for land and rent value (R) for a unit in a building. Traditionally, the sale value is assessed by three methods: comparison method, cost method, and income method. In all these three methods, valuer's experience still plays a major component in estimating the sale value for a certain land. However, in the local context of Palestine, the sale value can be obtained from sources such as:

1. Palestine Capital Market Authority (PCMA)
2. Palestine Land Authority (PLA)
3. Real Estate Agencies (Private Sector)

With respect to the rent value (R), it can be obtained from contract that is agreed by both renter and rentee and thus the actual rent value can be directly entered in the database.

In this regards, huge efforts have been put into developing models in order to come up with the best estimation for the S and R values to achieve the maximum degree of fairness. At present, the approaches below can be considered as good source for S and R values:

1. The PTAX database
2. The JPVP approach
3. The Valuation Base Committee (BC)
4. The VNG approach
5. The GIS approach
6. Standard value method

For example, parcel # 122 in block number 1 in Betonia has a sale value of 7 JD/m^2 according the PTAX database while its actual sale value reaches 350 JD/m^2 according base committee. In the same manner, the average rent value for building # zero contained in parcel # 73, block # 1 in Betonia is 2 JD/m^2 while its actual rent value might reach 20 JD/m^2 according base committee.

Figure 11: Comparison between sale and rent values according PTAX data and base committee.

5 Enhancing the S and R values available in the PTAX

It is acknowledged that the S and R values stored in the PTAX don't reflect the actual values due to the fact that valuers tend to reduce these values themselves (or by internal regulation a the level of GDPT) in order to take into account the local economy in Palestine and the financial resources of taxpayers. However, in all cases, it is recommended to include the actual sale\rent value in the PTAX instead of the discounted ones. For this reason, a factor (C) can be integrated in the PTAX formula to represent the percentage of the discount. Therefore, the PTAX taxation equations can be re-w*ritten as below:

For Parcels:

$$T_p = 10\% * 6\% * B * S * A \quad (8)$$

For Buildings

$$T_u = 17\% * 80\% * B * E * R \quad (9)$$

Where B is a discount factor that is multiplied by the actual sale\rent value to take care of local economy in Palestine and the financial resources of taxpayers.

For example, if it is agreed to consider the discount factor to be 1% then in case the actual sale value of a particular parcel is 700 JD/m^2 then multiplying it with 1% will generate a sale value of 7 JD/m2.

6 The effect of "zone use" and "unit use" in estimating S and R values

Generally, there is a good match between the unit (building) use and zone use that is assigned in the urban master plan shown in Figure 12. In general, the fields below needs to be integrated into the PTAX database in order to be able to determine K value according JPVP approach.

- Unit Area (m^2)
- Unit Height (m)
- Unit Use
- Zone Use
- Location Class (to be derived later from proximity to facilities, road characteristics, neighborhood attribute, Noise condition, etc.)
- Construction Date
- Construction Material
- Construction Condition
- Availability of Elevator

- Availability of Parking
- Availability of Utilities (Electricity, Water, Telephone, etc.)

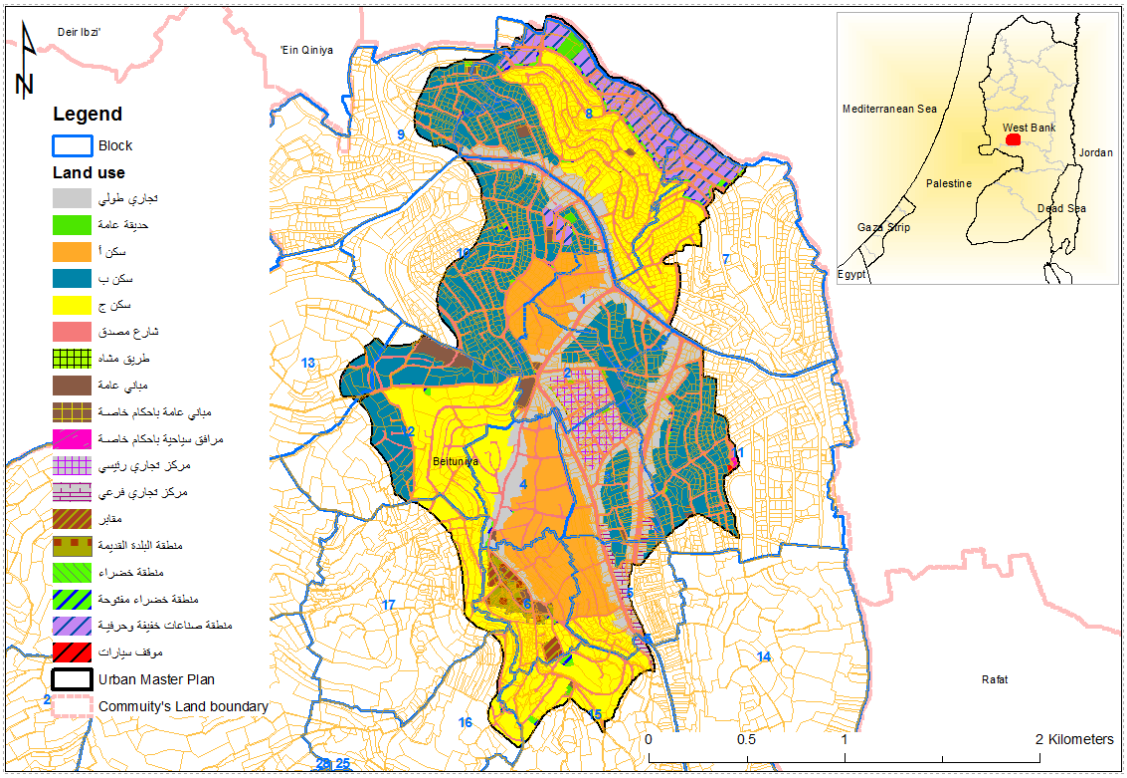


Figure 12: Urban master plan of Betonia

However, PTAX database must be enhanced to in terms of start entering values in the “unit use” field shown in the screenshot below

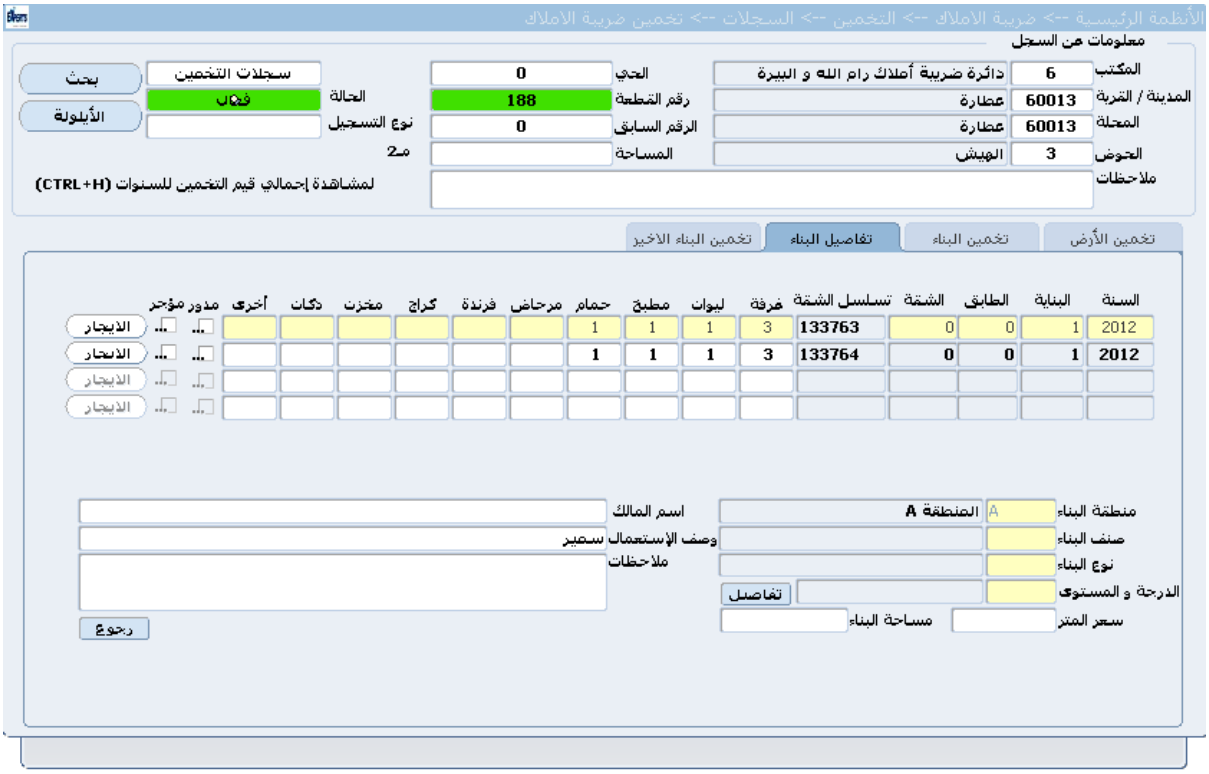


Figure 13:

7 JPVP values for S and R: are they per block or at a point?

According to the JPVP approach, S and R values will be derived from the PTAX by multiplying them by K and M coefficients. K accounts for property characteristics (location, condition, quality, style, utilities, etc.) where M considers municipality class.

There is an idea to represent S and R values as points within blocks such that values for S and R at other locations can be obtained by interpolation. In this regard, three challenges arise:

1. Where to locate these points (point distribution) within the same block?
2. How many points should be taken (number of points)
3. The radius of interpolation (number of points\minimum distance that will participate in the interpolation)

Figure 5 shows the land use within block one in Betonia according to the urban master plan approved in 2008.

8 Valuation base committee work

The result of the work of the base committee is represented in assigning S and R value for each block according to the land use (residential, commercial, industrial and tourism). In this case, The S and R values corresponds to the actual sale and rent values in the reality and are not derived based on the PTAX database. The map below shows the proposed sale\rent values for a number of blocks in Betonia.

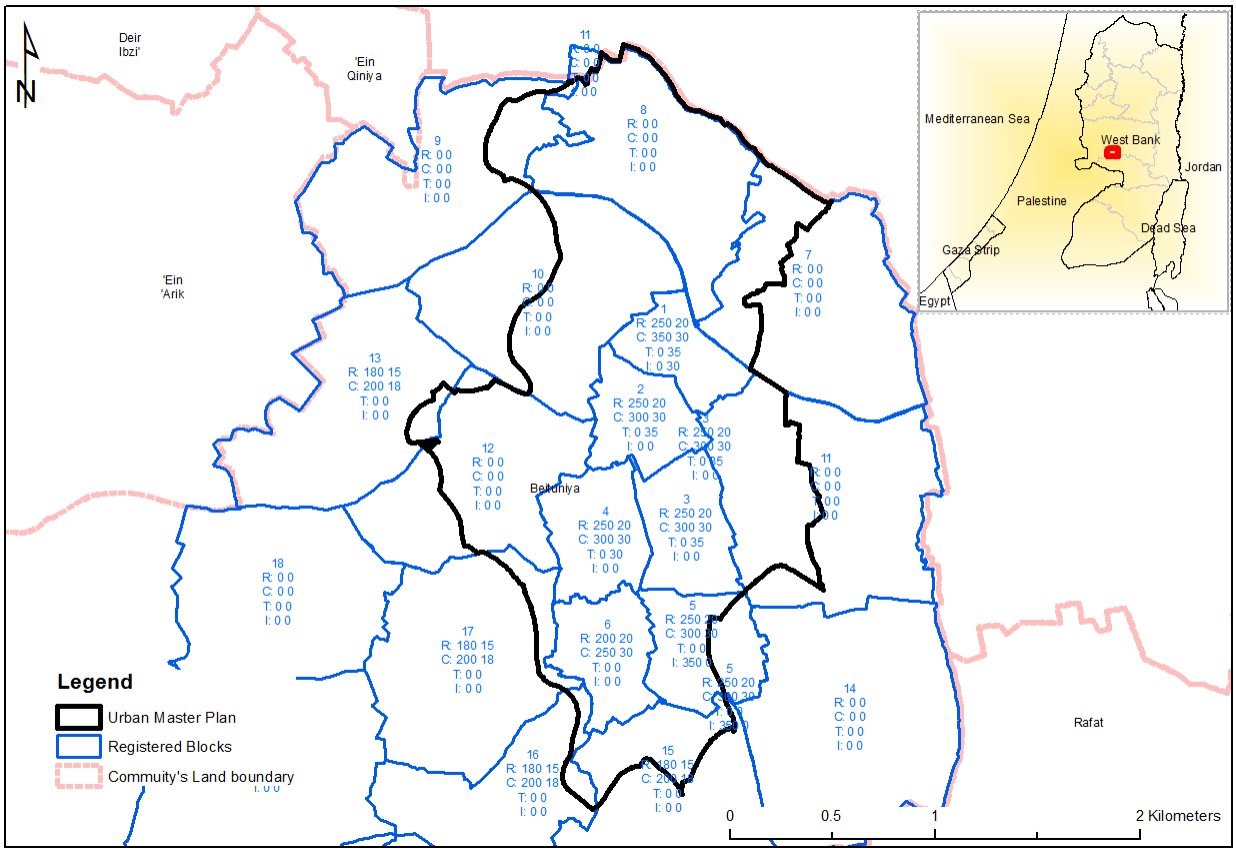


Figure 14:

9 GIS, Statistical\Artificial approach to derive S and R values,

On the whole, the issue when specifying S and R values is how to justify and defend them. Due to the fact that S and R values available in PTAX are not defensible, other approaches are suggested to overcome this challenge. For this purpose, it is aimed at applying the GIS to create valuation raster for land value such that classes are interpreted to sale values (JD/m^2) and thus the S value at each location is obtained. Furthermore, the valuation raster can be fed into MRA or ANN as a variable (location class variable) in order to estimate the R value of all units of buildings. This approach is being tested and performed at the moment.

Mathematically, valuation raster can be derived based on the equation below

$$Land\ Value = \sum_{i=1}^{n} W_i F_i \qquad (10)$$

Where n number of variable considered, W_i is the weight of the i^{th} factor, F_i is the i^{th} factor. Numerically, the valuation can have any value from 1 to 100 and then classified into five groups. next, the classes are labelled with their sale values according to the valuer's experience. Having the sale value at the level of pixel paves the way to assign these values to parcels and thus mass valuation for all parcels can be implemented.
As the valuation raster provides information regarding lands of high\low values depending on set of variables, this raster itself can be considered as a single variable that can be fed into the MRA equation to apply the mass valuation for buildings.

$$V_u = C_1V_1 + C_2V_2 + \cdots + C_nV_n \quad (11)$$

Where Vu is the estimated value for the u^{th} unit, C1 is a coefficient multiplied by the 1^{st} variable, V1 is the 1^{st} variable, C2 is a coefficient multiplied by the 2^{nd} variable, V2 is the second variable, C_n is the n^{th} coefficient multiplied by the n^{th} variable, V_n is the nth variable.

It remains to precisely identify the variables based on which parcels and buildings are valuated.

10 What is the difference between the GIS and JPVP approaches?

Despite the fact that the GIS (with MAR or ANN) and JPVP approaches are planned to apply the same set of variables, they can be distinguished by highlighting that the JPVP approach is considered a single property valuation technique while the GIS can achieve mass valuation. The JPVP approach requires collecting data for each single parcel\building in order to be able to determine the K coefficient. Having the massive data size for properties in mind, this sounds to be not practical and thus why revaluation in five years (in accordance with laws) fails to be approached.

In return, in case the GIS approach is implemented, a massive spatial analysis is applied that ends up by assigning sale\rent values.

11 The VNG approach

This approach introduces methods to predict sale values for lands and buildings. In case of land, this approach depends on identifying boundaries for areas within a particular local authority that have same characteristics in terms of social and economic factors, buildings style, services, and people income. Having the boundaries identified, valuation experts can assign sale value for these areas based on experience, knowledge and transactions available. These areas are called value areas. However, the boundaries of value areas are recommended to be demarcated in coincidence with cadaster blocks, where possible.

For buildings, the sale value is determined by the cost method. According to this approach, a gallery photo is developed to indicate the cost of a wide range of buildings types in JD/m^2

Mathematically, the taxation for vacant land can be written as:

$$T_p = 10\% * S_p * A_p \quad (12)$$

Where T is the taxation value for a parcel (P) in JD, 10% the taxation percent, S_p is the sale value in JD/m^2 assigned to zone that contains the land, A_p is the geometric area of land

Taxation for land with building constructed on it can be written as:

$$T_u = 10\% * \left(\frac{f}{5} * \frac{A_u}{A_B} * S_p * A_p * + \frac{Z_i}{Z} * S_u * A_{u)}\right) \quad (13)$$

Where Tu is the taxation value for a parcel (P) in JD and unit (u), 10% the taxation percent, f is the number of floors of the building constructed on the land (f is considered to be 5 in case the number of floors is less than or equal 5, this includes the case when no buildings is constructed on the land), S_p is the sale value in JD/m^2 assigned to zone that contains the land, A_p is the geometric area of land, Zi the sale value of the i^{th} zone in JD/m^2, Z is the average sale value of all zones

(k=k1+k2+k3+…+kn/n), S_u is the cost of unit area in a building (this is obtained by comparison between the building in question and photo gallery table), A_u is the area of the unit and A_B is the total area of the building

However, in case the geometric area of the unit (flat) is not given, the formula below can be implemented

$$T_u = 10\% * \left(\frac{f}{5} * \frac{S_p * A_p}{n} * + \frac{Z_i}{Z} * S_u * A_{u)}\right) \quad (14)$$

Where Tu is the taxation value for a parcel (P) in JD and unit (u), 10% the taxation percent, f is the number of floors of the building constructed on the land (n is considered to be 5 in case the number of floors is less than or equal 5, this includes the case when no buildings is constructed on the land), S_p is the sale value in JD/m^2 assigned to zone that contains the land, A_p is the geometric area of land, n is the number of units, Z_i the sale value of the i^{th} zone in JD/m^2, Z is the average sale value of all zones (k=k1+k2+k3+…+kn/n), S_u is the cost of unit area in a building (this is obtained by comparison between the building in question and photo gallery table),

Example:

Calculate the taxation value for a flat of **150** m^2 that is located in the fourth floor with a construction cost of \$**650**/m^2 knowing that the geometric area of the land is **900**m^2, the land sale price is \$**950**/m^2, and average land sale price is **850**?

Tu= 10% ((950*150/900) + 650/850 *650*150))

= 10%((950*0.15)+(0.76*97500)=10%(142+74,100)=???

What is interesting here is that the taxation percent can be derived from the amount of money the government needs in each particular year divided by the total amount of valuation of buildings and lands. Mathematically, the taxation percent can be written as follows:

$$P_u = \frac{V_g}{V_p} \quad (15)$$

Where P_u is the taxation percent, Vg, the amount of money the government needs in a particular year and V_p the total amount of property valuation for buildings and lands.

12 Standard value method

A committee a combination of GDPT and private sector that has members different from those official valuers is entitled to assign the market value\rent value in JD/m2 at particular points such that these points as considered as reference (base) to apply the equations below:

For Land:

$$T_u = 6\% * 10\% * K * S * A \quad (16)$$

Where K is the coefficient value that differentiate between a parcel and another, S is the market value of land at particular location that will be set by GDPT and private sector and applied by valuers to appraise other parcels in the same area

For buildings

$$T_u = 17\% * 80\% * K * R * A \quad (17)$$

Where K is the coefficient value that differentiate between a unit (flat) and another, R is the rent value of a unit (flat) at particular building that will be set by GDPT and private sector and applied by valuers to appraise other units (flat) in the same area

13 At which stage parcels become non-taxed?

Any parcel of area less than 1700 m^2 and contains a building is exempted from property tax. In this case, the tax is transferred to the building. The map below shows which parcels are taxed and not taxed in block number 1 in Betonia.

MINUTES OF MEETING
BETWEEN
THE JICA MONITORING MISSION TEAM
AND
THE MINISTRY OF FINANCE OF PALESTINE
ON
THE PROJECT FOR IMPROVEMENT OF LOCAL FINANCE SYSTEM IN PALESTINE

The JICA Monitoring Mission Team (hereinafter referred to as "the Team"), organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") headed by Mr. Haruyuki SHIMADA, visited Palestine from 6th to 10th of December 2015 and had a series of discussion and exchanged opinions with General Directorate of Property Tax (hereinafter referred to as "GDPT") on matters concerning the Project for Improvement of Local Finance System in Palestine (hereinafter referred to as "the Project").

The results of the discussions are recorded as a Minutes of Meetings (M/M) and signed by GDPT and the Team as attached.

Ramallah,
10 December 2015

Haruyuki Shimada

Mr. Haruyuki SHIMADA
Acting Director,
Public Governance and Financial Management Team, Governance Group,
Industrial Development and Public Policy Dep.
JICA

Mr. Mahmoud NOFAL
Director General of the Property Tax
General Directorate of the Property Tax
Ministry of Finance
Palestinian Authority

Minutes of Meetings of Discussions
between GDPT and the JICA Monitoring Mission Team

【Items Agreed】

1. The purpose of the mission

The Team visited and made discussions with GDPT of Palestinian Authority to clarify the outcomes of the Project so far and the tasks needed to be done during the remaining project period (up to end of September 2016)[1]. The results of discussions are recorded as a Minutes of Meetings (M/M) and signed by GDPT and The Team. As a result of discussions, both GDPT and the Team also agreed to make every effort to conduct the project activities in accordance with attached monitoring sheet with a view to end the Project as scheduled at the end of September 2016.

2. Employment of additional local engineers

The Team expressed that GDPT's request of employing additional local engineers is unacceptable because they are non-permanent (contract-basis) staff. As defined in the Record of Discussions(R/D) of the Project, the concept of JICA's technical cooperation is to transfer skills and knowledge to counterpart personnel who are expected to remain in their positions so that they continue to conduct their duties even after the termination of the Project. The Team determines that the requested personnel are not considered as appropriate for technical transfer.

As a result of discussion, both GDPT and JICA agreed that GDPT will hire engineers from a municipality or Palestinian Authority.

3. Training

The Team accepted to conduct a training program in Japan in late May 2016 and strongly requested GDPT to select qualified and appropriate staff for participation to the program. It would be the last of the second and third country trainings. In addition, the both sides agreed that the training in Palestine shall be also taken place during the period from April to July in 2016.

4. Public Awareness Campaign (PAC)

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[1] The project will be completed at the end of September 2016. But activities by Japanese experts in Palestine will be finished by the beginning of September 2016.

The both sides agreed to provide necessary budget for conducting PAC with the same contents that JICA supported last year, and an SMS service for PAC will be conducted by GDPT by itself.

5 . TDMMU

The Team acknowledged and reconfirmed in accordance with the R/D that GDPT is solely responsible for organizing and restructuring TDMMU. In this respect, the project will continue monitoring Master Plan Matrix if necessary.

6. Employment of a staff of Ministry of Local Governance (MOLG)

The Team requested GDPT to provide JICA with the evidence materials that justify the payment of an "incentive" to a governmental officer (in this case, an officer from MoLG) for an off duty job. Without the evidence, JICA's regulation does not allow such payment. The Team agreed to pay for an incentive only and after such evidence is presented. Nevertheless, the Team is of the view that the pilot project for GIS should be completed even without further involvement of a MoLG officer.

As a result of discussion, GDPT pledged to obtain the requested evidence from Ministry of Finance and MOLG.

7. New Valuation Standard (VS)

JICA has conducted the technical cooperation project for supporting designing new valuation standard and its application to Palestine. Both sides re-confirmed that the Project is conducted in line with the agreed valuation standard. The formula has been adopted (9th and 20th September 2015 as attached) and refinement processes are as follows; simplification of value influence factors, verification of market ratio (multiplier) and verification of standard point value.

In the discussion, GDPT insisted the Project Team has not achieved anything (VS Fomula, Manual etc.), though GDPT confirmed that the draft VS formula was officially adopted in principle. The Team explained that VS Formula draft was approved on September 9th and 20th 2015, and VS Formula as well as the manual is in process for completion.

8. Assignment of valuation standard experts

The Team stated that JICA has made its best efforts to attain the project purpose and upon request from GDPT, has allocated available resources including Dr. Ayoub from Jordan and GIS pilot project. In addition, the Team mentioned that if GDPT wishes to

request further input from JICA, GDPT has to submit TOR immediately which was requested by JICA Palestine Office on 16th of November 2015. However, JICA thinks that the current staffing is sufficient for implementing the rest of the project activities. Furthermore, JICA is not able to input the third country experts in terms of allocated budget and time.

In the discussion, GDPT requested Japanese experts to stay longer period for the project. However, in terms of contract, JICA explained Japanese experts cannot be stationed in Palestine longer than planned period.

【Items Not Agreed】

1. PDA

The Team explained that JICA cannot provide PDA due to budget constraints.
In the discussion, GDPT insisted to introduce PDA and related systems. JICA, however, repeatedly responded that JICA cannot approve the request due to the budget constraints and lack of time.

Other Points Discussed

- Workshop

  GDPT requested JICA to provide necessary fund to take place two to three days retreat or workshop. Although JICA is supportive to hold such events by GDPT, JICA cannot give financial assistance.

- Equipment

  The Team mentioned the results of JICA's appraisal on additionally-requested equipment which is either approved or not-approved. The table below shows the JICA's appraisal results.

Equipment	Status
PDA	Not approved by JICA
GPS	Not approved by JICA
Laser	Deducting the number from 5 to 2
Digital Camera	Not approved by JICA
Monitors-5	Procurement in process
Workstations-5	Procurement in process
Laptops-2	Procurement in process
Computers for evaluators	Not approved by JICA

- VNG

  VNG will be assigned as a second-opinion adviser to GDPT.

END