

RURAL PROPERTIES MARKET INFORMATION SYSTEM FOR MEXICO

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Case 1:

- In Solidarity, Quintana Roo, 1999, two experts reported radically different values for the same property:
 - Appraiser 1 reported 2.0 \$/m²
 - Appraiser 2 reported 7.0 \$/m²
- During the revision of the evaluations it was verified that both experts had equivalent information of market and it was found that the only significant difference was given in the classification of the land of the valued property. Once corrected this, both experts concluded in values inside an acceptable range.

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- Case 2:
 - In Apan, Hidalgo, 2000, 2002, an expert reported different values for the same property due to the use of different homologation factors: in 2000 he used a factor after his own experience and in the 2002 he used factors resulting from a market research.
 - In a meeting with the technical area of the institution requesting the evaluation, the expert easily could sustain his conclusions.

Case 3:

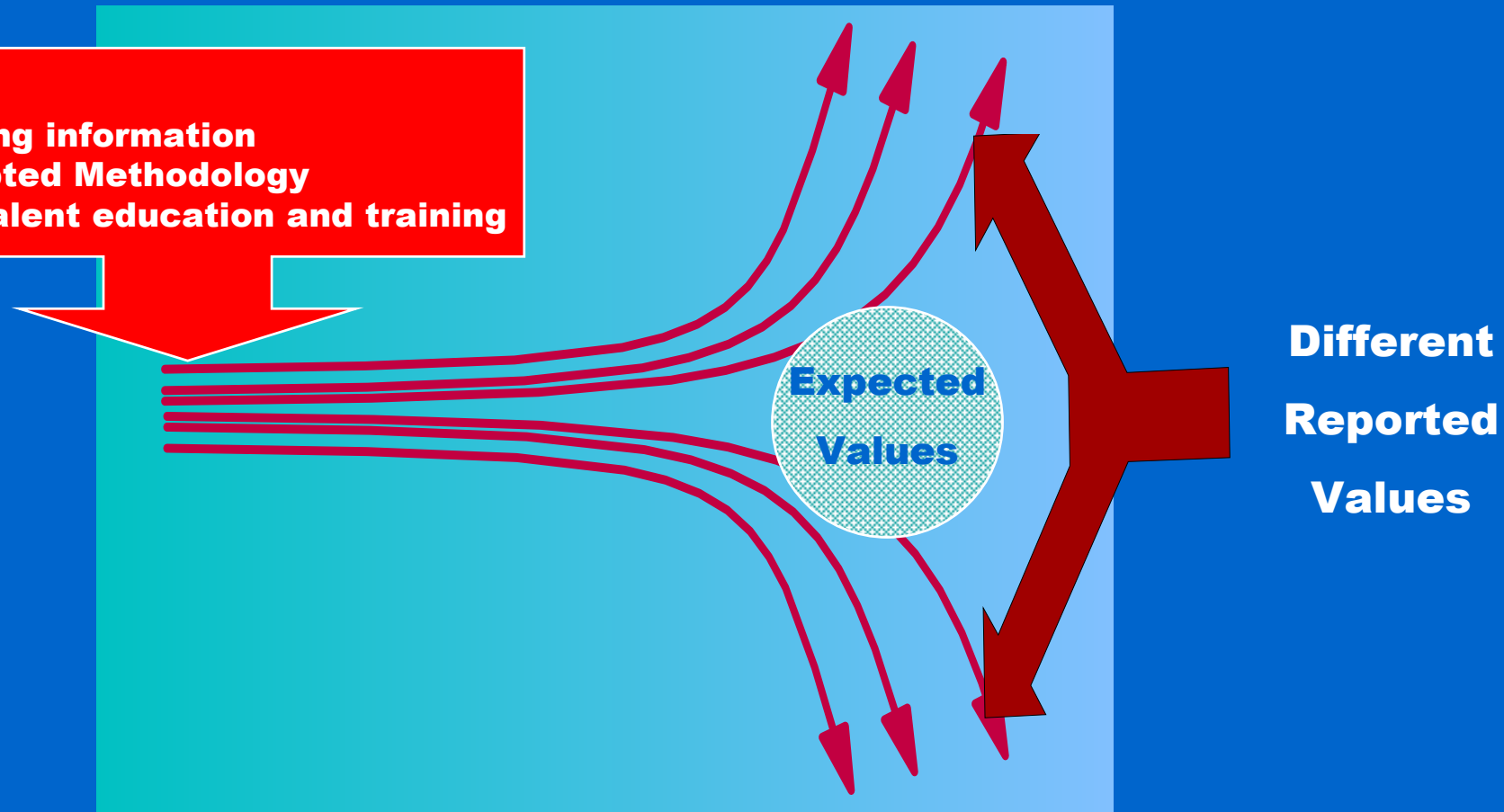
- In Tonalá, Jalisco, 2000, in a controversy were detected that the expert reported well carried out market investigations, but that he didn't use any factor to adapt these to the classification of the land. For this reason the emitted verdict didn't correspond to the real value of the property.
- Revising the work and using correction factors that allowed a correct use of the market investigations, a conclusion of value accepted by both parts was reached.

Case 4:

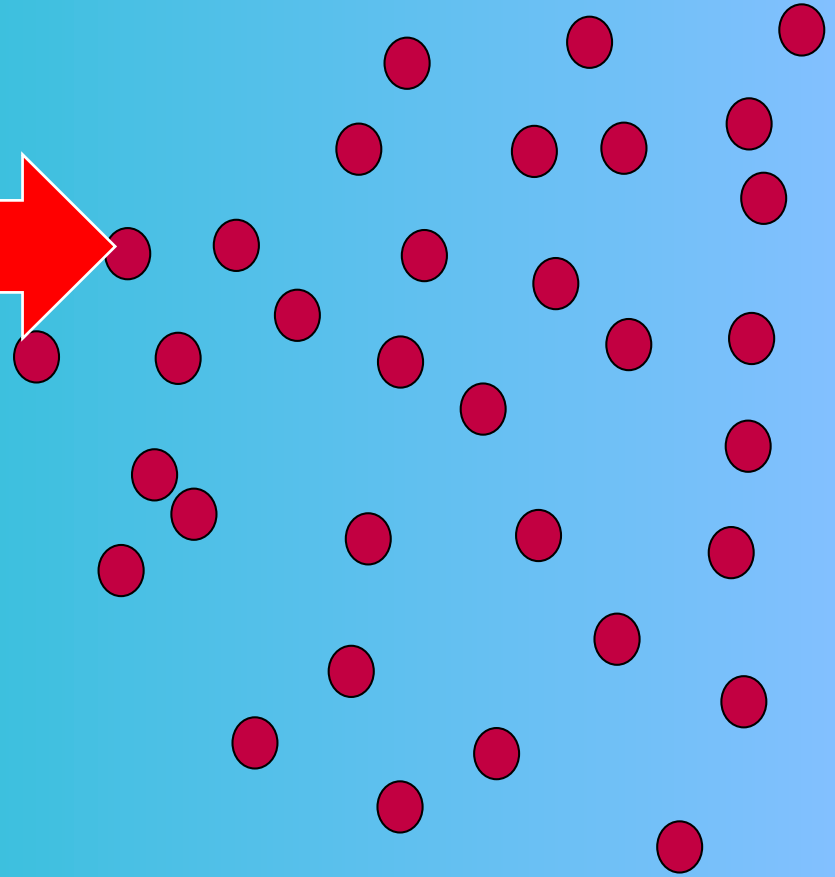
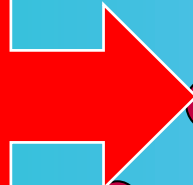
- In Perote, Veracruz was carried out the evaluation of a swine farm by two experts.
 - The expert 1 concluded in 9 million pesos.
 - The expert 2 concluded in 6 million pesos.
- In a meeting of controversy it was verified that the only significant difference among the two verdicts was the unitary prices of the agricultural constructions (pigpens): during this meeting the sources of information were questioned: the expert 1 reported as source **BIMSA**, a Mexican source for urban constructions, - he used social interest dwelling value, without finishings-, while the expert 2 reported the **Manual of Agricultural Constructions-** pigpens.

Same

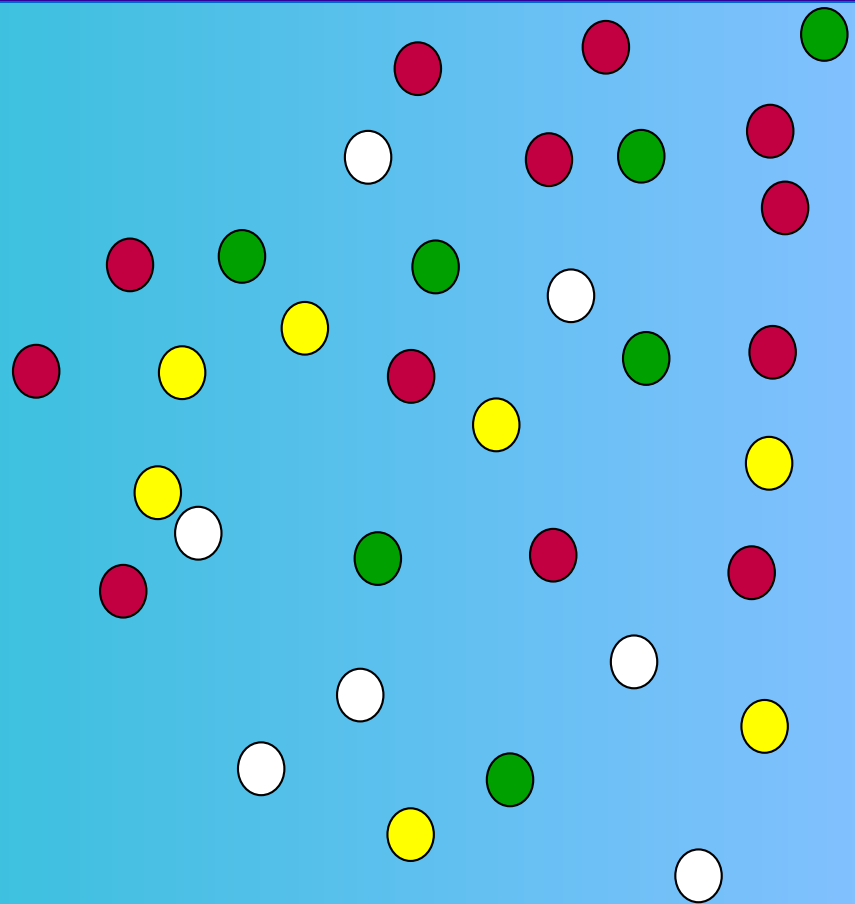
- Starting information
- Accepted Methodology
- Equivalent education and training



**Market
Reserach**

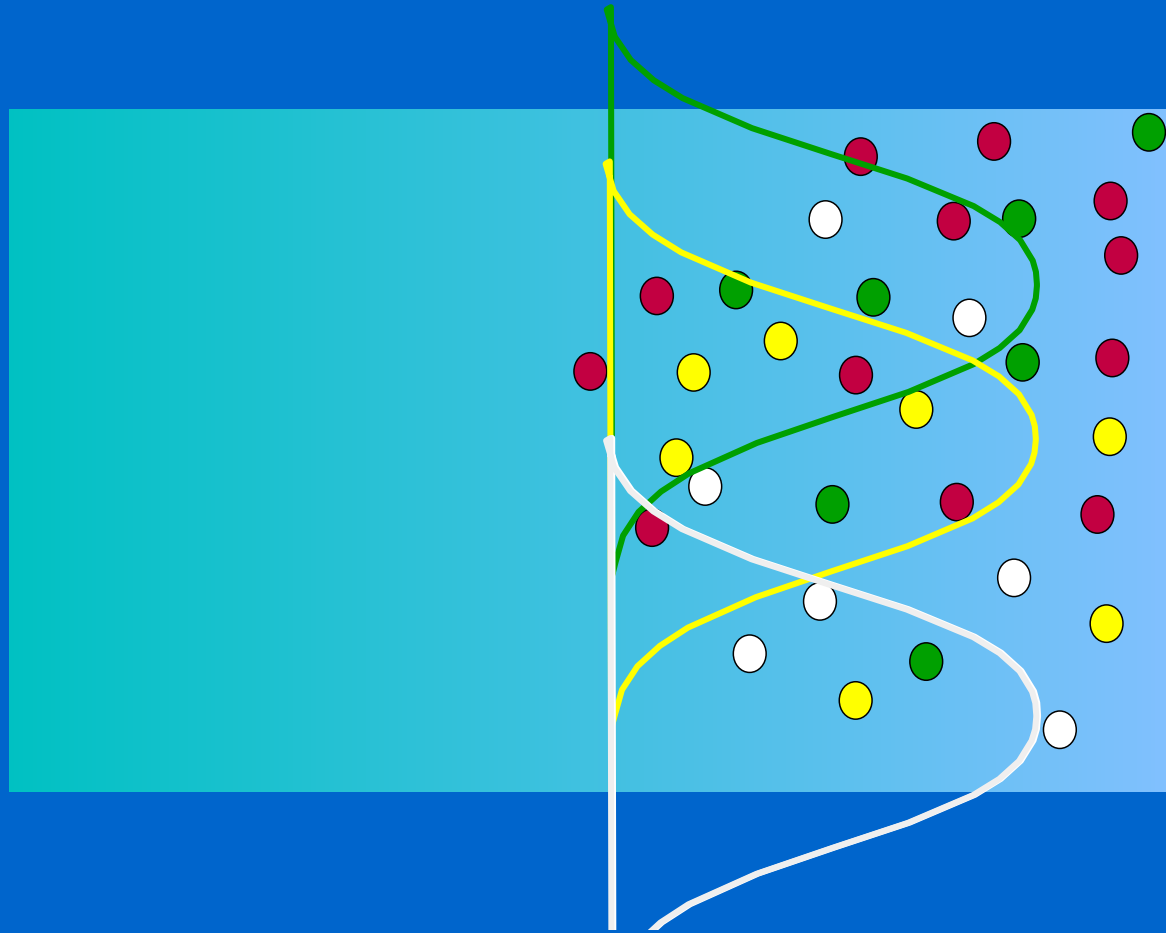


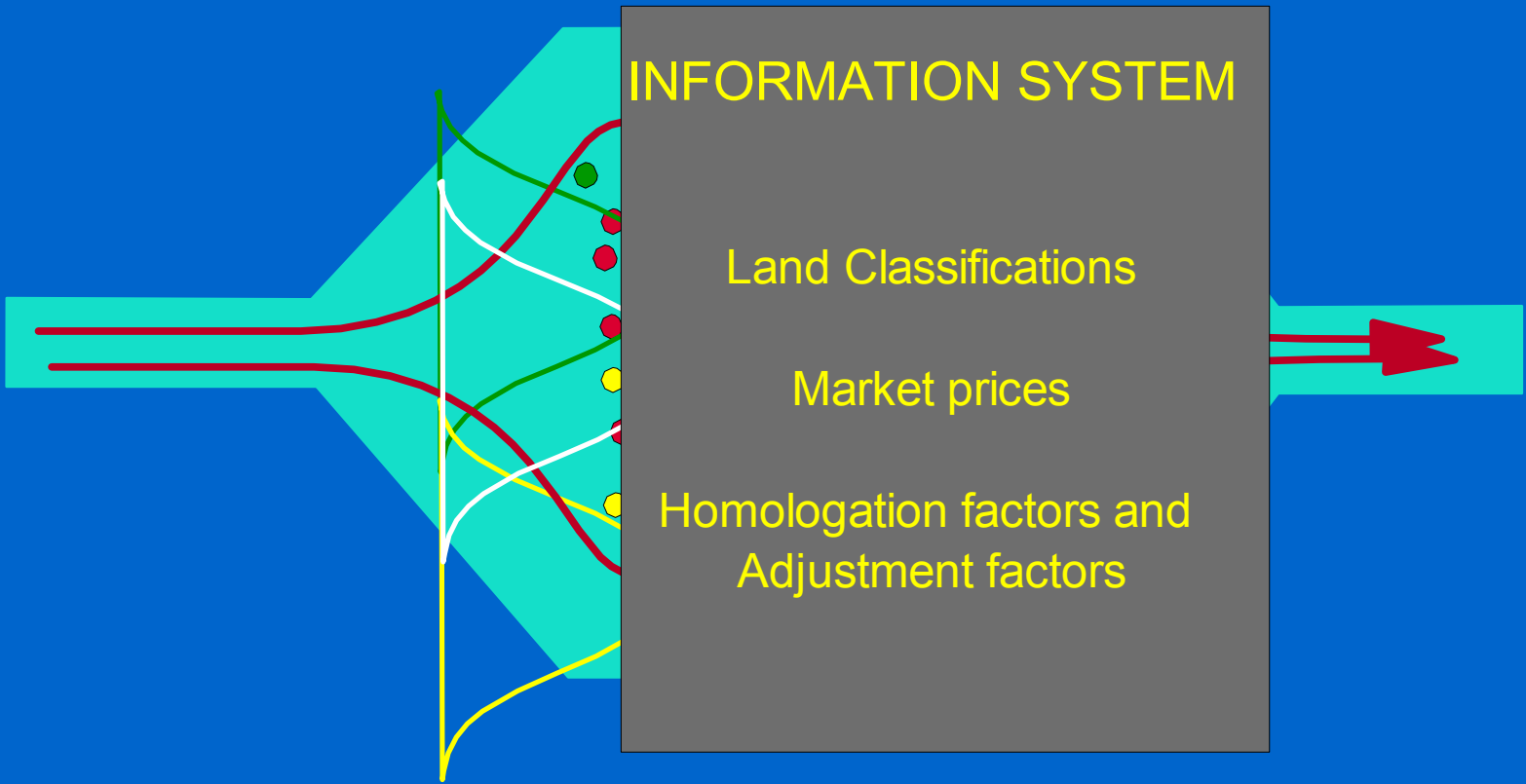
- **Appraiser A**
- **Appraiser B**
- **Appraiser C**



● **Non considered market offers**

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-





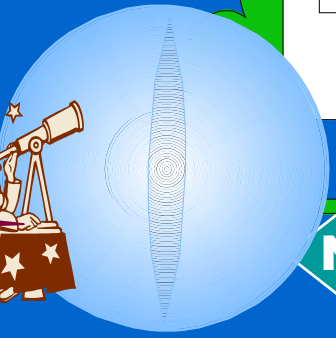
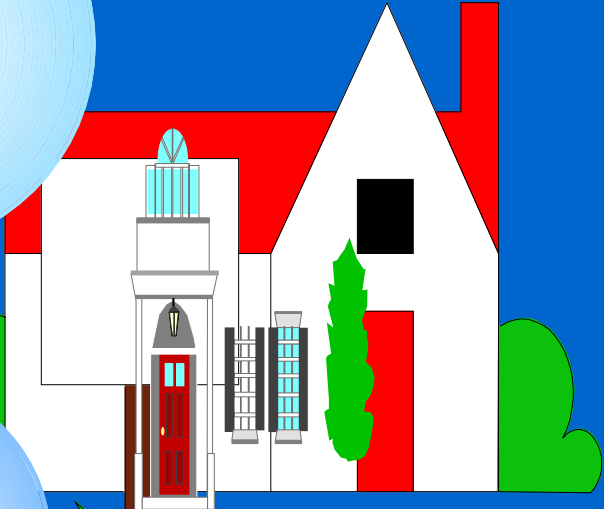
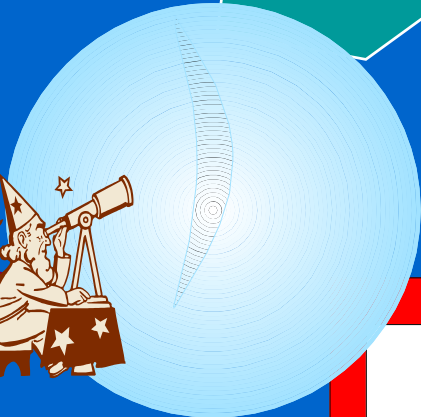
CONSTRUCTIONS

	SOURCE	
	Focused in rural	Non focused in rural
•Comparison	Direct	Adapted
•Specific constructions	Yes	No
•Available information		
–Construction life	Yes	Adapted
–Specific items	Yes	Adapted
–Zootechnical indicators	Yes	No

CONSTRUCCIONES (C)



Focused



Non Focused

INTRODUCTION

The *Rural Properties Market Information System For Mexico, SIEMPA*, is a system that integrates the main elements associated to the determination of the value of an rural property.

These elements are:



Associated factors to the value of the land in terms of its location, use, potential



Associated factors to the property in terms of the constructions existing in the property.



Associated factors to the property in terms of its geographical location.

ASSOCIATED FACTORS TO THE VALUE OF THE LAND IN TERMS OF ITS LOCATION, USE, POTENTIAL

- This part of the system reports sale prices in the market of rural properties. The scope of this part is nationwide.
- The information is segmented in terms of land type.
- The information is structured in a database in which the main features of each property are consigned and analyzed.
- The structure of this database allows us to segment the analysis in terms of type of property, geographical area, accesses, orography, etc.

Currently this database is formed for more than 7,000 properties, nationwide.

LAND CLASSIFICATIONS

SIEMPA reports 10 different land classifications

- Rough mountain
- Salt marsh (marisma)
- Natural Prairies
- Season land
- Aid (limited) Irrigation land
- Irrigation land
- Transitional to Residential
- Transitional to Industrial
- Transitional to Tourism

LAND VALUE

INFORMACION SOBRE VALORES DE TIERRA Y FACTORES DE AJUSTE:

	MUNICIPIO	ESTADO
VALOR PROMEDIO:	43,000	35,000
VALOR MINIMO:	16,000	14,000
VALOR MAXIMO:	59,000	59,000
NUMERO DE MUESTRAS:	8	22

Average value

Minimum value

Maximum value

Samples

Specific
for
municipal
and
class

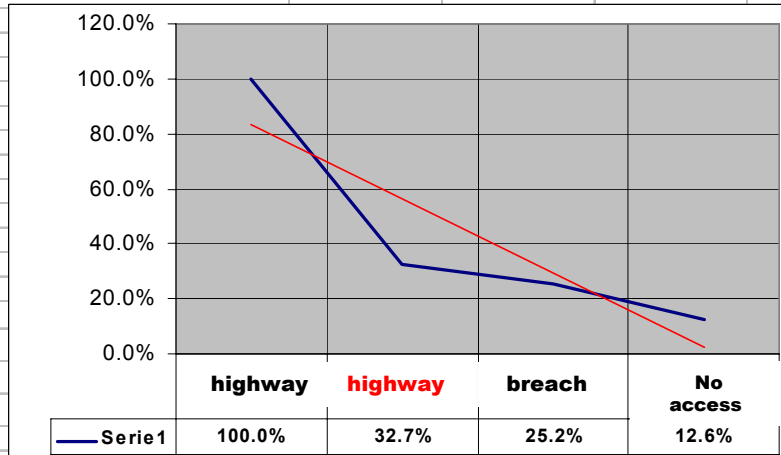
Specific values
for the state and
land classification

HOMOLOGACIÓN AND ADJUSTMENT FACTORS

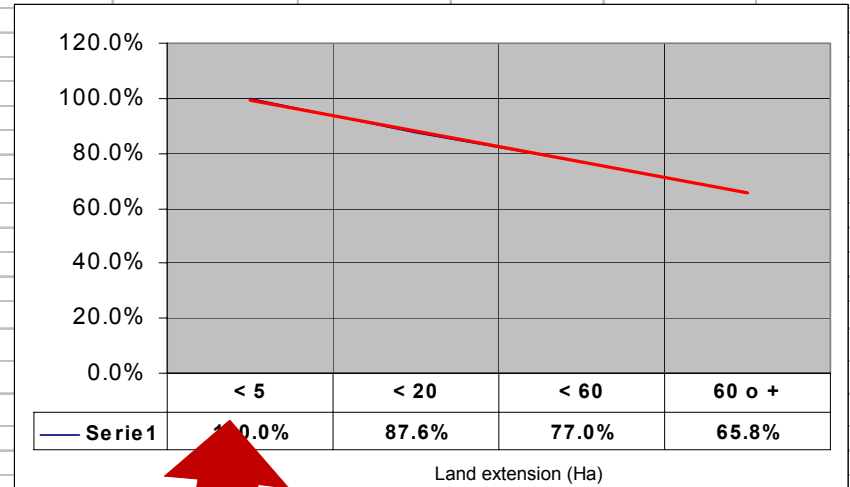
One of the most important characteristics in the *SIEMPA* is that it provides factors for adjustments, obtained from the market that recognize the impact in the value of the property.

Given the size of the current sample and the regions included, these factors should be taken with care.

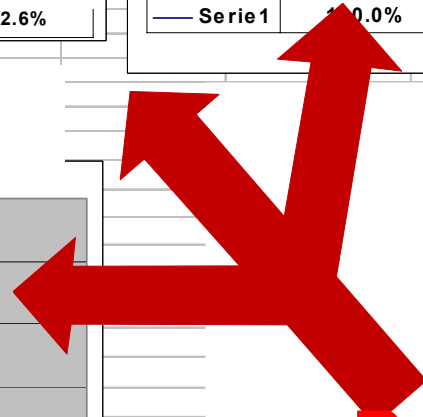
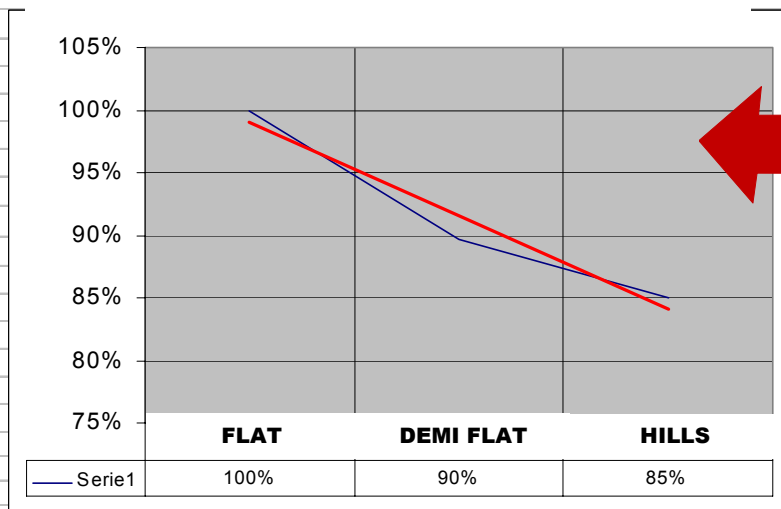
ACCESS



LAND EXTENSION



OROGRAPHY



**Regional wise
calculated**

HOMOLOGACIÓN AND ADJUSTMENT FACTORS (Cont)

In the same way, the *SIEMPA* provides relative values also obtained from the market that allow us to use them like a solid base for the use of field information that doesn't correspond to the classification of the valued property.

<i>Clasificación</i>	<i>CENTRO</i>
Agostadero Natural	0.15
Cerril	0.04
Marisma	0.00
Riego	1.00
Riego de auxilio	0.77
Temporal	0.48
<i>Clasificación</i>	<i>CENTRO</i>
Habitacional	3.01
Industrial	2.59
Riego	1.00
Servicios	2.03
Turístico	2.07

**Regional wise
calculated**

ASSOCIATED FACTORS TO THE PROPERTY IN TERMS OF THE CONSTRUCTIONS EXISTING IN THE PROPERTY.

- This part of the system reports unitary costs of the constructions that are typically more used in the rural facilities.
- These data are own elaboration and they were published in the “*Agricultural Manual, Volume I, Costs of Agricultural Constructions*”; Sandoval C / Cardoso J.

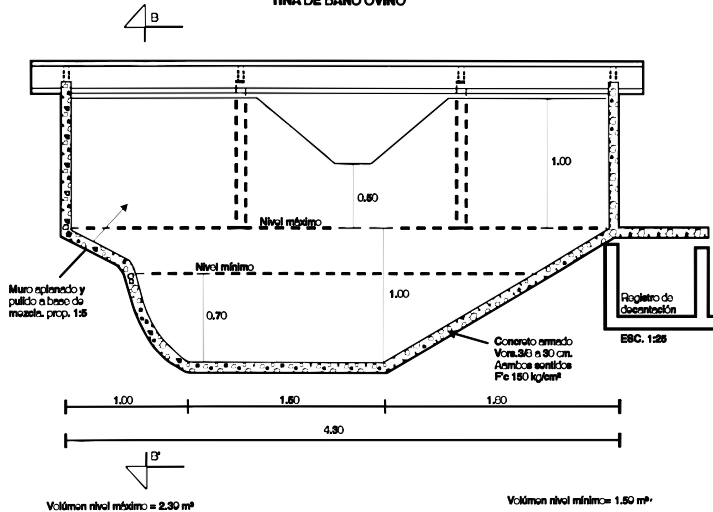
Next we present a sample of the given information:

ASSOCIATED FACTORS TO THE PROPERTY IN TERMS OF THE CONSTRUCTIONS EXISTING IN THE PROPERTY.

PARTIDA	TOTAL	PARTICIPACION%	ACUMULADO%
1 Preliminares	7,660	2%	2%
2 Cimentacion	7,890	3%	5%
3 Superestructura	133,250	42%	47%
4 Albañileria	69,810	22%	69%
5 Revestimiento	0	0%	69%
6 Recubrimientos	0	0%	69%
7 Instalaciones	16,000	5%	74%
8 Colocaciones	41,470	13%	88%
9 Terracerias	0	0%	88%
10 Vertedor	0	0%	88%
11 Generalidades	39,270	12%	100%
Total	315,350	100%	
	CAPACIDAD:	2,390	litros
	COSTO UNITARIO:	131.9	\$/litros
	V. U. T.	20	Años

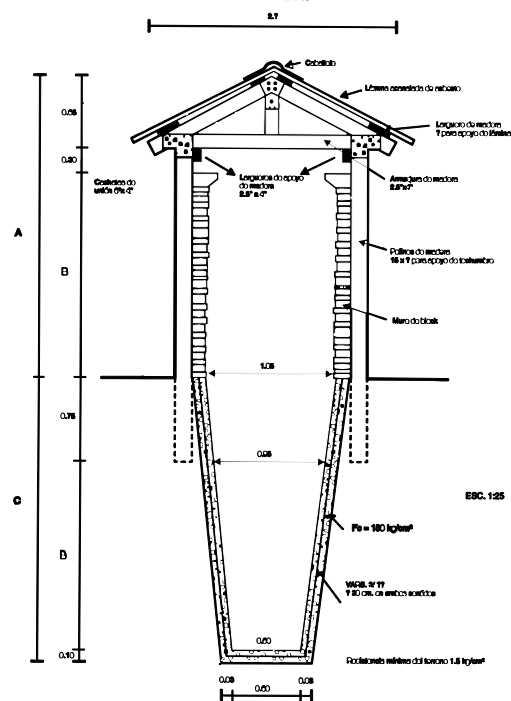


CORTE LONGITUDINAL A-A'
TINA DE BAÑO OVINO



MANUAL DE COSTOS CONSTRUCCIONES AGROPECUARIAS TOMO I			
NO. DE LAMINA:	TITULO:		
24	CORTE BAÑO OVINO		
ESCALA:	ACOTACIONES:		
S/ESCALA	EN METROS		
ELABORÓ:	FECHA:		
J. CARDOSO/C. SANDOVAL	ENERO 1997		

Corte B-B'
Tina de Baño



Cuadro de Referencia

Baño	A	B	C	D
Ovino	1.70	1.00	1.50	0.75
Bovino	2.70	1.75	2.50	1.75

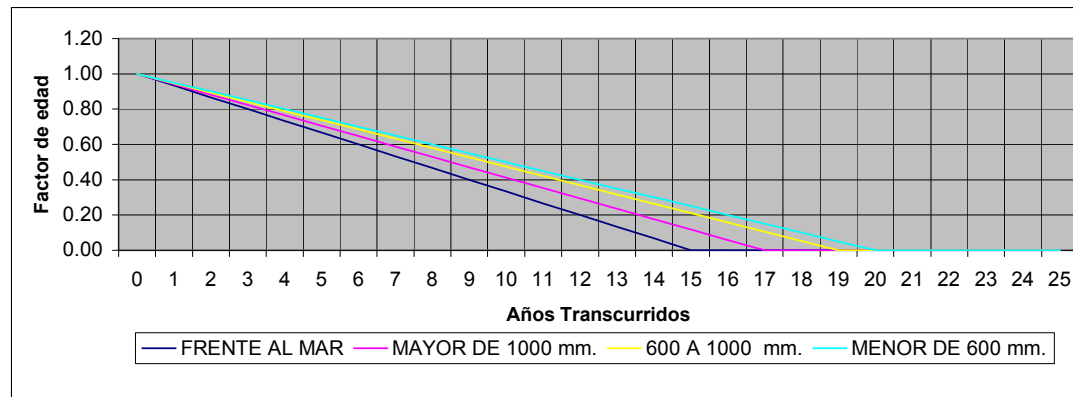
**MANUAL DE COSTOS
CONSTRUCCIONES AGROPECUARIAS
TOMO I**

NO. DE LAMINA:	TITULO:		
25	CORTE TINA DE BAÑO		
ESCALA:	ACOTACIONES:		
S/ESCALA	EN METROS		
ELABORÓ:	FECHA:		
J. CARDOSO/C. SANDOVAL	ENERO 1997		

VIDA UTIL TOTAL:

	Ubicación	F. AJUSTE	V.U.T.	AÑOS TRANSCURRIDOS		
				5	10	20
A	FRENTE AL MAR	0.75	15	0.67	0.33	0.00
B	PRECIPITACIÓN PLUVIAL MAYOR DE 1000 mm.	0.85	17	0.71	0.41	0.00
C	PRECIPITACIÓN PLUVIAL ENTRE 600 A 1000 mm.	0.95	19	0.74	0.47	0.00
D	PRECIPITACIÓN PLUVIAL MENOR DE 600 mm.	1.00	20	0.75	0.50	0.00

	Ubicación	Depreciación anual	Valor neto de Reposición			
			5 AÑOS	10 AÑOS	20 AÑOS	V. RESCATE
A	FRENTE AL MAR	7%	19,940	9,970	1	22,400
B	PRECIPITACIÓN PLUVIAL MAYOR DE 1000 mm.	6%	21,113	12,316	1	25,400
C	PRECIPITACIÓN PLUVIAL ENTRE 600 A 1000 mm.	5%	22,039	14,168	1	28,400
D	PRECIPITACIÓN PLUVIAL MENOR DE 600 mm.	5%	22,433	14,955	1	29,900



ASSOCIATED FACTORS TO THE PROPERTY IN TERMS OF ITS GEOGRAPHICAL LOCATION.

- This part of the system collects data from different official primary sources such as the *National Commission of the Water*, the *National Meteorological Service*, the *INEGI*, the *Bank of Mexico*, *COTECOCA*, *Chapingo School of Postgraduates*, among others.
- The obtained data are analyzed and presented to allow their use like additional tool to the Expert's appraiser approach in the determination of the value of a rural property.

Next we present a sample of the information given:

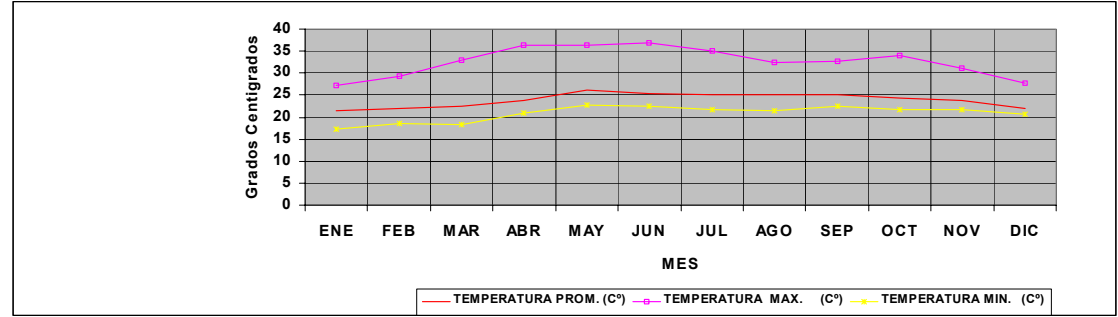
ESTADO:	SONORA
MUNICIPIO:	HERMOSILLO
REGION:	NORTE
CLAVE:	030
CLASIFICACIÓN DEL SUELO:	RIEGO

LOCALIZACION GEOGRAFICA MUNICIPAL:		
LATITUD:	29° 7'	NORTE
LONGITUD:	110° 58'	OESTE
ALTITUD:	210	m. s. n. m.

Official Location (INEGI)

INFORMACION AGROCLIMATICA:														
CLIMA:	BW													
	<i>Periodo</i>	<i>ENE</i>	<i>FEB</i>	<i>MAR</i>	<i>ABR</i>	<i>MAY</i>	<i>JUN</i>	<i>JUL</i>	<i>AGO</i>	<i>SEP</i>	<i>OCT</i>	<i>NOV</i>	<i>DIC</i>	<i>PROM. / TOTAL</i>
TEMPERATURA PROM. (C°)	1993 a 1997	21.5	22.1	22.5	23.9	26.1	25.2	25.2	25.1	25.0	24.3	23.8	21.8	23.9
TEMPERATURA MAX. (C°)	1994	27.1	29.4	33	36.4	36.4	36.8	35.1	32.4	32.6	34	31.2	27.8	32.7
TEMPERATURA MIN. (C°)	1996	17.2	18.5	18.4	21	22.8	22.5	21.8	21.5	22.6	21.8	21.8	20.6	20.7
PRECIPITACION (mm)	1993 a 1997	147.6	55.1	43.6	68.6	111.0	249.0	246.6	266.4	408.1	334.6	300.2	158.9	2,389.8
GRANIZO (días)	1998	0	0	0	0	0	0	0	0	19.8	0	0	0	19.80

Climate Köppen classification modified by Dr. Enriqueta García



Statistics SMN

COEFICIENTE DE AGOSTADERO PROMEDIO PONDERADO:	
VEGETACION DOMINANTE	Ha. / U. A.
Agrupación de halofitos	0.0
Agrupaciones de hidrofitas	0.0
Bosque	0.0
Dunas costeras	0.0
Inundables	0.0
Manglar	0.0
Matorral	32.6
Palmar	0.0
Pastizal	0.0
Pastizal inducido	0.0
Sabana	0.0

Statistics COTECOCA

VEDAS			
RIGIDA	FLEXIBLE	CONTROL	LIBRE ALUMBRAMIENTO
X			

CNA
(National Commission of Water)

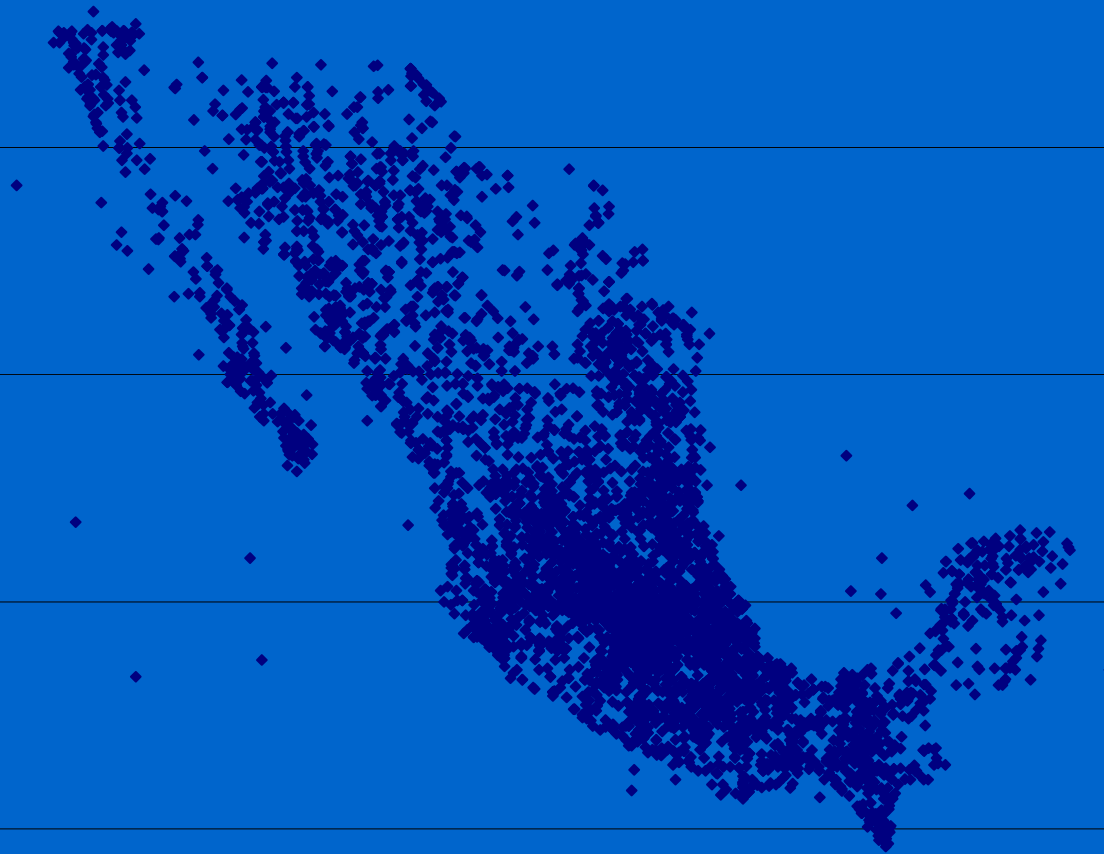


	SUPERFICIE			
	EJ.	%	POS	%
Hasta 5 ha	163,300	73%	66,787	91%
Más de 5 hasta 10 ha	37,854	17%	3,498	5%
Más de 10 hasta 15 ha	9,454	4%	1,123	2%
Más de 15 hasta 20 ha	4,012	2%	638	1%
Más de 20 hasta 25 ha	2,382	1%	462	1%
Más de 25 hasta 30 ha	2,035	1%	89	0%
Más de 30 hasta 35 ha	1,027	0%	265	0%
Más de 35 hasta 40 ha	1,012	0%	36	0%
Más de 40 hasta 45 ha	428	0%	-	0%
Más de 45 hasta 50 ha	342	0%	94	0%
Más de 50 ha	3,160	1%	713	1%
TOTAL	225,006	100%	73,705	100%

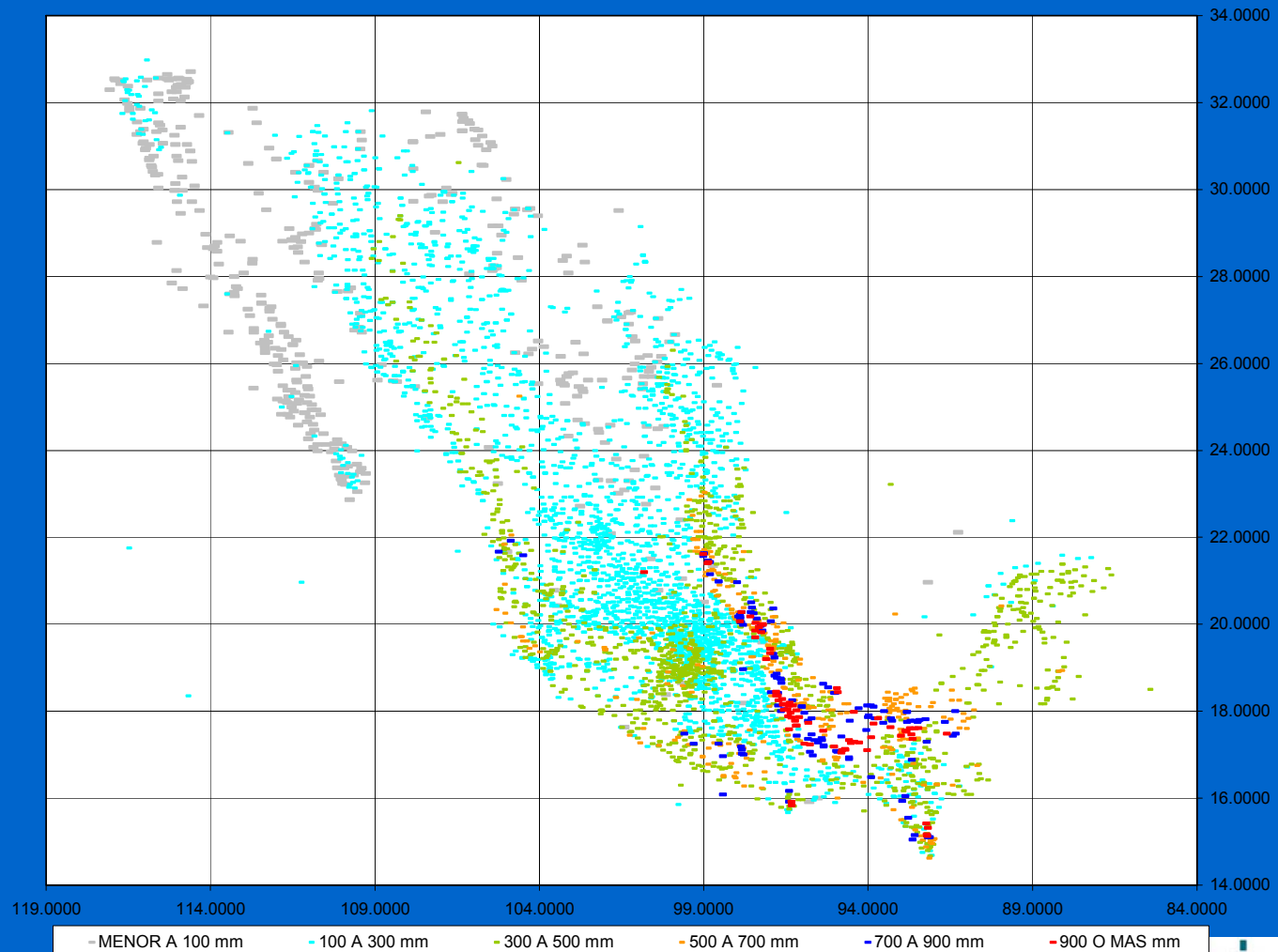
RRP, INEGI, RAN



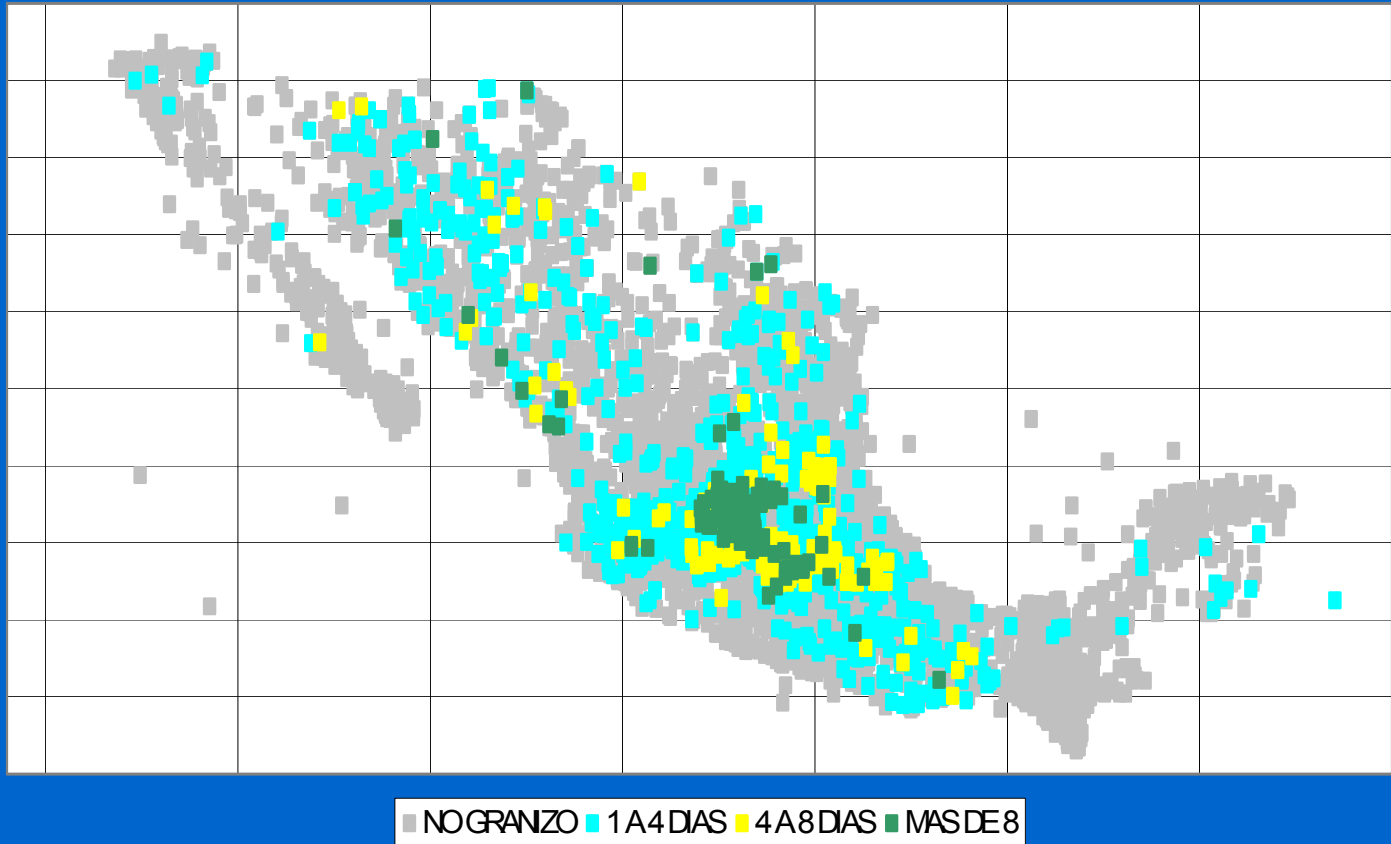
METHEOROLOGICAL STATIONS



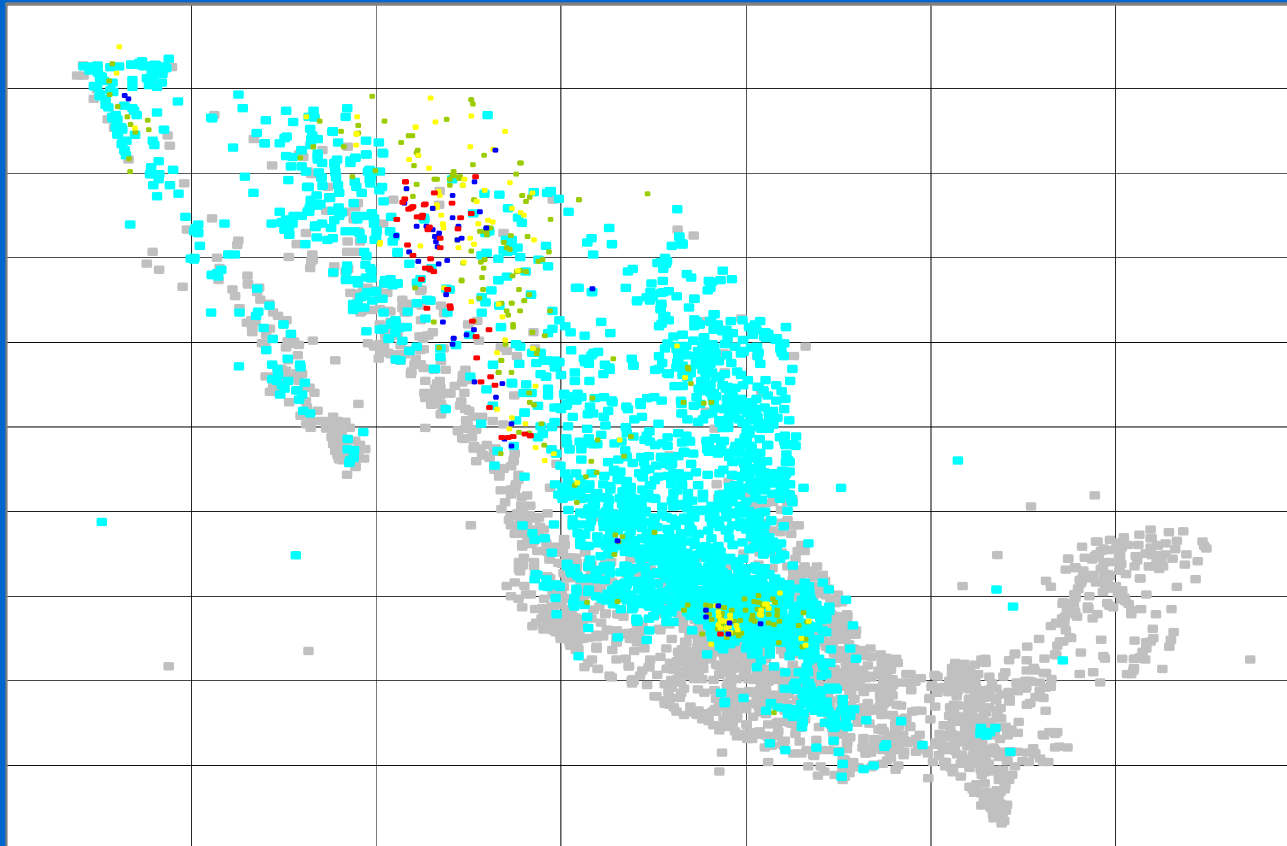
PLUVIAL PRECIPITATION



HAIL



ICY DAYS



- NO HELADAS - 1 A 29 HELADAS - 30 A 59 HELADAS - 60 A 89 HELADAS - 90 A 120 HELADAS - 120 O MAS

ASSOCIATED FACTORS TO THE PROPERTY IN TERMS OF ITS GEOGRAPHICAL LOCATION.

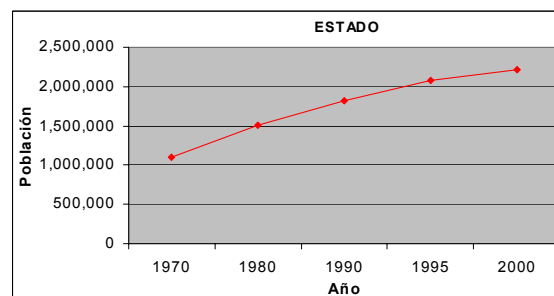
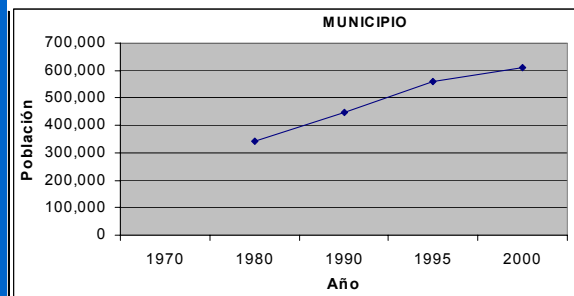
ESTADO	SONORA
MUNICIPIO:	HERMOSILLO
REGION:	NORTE
CLAVE:	030
CLASIFICACION DEL SUELO:	RIEGO

INFORMACION SOCIOECONOMICA:	POBLACION				
	1970	1980	1990	1995	2000
MUNICIPIO		340,779	448,966	559,154	609,829
INCREMENTO:		0	108,187	110,188	50,675
INCREMENTO %:			32%	25%	9%
ESTADO	1,098,720	1,513,731	1,823,606	2,085,536	2,216,969
INCREMENTO:		415,011	309,875	261,930	131,433
INCREMENTO %:		38%	20%	14%	6%

SUPERFICIE TERRITORIAL:	14880.21	Km2
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POBLACION	DE 1 A 999	DE 1,000 A 9,999	DE 10,000 A 99,999	DE 100,000 A 999,999	MAS DE 1'000,000
HABITANTES:					
LOCALIDADES	1096	6	1	1	0

Censuses of Population and Economics (INEGI)



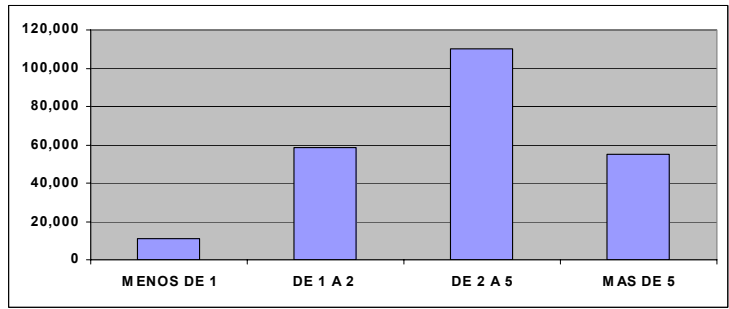
POBLACION ECONOMICAMENTE ACTIVA:

ACTIVIDAD	PEA	%
AGRICULTURA, GANADERIA APROVECHAMIENTO FORESTAL PESCA Y CAZA	18,663	8%
MINERIA	898	0%
ELECTRICIDAD Y AGUA	1,880	1%
CONSTRUCCIÓN	21,215	9%
INDUSTRIAS MANUFACTURERAS	40,784	17%
COMERCIO	41,337	18%
TRANSPORTE, CORREOS Y ALMACENAMIENTO	8,278	4%
INFORMACIÓN EN MEDIOS MASIVOS	3,806	2%
SERVICIOS FINANCIEROS Y DE SEGUROS	3,080	1%
SERVICIOS INMOBILIARIOS Y DE ALQUILER DE BIENES MUEBLES	1,374	1%
SERVICIOS PROFESIONALES	6,305	3%
SERVICIOS DE APOYO A LOS NEGOCIOS	6,358	3%
SERVICIOS EDUCATIVOS	14,449	6%
SERVICIOS DE SALUD Y ASISTENCIA SOCIAL	9,930	4%
SERVICIOS DE ESPARCIMIENTO Y CULTURALES	1,954	1%
SERVICIOS DE HOTELES Y RESTAURANTES	9,873	4%
OTROS SERVICIOS, EXCEPTO GOBIERNO	22,198	9%
ACTIVIDADES DEL GOBIERNO	13,109	6%
NO ESPECIFICADO	9,505	4%
	234,996	100%

Labor structure in the municipality

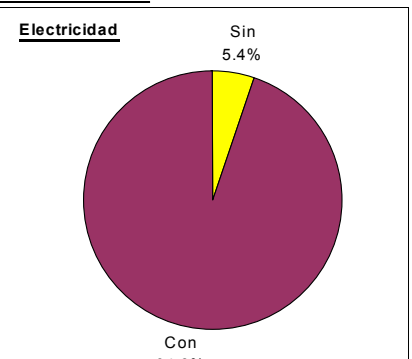
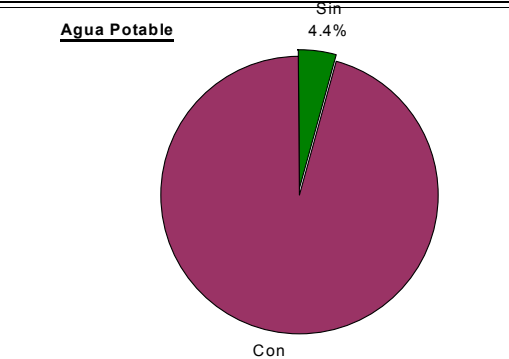
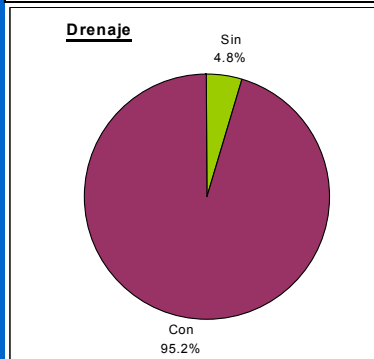
SALARIO MINIMO:	37.95	\$ / MES.
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INGRESOS (SALARIOS MINIMOS):		
	POBLACION	%
MENOS DE 1	10,959	5%
DE 1 A 2	58,575	25%
DE 2 A 5	110,219	47%
MAS DE 5	55,243	24%
	234,996	100%



Censuses of Population and Economic (INEGI)

SERVICIOS EN LA VIVIENDA:	Total de viviendas	DRENAJE		ELECTRICIDAD		AGUA POTABLE	
		% NO TIENE	% SI TIENE	% NO TIENE	% SI TIENE	% NO TIENE	% SI TIENE
HERMOSILLO	147,140	5%	95%	5%	95%	4%	96%



COMPARABLE MUNICIPALITIES

MUNICIPIOS COMPARABLES:						
MUNICIPIO	DISTANCIA (km)	CLIMA	PRECIPITACION (mm)	OROGRAFIA	INDICE ESTRUCTURA ECONOMICA	FACTOR DE SIMILARIDAD
Sonora Hermosillo		BW	244.9	SEMIPLANO	100%	
Sonora San Miguel de Horcasitas	43.5	BSh	244.9	SEMIPLANO	0%	C
Sonora Colorada, La	49.7	Bs1h	244.9	LOMERIO	7%	D
Sonora Carbó	56.7	BSh	244.9	SEMIPLANO	6%	C
Sonora Ures	66.4	BSo	456.8	LOMERIO	22%	D
Sonora Rayón	72.1	BSh	456.8	LOMERIO	11%	D
Sonora Mazatlán	84.1	BSo	477.8	LOMERIO	27%	D
Sonora Opodepe	88.2	BSo	453.6	LOMERIO	2%	D
Sonora Baviácora	100.0	BW	275.4	LOMERIO	6%	C
Sonora Villa Pesqueira	100.0	BS1h	456.8	LOMERIO	5%	D
Sonora Aconchi	102.5	BS1h	275.4	LOMERIO	9%	D
Sonora San Felipe de Jesús	104.9	BS1	456.8	LOMERIO	11%	D
Sonora Benjamín Hill	106.1	BSh	210.6	SEMIPLANO	27%	C
Sonora Huépac	109.7	BS1h	441.1	LOMERIO	14%	D
Sonora Banámichi	115.9	BS1h	441.1	LOMERIO	26%	D
Sonora Empalme	116.0	BW	184.2	PLANO	15%	D
Sonora Guaymas	120.2	BW	238.1	SEMIPLANO	28%	B
Sonora San Pedro de la Cueva	124.5	BS1	545.1	LOMERIO	2%	D
Sonora Cucurpe	124.6	BS1h	325.7	LOMERIO	9%	D
Sonora Suaqui Grande	129.9	BSo	520.6	LOMERIO	14%	D
Sonora San Javier	133.7	(A)C	655	LOMERIO	8%	D
Sonora Soyopa	137.9	BS1(h')	341.6	LOMERIO	11%	D

Similarity factor: it indicates the closest municipalities with more similarities with the analyzed municipality

ADVANTAGE SIEMPA

- It is a system, developed in Mexico that permits the classification of the rural land in the different regions of the national territory, under technical parameters that allows the user a tool for estimate the value of properties in any municipality of the Mexican republic.
- It provides reliable information on the homologation and adjustment factors, and tendencies of value for the different classifications of the land in each one of the regions of the national territory.
- In the same way it provides us information on the different construction types, facilities and complementary works; their estimated total useful lives.

ADVANTAGE SIEMPA

- The **SIEMPA** is designed to support both the Expert Appraiser and the Institutions that require to carry out appraisals, cabinet studies and the supervision of the appraisals presented by the independent experts.
- The **SIEMPA** provides market values for the land.
- The **SIEMPA** provides homologation and adjustments factors that recognize the real situation of the market.

CONCLUSIONS

- The systematized information is a basic need for the development of appraisals.
- The Information Systems don't replace the works of the experts but rather they are a basic support for these.
- The Information Systems allow to have common elements and criteria for the experts and for the institutions.