2nd scientific workshop
U. de Grenoble 25 – 29 juin 2018

Background

invaluable

Valuations, Markets and Policies for Biodiversity & Ecosystem Services

About Invaluable Public

Looking at strenghts and weaknesses of market-based instruments for biodiversity conservation

Know More

Pesmix

Paiements pour services environnementaux
nouvelle panacée ou auxiliaire utile pour gérer les territoires ?

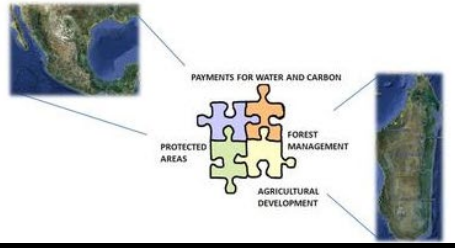
Projet de RECHERCHE ANR 2010 - STRA 008.01

Recherche

Extranet

Paiements pour services environnementaux : nouvelle panacée ou auxiliaire pour gérer les territoires ?

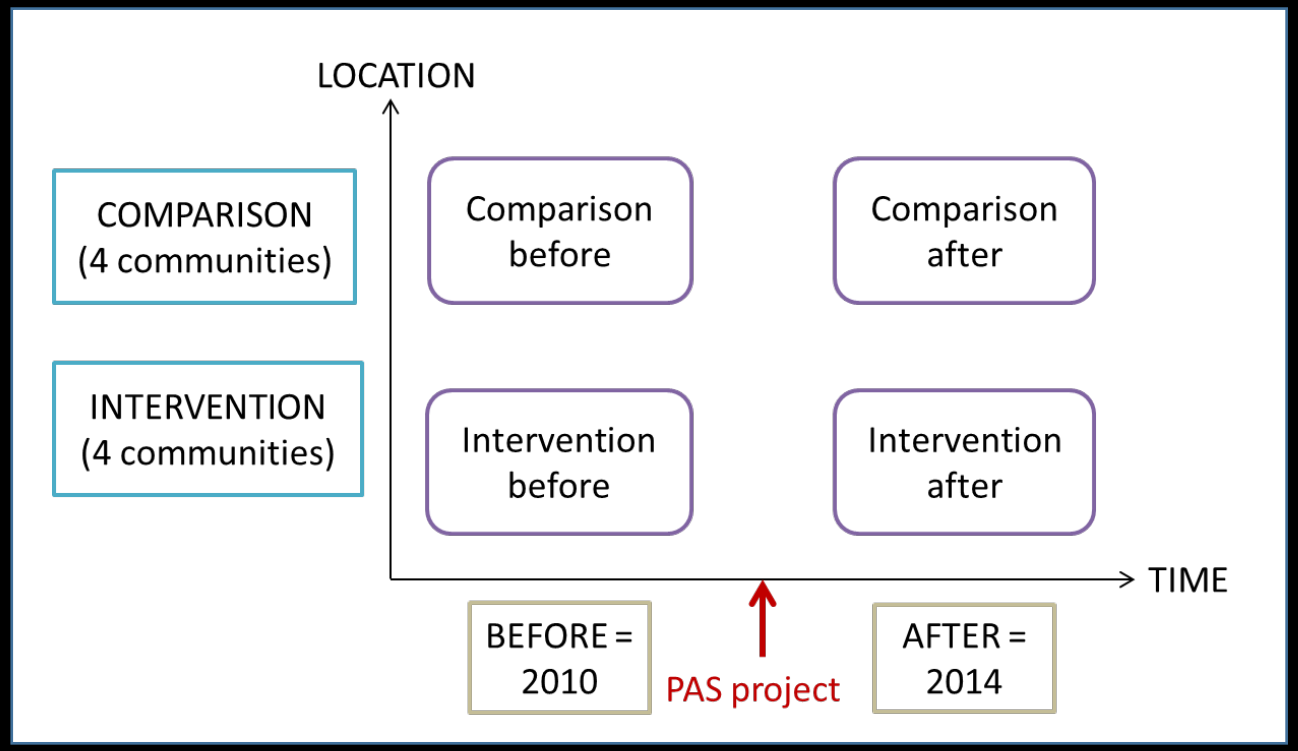
Les **paiements pour services environnementaux** (PSE) sont un instrument utilisé pour améliorer l'intégrité écologique des écosystèmes et protéger la biodiversité, ainsi que pour lutter contre la pauvreté. Nouvelle panacée ou nouvelle mode ? Outil efficace de gestion des territoires ?



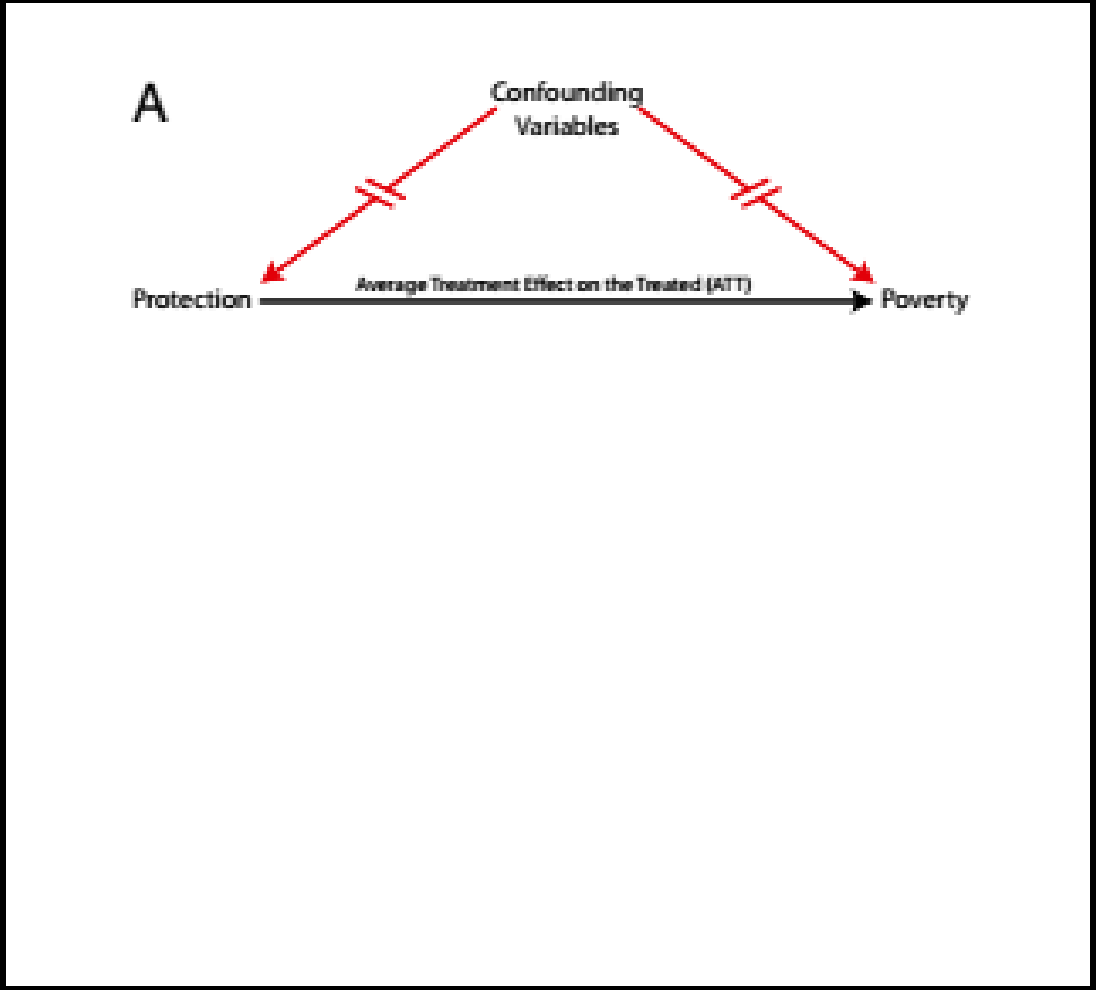
Actualités

Toutes les actualités

Impact mechanisms



Impact mechanisms



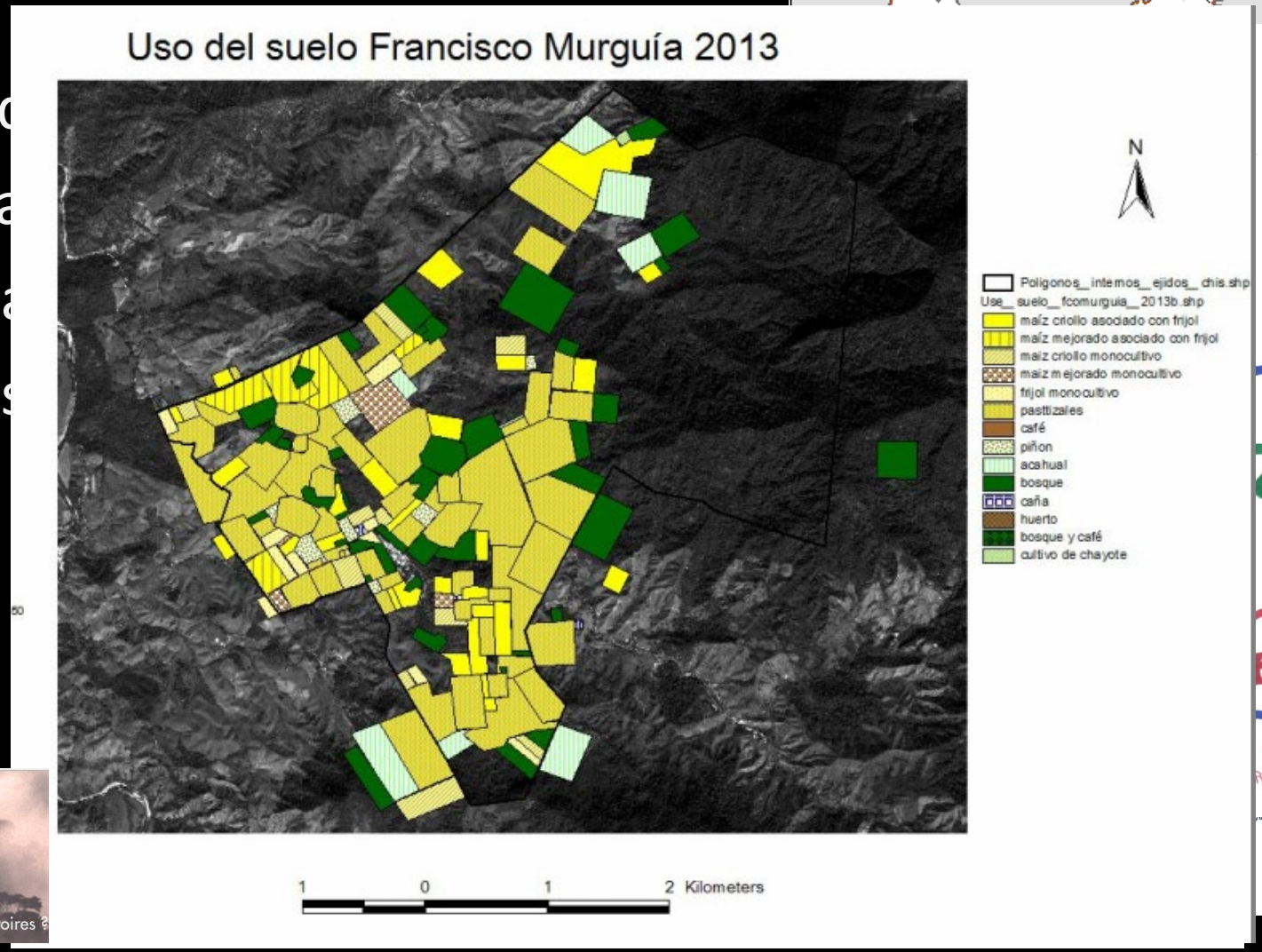
The quest for the perfect conterfactual

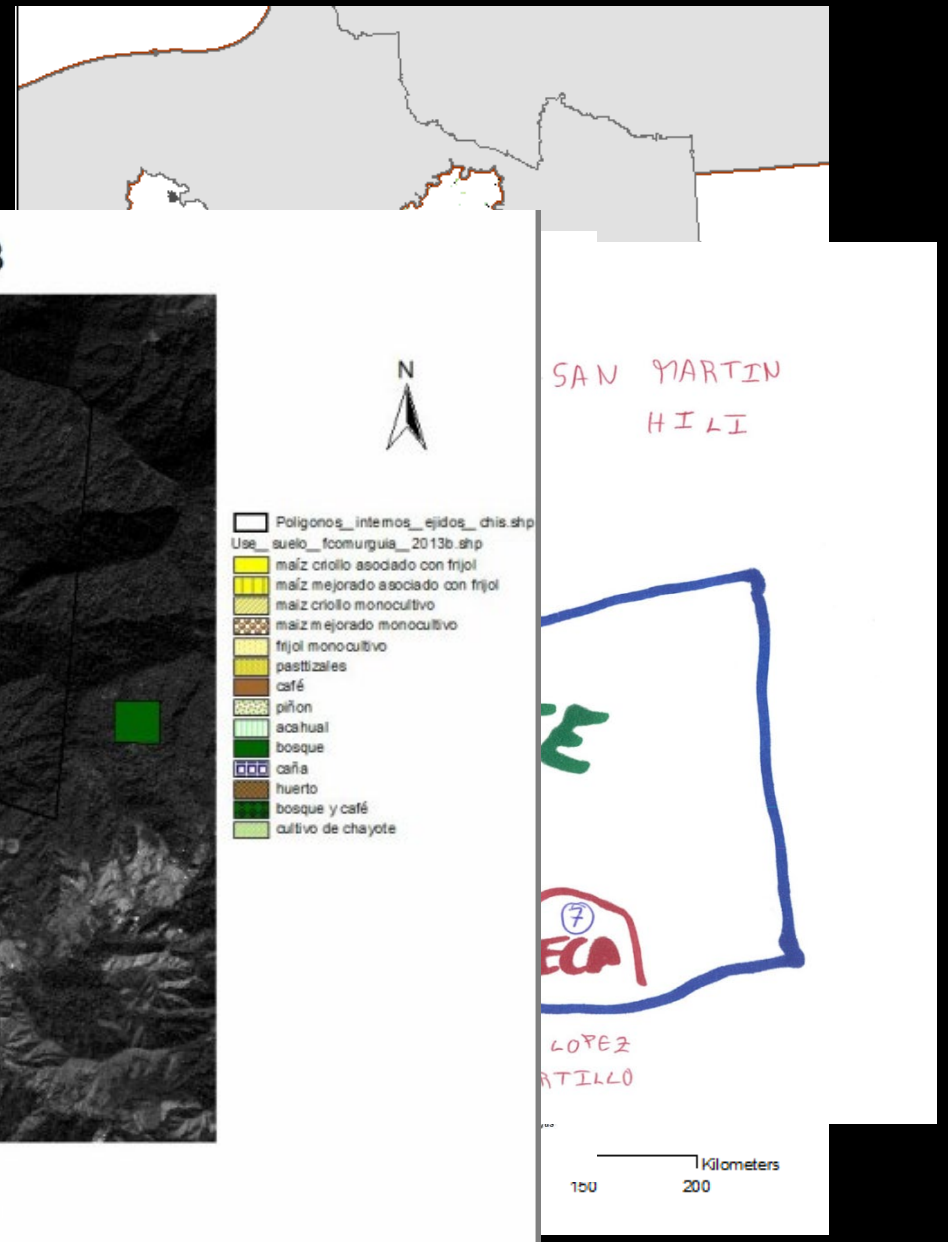
Measuring cascade effects and interactions between qualitative and quantitative variables

Ferraro and Hanauer 2014

Cascade effects

- Eleccion d
- Entrevista
- Mapeo pa
- Encuestas





Pesmix
Paiements pour services environnementaux
nouvelle panacée ou auxiliaire utile pour gérer les territoires ?

Cascade effects

(ii) *Modelo econométrico de cambio*

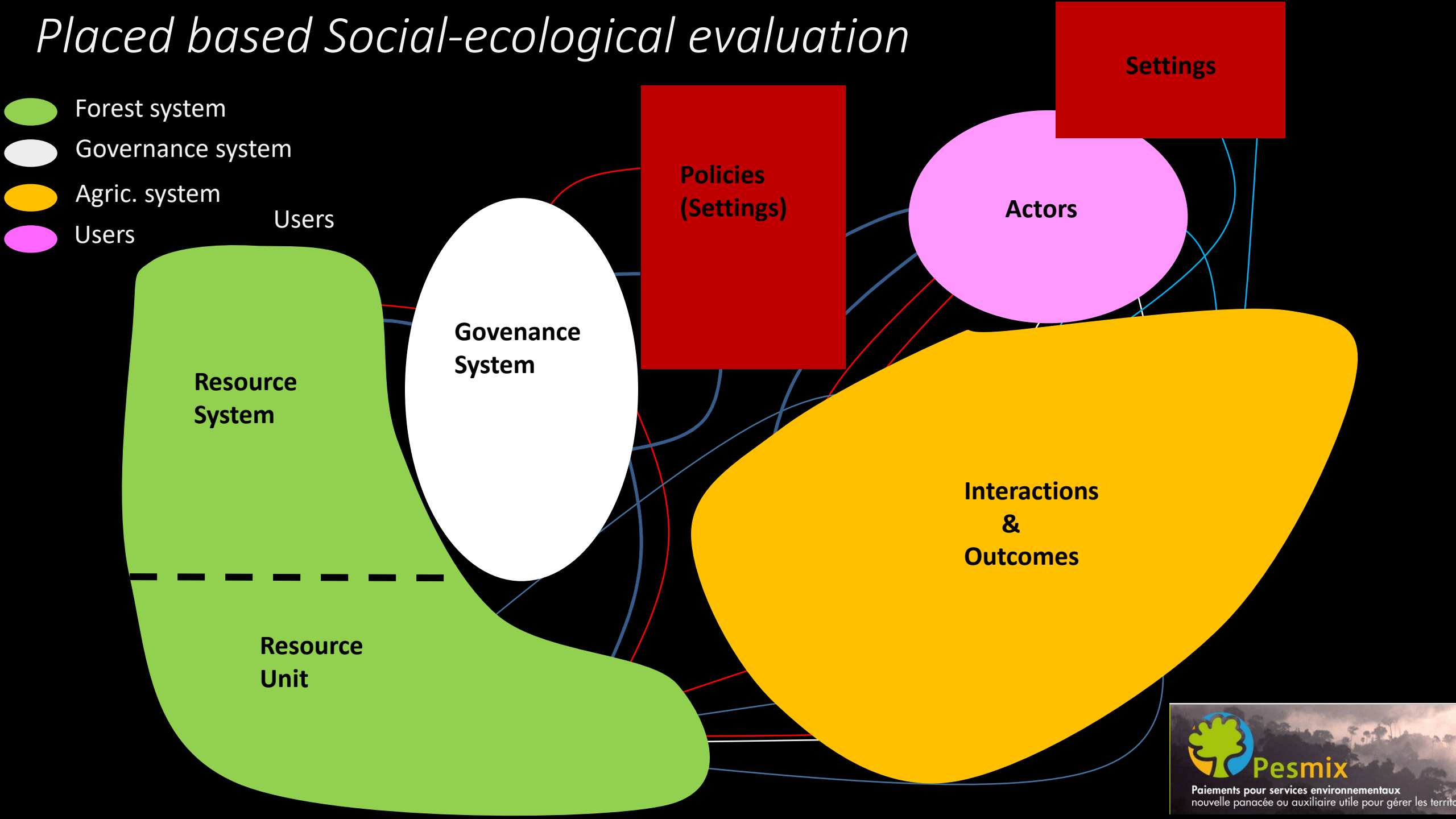
VARIABLES	(1) fer_2005_class	(2) herb_2005_class	(3) fer_2005_class	(4) herb_2005_class
monto_psah_2005_2013	**0.0148***	**0.00770**		
	(0.00783)	**(0.00660)**		
monto_psah_average			**0.115***	**0.114***
			(0.0673)	**(0.0648)**
household profile_1	-0.0791	-0.253	0.0622	-0.401
	(0.793)	(0.902)	(0.802)	(0.879)
household profile_2	0.122	-0.290	0.0828	-0.411
	(0.573)	(0.664)	(0.587)	(0.666)
other program_1	0.188	0.371***	0.193	0.400***
	(0.143)	(0.142)	(0.147)	(0.142)
other program_2	-0.152	0.0682	-0.137	0.0527
	(0.152)	(0.166)	(0.147)	(0.165)
assets_1999	-0.183	0.106	-0.196	0.101
	(0.171)	(0.245)	(0.171)	(0.242)
estudio_jefe	-0.0491	0.0178	-0.0591	-0.000451
	(0.153)	(0.205)	(0.153)	(0.203)
status	-0.961***	-0.885***	-0.922***	-0.886***
	(0.329)	(0.337)	(0.325)	(0.340)
jovenes_adulto	0.0493	-0.0931	0.0517	-0.106
	(0.0670)	(0.0678)	(0.0701)	(0.0695)
asamblea	-0.0275	0.00984	-0.0343	-0.00238
	(0.0476)	(0.0674)	(0.0500)	(0.0659)
edad	0.0174	0.00898	0.0175	0.00835
	(0.0114)	(0.0135)	(0.0115)	(0.0134)
Land_In_Out	-0.584*	-0.139	-0.613**	-0.217
	(0.308)	(0.267)	(0.304)	(0.284)
quemo2	0.675**	0.468	0.638**	0.461
	(0.282)	(0.298)	(0.280)	(0.306)
Fixed effect Los Angeles	0.151	-0.581	0.413	-0.196
	(0.407)	(0.510)	(0.510)	(0.501)
Fixed effect Plan de Ayala	-0.929	-1.715	-0.580	-1.683
	(.447)	(0.403)	(0.403)	(0.427)
cut1	0.310	0.534	0.534	-0.538
cut2	1.942	2.162	2.162	1.287
Wald test (p-value)	0.0162	0.000	0.012	0.000
Pseudo R2	0.1479	0.416	0.140	0.422
Observations	111	109	111	109

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

VARIABLES	(1) quemo1	(2) desc_entre_2013	(3) quemo1	(4) desc_entre_2013
monto_psah_2005_2013	**-0.0231****	**-0.0252****		
	(0.0110)	**(0.0104)**		
monto_psah_average			**-0.255****	**-0.166****
			(0.101)	**(0.0814)**
household profile_1	-0.741	1.757	-0.655	1.188
	(1.382)	(1.151)	(1.364)	(1.117)
household profile_2	0.711	1.958*	1.042	1.745*
	(0.927)	(1.008)	(0.950)	(0.956)
other program_1	0.0515	0.319	-0.0366	0.311
	(0.191)	(0.215)	(0.217)	(0.225)
other program_2	0.159	-0.0916	0.170	-0.157
	(0.201)	(0.229)	(0.200)	(0.227)
assets_1999	-0.137	-0.391	-0.0272	-0.375
	(0.236)	(0.291)	(0.220)	(0.292)
estudio_jefe	0.142	-0.0688	0.159	-0.0349
	(0.210)	(0.241)	(0.206)	(0.219)
status	-0.583	-0.439	-0.551	-0.411
	(0.493)	(0.486)	(0.533)	(0.469)
jovenes_adulto	0.128	-0.0562	0.152	-0.0577
	(0.0949)	(0.0950)	(0.0976)	(0.0942)
asamblea	-0.0532	-0.109	-0.0223	-0.0864
	(0.0674)	(0.0726)	(0.0650)	(0.0735)
edad	-0.00663	-0.0339	-0.0109	-0.0333*
	(0.0242)	(0.0210)	(0.0247)	(0.0199)
Land_In_Out	0.462	0.974*	0.610	1.023**
	(0.430)	(0.497)	(0.466)	(0.478)
quemo2	0.677		0.622	
	(0.412)		(0.419)	
desc_entre_1999		0.0270		-0.0451
		(0.837)		(0.824)
Fixed effect Los Angeles	-0.560	-0.081	-1.376	-0.411
	(0.287)	(0.891)	(0.040)	(0.566)
Fixed effect Plan de Ayala	-0.107	0.971	-0.511	0.344
	(0.870)	(0.133)	(0.396)	(0.557)
Constant	-0.468	0.062	-0.066	0.374
	(1.670)	(1.712)	(1.623)	(1.654)
Wald test (p-value)	0.000	0.000	0.000	0.000
Log pseudolikelihood	-54.886	-54.886	-55.132	-55.132
Rho (p-value)	0.952	0.952	0.696	0.696
Observations	111	111	111	111

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Placed based Social-ecological evaluation



How to go further?

An operationalization of the **Social-ecological system** framework

→ To seize the impact of a mechanism

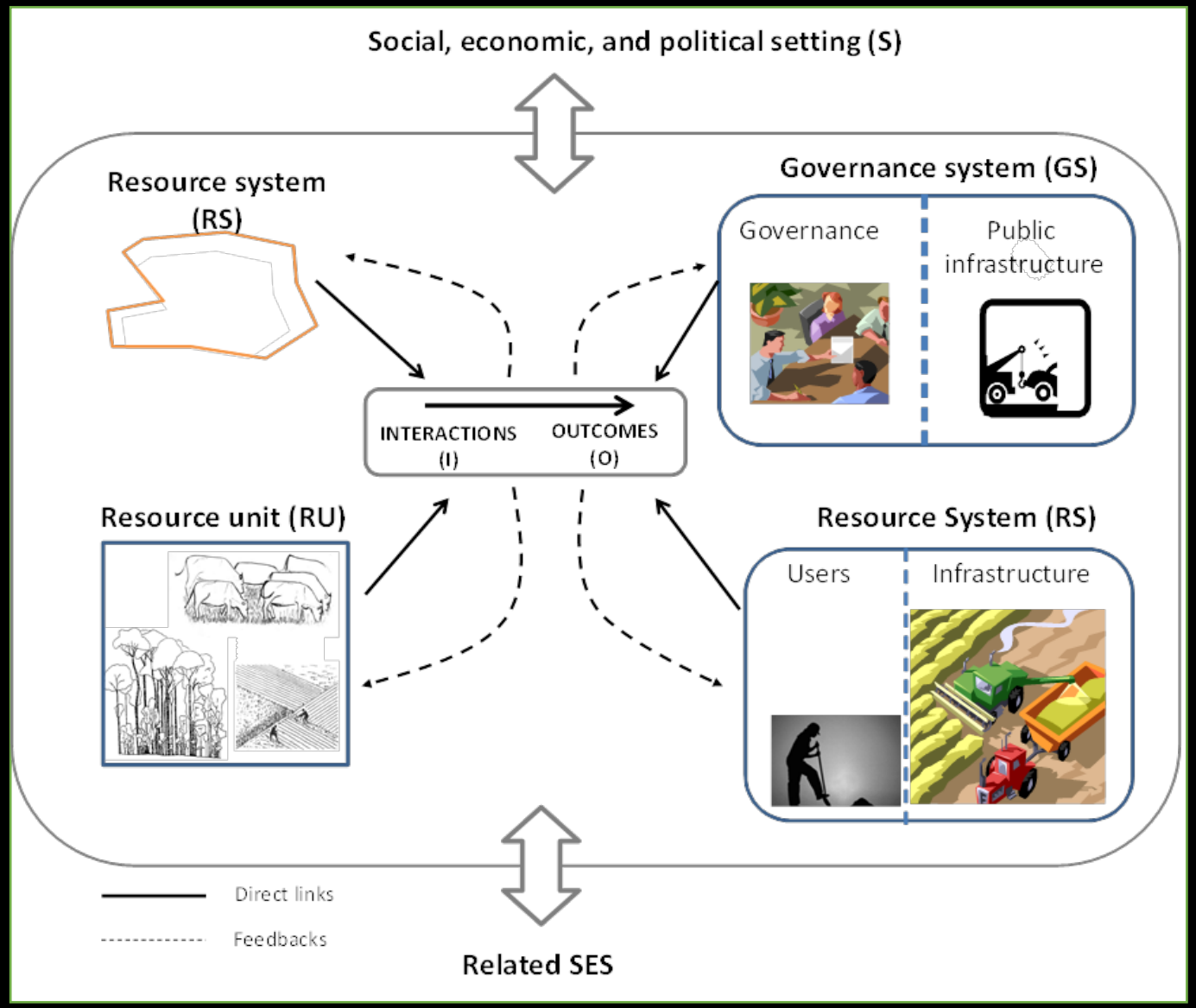
→ To assess the interactions and outcomes between key variables

→To disentangle the **complexity**: heterogeneity, non-linearity, cascade effects

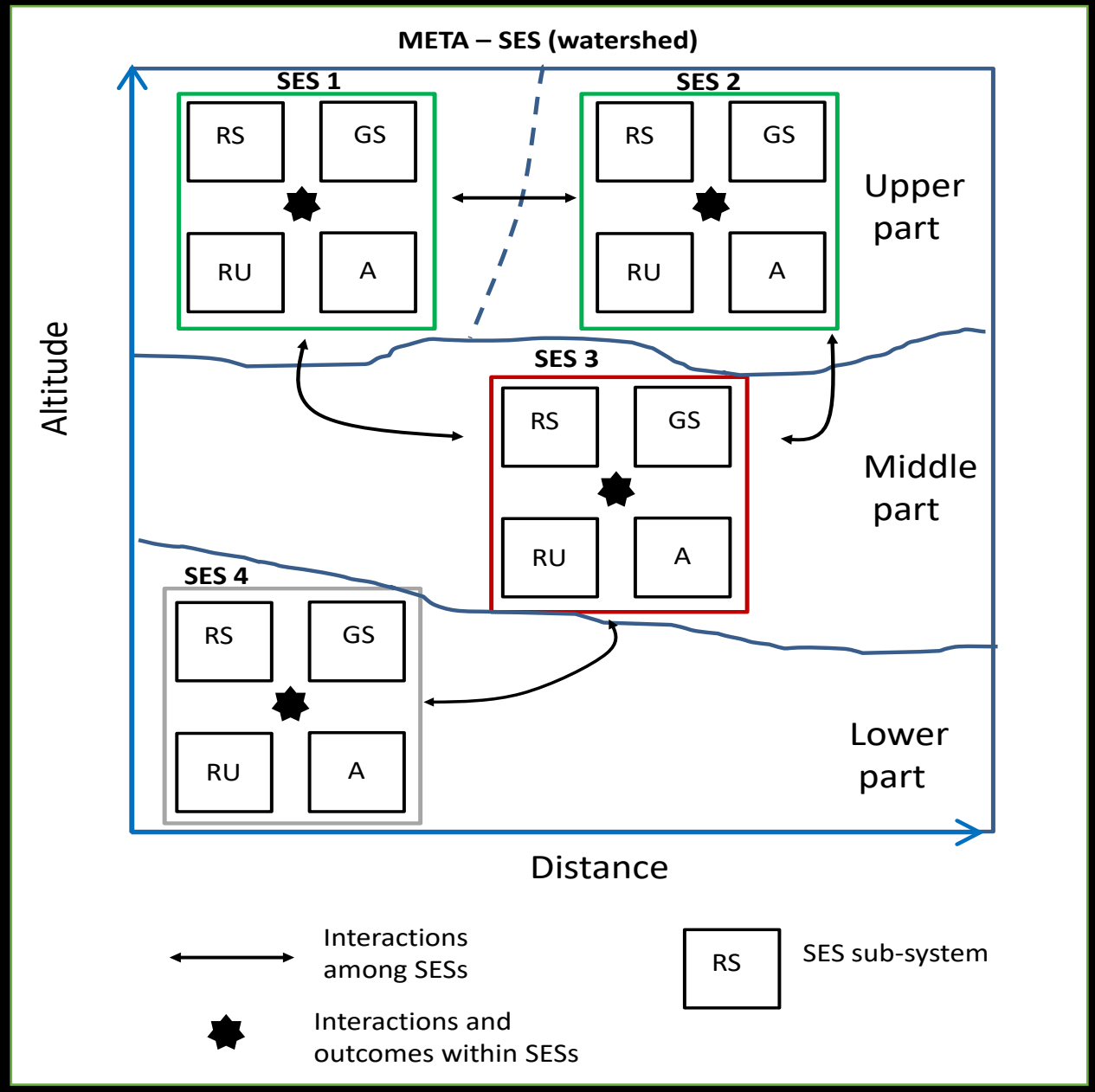
→ To describe these mechanisms and cascade effects in time == **Trajectories**

CLIMATE CHANGE VULNERABILITY

Figure. SES conceptual framework for forest-agriculture SES (adapted from Leslie et al., 2015).



Conceptual representation of SESs in a rural-urban watershed. The origin represents the urban center.



1st level variables (Sub-system)	Sub-system type	2nd level variables (theory)	3rd level variables (example)	4th level variables
Resource System (RS)	1RS - Forests	1RS1: Sector 1RS5: Productivity of system 1RS6: Equilibrium properties ….	1RS1: Forest sector 1RS5: Timber and NTFP 1RS6: Fires and deforestation* …..	
	2RS - Agriculture	1RS1: Sector 1RS5: Productivity of system 1RS6: Equilibrium properties ….	2RS1: Agricultural sector 2RS5: Corn, beans, grass 2RS6: Fertility decline ….	2RS1a: Subsistence agric. 2RS1b: Pastures 2RS1c: Agroforestry 2RS1d: Commercial crops 2RS6: Break points and resilience
Resource Units (RU)	1RU – Forest hectares	1RU1: Mobility 1RU5: No. of units 1RU7: Spatiotemporal distribution ….	1RU1: No mobility 1RU5: Hectares 1RU7: Deforestation and degradation models ….	
	2RU – Fertility decline	1RU1: Mobility 1RU5: No. of units 1RU7: Spatiotemporal	2RU1: No mobility 2RU5: Productivity 2RU7: Temporal	

NOW: Questions and principal ideas

What trace leave Social-Ecological Watershed Systems (SEWES) in time? (== Trajectory)

What trajectories can be defined as sustainable and unsustainable?

What key sub-system variables, intercations and outcomes explain them?

What are the generecities that can be found when comparing thee different rur-urban SEWES?

RESEARCH QUESTIONS in ANR-CONACYT project

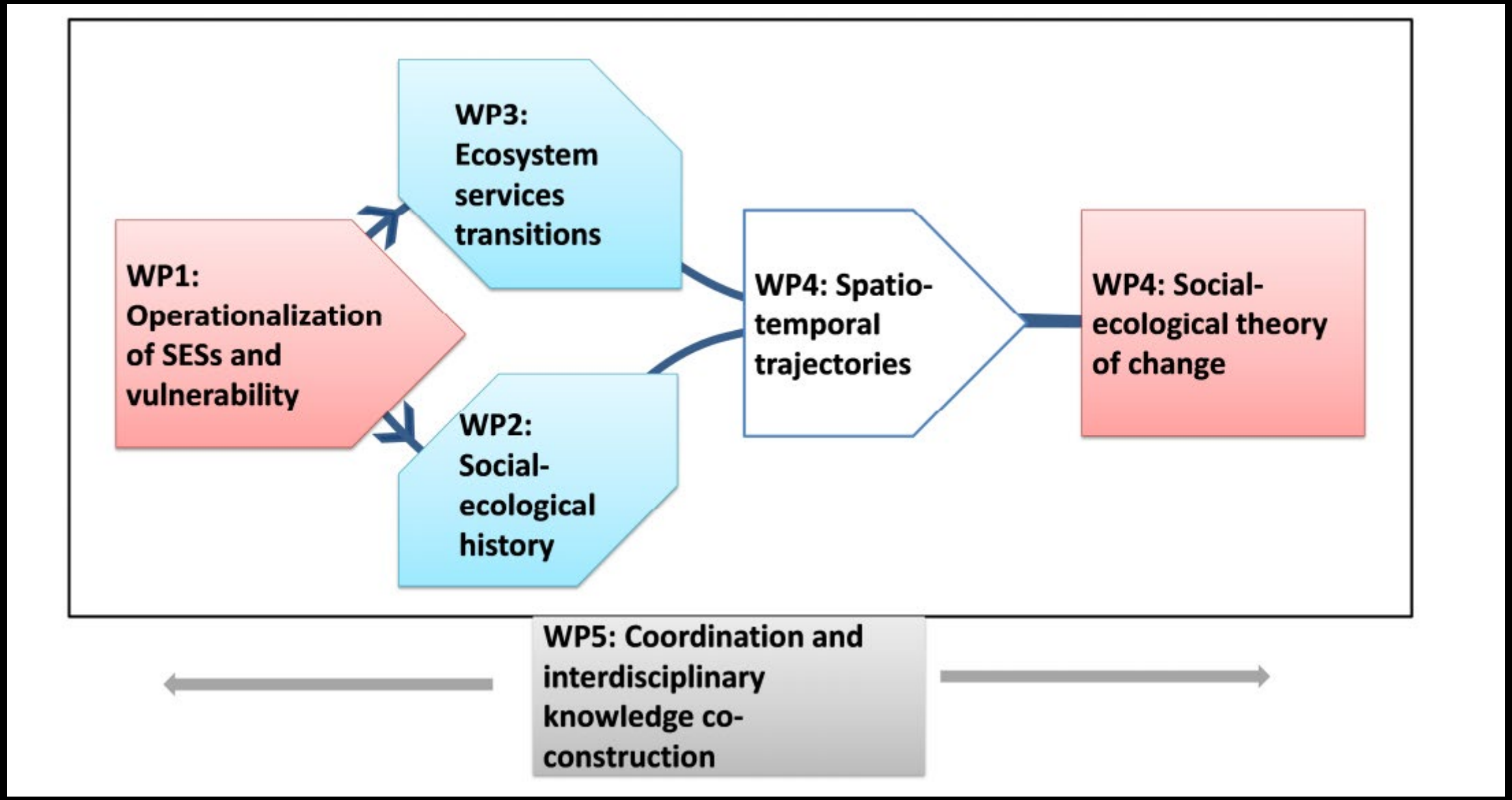
RQ1: **What dominant theories of change explain the social-ecological trajectories and sustainability outcomes of rural-urban watersheds systems to date?**

RQ2: Do SESs with governance structures matching environmental problems – polycentric vs centralised- exhibit greater social-ecological sustainability?

RQ3: How do ecosystem services trajectories affect the vulnerability and resilience of rural-urban watersheds?

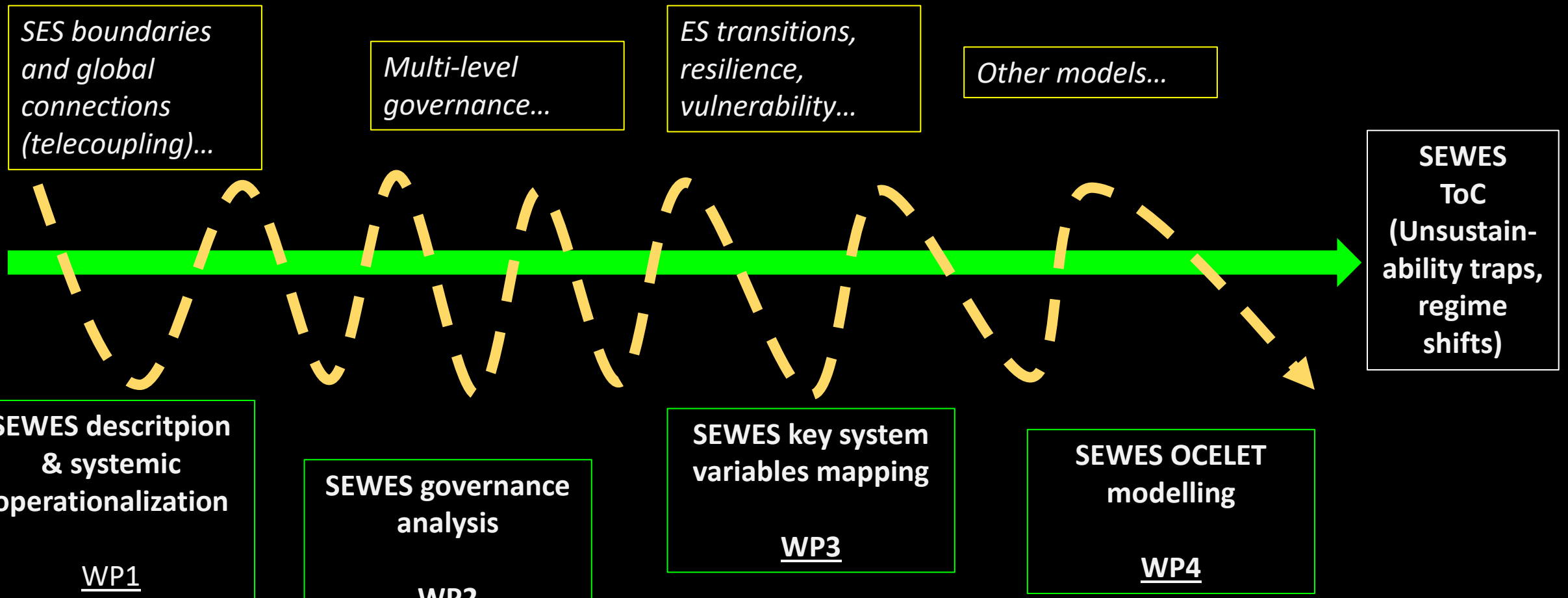
RQ4: Is there a spatial and temporal variation of social-ecological sustainability that can be explained by different trajectories in ecosystem services in combination of conservation and development policies and cooperative governance?

Project organisation



Project organisation

WP5:
Learning (to be discussed)



Project governance

ANR

CONACYT

Driss Ezzine-de-Blas
French scientific and administrative coordinator (WP5)

Maria Perevochtchikova
Mexican cientific and administrative coordinator (WP5)

V. Sophie Avila-Foucat
Mex cientific co-coordinator

Mid-term report
Final project report
Scientific evaluation (Paris)
Final conference!!

Executive board: Working package leaders
D. Ezzine-de-Blas & M. Perevochtchikova (WP1)
JF. Le Coq & S. Ávila-Foucat (WP2)
B. Locatelli & J. Ozswald, L.O. Almeida (WP3)
V. Gond & D. Lo Seen, E. Perez-Campuzano (WP4)
D. Ezzine-de-Blas, A. Hernández (WP5)

Country representatives:
Mexico: M. Perevochtchikova (COLMEX) and S. Avila-Foucat (UNAM)
Colombia: C. Villegas (Universidad Nacional Medellin)
France: S. Lavorel (U. de Grenoble) & J. Ozswald (U. de Rennes)

Project governance

- Open and organic: Based on empathy, creativity, original ideas and emergent possibilities
  - Possible new PhD – Ramin
  - Interest of Maria-Joao (remote sensing for SEWES)
  - Possible field in Oaxaca
  - V. Labeyrie (network analysis)
- Consensual decisions and collective action
- Web page / Logo !!
- Research methods to be decided upon pragmatism, originality and ground breaking science
- Scientific committee?
- Policy impact!!

Work team by country
3 years
Independent budget

Working at country level: France, Mexico, Colombia → Integrated and comparision?

TWO DAYS WORKSHOP TO DISCUSS AND REFLECT TOGETHER !!

☺

Agenda and logistics of 1st International Meeting

Dates: February 19 and 20, with field trip on the Conservation Land on February 21 and 22

Venue: Room 5524, El Colegio de México A.C. (COLMEX)

Language: English and Spanish with slides in English.

Horario	*Puntos a revisar / Actividades*	*Coordinadores*
19 de febrero 2018		
8.30-9.00	*Café de bienvenida*	
9.00-9.30	Apertura y presentación del proyecto	Driss Ezzine, María P.
9.30-11.30	Presentación de los casos de estudio: Francia, México (CdMx, Oaxaca), Colombia (aspectos naturales, sociales, económicos, problemáticas, estresores)	Sandra Lavorel, María P. e Iskra Rojo, Sophie Avila y Marco GAIA, Clara Villegas
11.30-12.00	*Cofee-break*	
12.00-13.00	WP1 Operationalization of SES and links with vulnerability framework (objetivos, propuesta de equipo, temas, marcos teóricos)	Driss, María P.
13.00-14.00	WP2 Tracing the social-ecological history of the landscape: A historical analysis of productive systems, ecological disturbances, governance dynamics and climate change vulnerability (objetivos, propuesta de equipo, temas, marcos teóricos)	Sophie Avila, Jean F. Le Coq
14.00-16.00	*Comida*	
16.00-17.00	WP3 Analysis of ecosystem services transitions (objetivos, propuesta de equipo, temas, marcos teóricos)	Johan Ozwald, Bruno Locatelli, Lucia Almeida
20 de febrero 2018		
8.30-9.00	*Café de bienvenida*	
9.00-10.00	WP4 Elaboration of spatiotemporal trajectories using Ocelet software (objetivos, propuesta de equipo, temas, marcos teóricos)	Equipo OCELET Montpellier, Enrique Pérez
10.00-11.00	WP5 Coordination and co-construction of interdisciplinary knowledge (objetivos, propuesta de equipo, temas, marcos teóricos)	Driss, Alvaro Hernandez
11.00-11.30	*Cofee-break*	
11.30-13.00	Mini-taller de la determinación de principales variables de SES para los casos de estudio	Sophie, María, Driss
13.00-14.00	Determinación de la logística, equipos y cronogramas por país y del equipo conjunto	Driss, María, Sophie, Clara
14.00-16.00	*Comida*	

21 de febrero 2018		
8.00-9.00	Videoconferencia OCELET	Driss
9.30-20.00	Recorrido por las comunidades de San Nicolás Totolapan, San Andrés Totoltopec, San Miguel y Santo Tomás Ajusco, en la noche regreso a la CdMx	Comuneros de San Miguel y Santo Tomás Ajusco
22 de febrero 2018		
8.30-20.00	Recorrido por el Cuartel de Zapata, y comunidades de Milpa Alta, en la noche regreso a la CdMx	Comuneros de San Miguel y Santo Tomás Ajusco y Milpa Alta

Participants

		Workshop // COLMEX		Field	Field
		Lunes	Martes	Miércoles	Jueves
		19-feb	20-feb	21-feb	22-feb
1	Clara Villegas	1	1	1	
2	Lina Berrouet	1	1	1	
3	Bruno Locatelli	1	1	1	1
4	Sandra Lavorel	1	1		
5	Jef Le Coq	1	1	1	1
6	Valery Gond	1	1	1	1
7	Johan Ozswald	1	1	1	1
8	Samuel Corgne	1	1	1	1
9	Maria Perevochtchikova	1	1	1	1
10	Sophie Avila	1	1		
11	Driss Ezzine-de-Blas	1	1	1	1
12	Alvaro Hernandez	1	1	1	1
13	Lucia Almeida	1	1	1	
14	Marco de GAIA	1	1		
15	Enrique Perez	1	1		
16	Iskra Rojo	1	1		1