Local Innovation and Production Systems (LIPS): Territorial and Social Issues and Challenges in Brazil and Amazon

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In a country like Brazil, caracterized by:

- Deep social inequality
- High estrutural diversity
- Diverse natural endowment and, hence,
- Strong regional and territorial disparities

Policies, that are uniform at national or even at regional and sub-regional level have great failure probability.

In Amazon, for exemple:

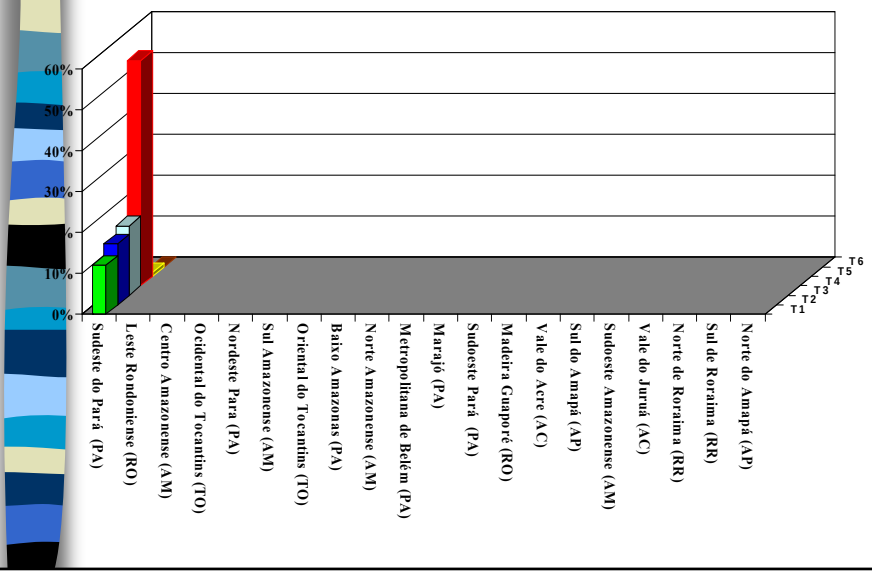
The rural dimension is based on two production forms and six very different technological trajectories, with important attributes for the development:

Trajetórias/ Características	Tecnological Trajectories						Absolute Values in 1995
	Peasants production systems converging to :			No-Paesant production systems converging to :			
	Dairy and permanente crops (T1)	Agro-Forestry (T2)	Cattle Raising (T3)	Cattle Raising (T4)	Plantation (T5)	Reforestry (T6)	
Production Unit	171.292	130.593	109.405	27.831	4.444	3	443.568
Average Size (há)	54,47	23,04	62,23	1.196,00	472,62	413.681,7	125,74
GDP (R$1.000.000)	27%	21%	19%	25%	6%	2%	100%
Ocuppied Personal	38,2%	26,6%	22,7%	10,5%	1,7%	0,2%	100%
Total of Land Owned	16,7%	5,4%	12,2%	59,7%	3,8%	2,2%	100%
Total of waste Land	10,2%	3,5%	14,3%	70,4%	1,6%	0,0%	100%
Ínstitutional Density Index Institucional - IDR [1]	0,73	0,38	0,67	1,63	2,67	0,83	
Net CO2 emission	11,8%	2,6%	12,5%	70,5%	2,6%	0,0%	100%
Increasw in total net yealding – 1995 - 2006	2,5% a.a.	7,9% a.a.	7,8% a.a.	8,4% a.a.	7,2% a.a.	-11,0% a.a.	6,4% a.a.
Increase in total GDP – 1995 - 2006	5% a.a	12% a.a.	7,0%a.a.	5,1%a.a.	2,5% a.a.	-2,9%	5%
Apropriation of new land	13%	8%	7%	64%	5%	2%	100%

Technological trajectory:

A socially determined pattern of technological solutions to cover specific necessity of the social division of labor in its evolving reproduction.

These trajectories compose differently the territories:



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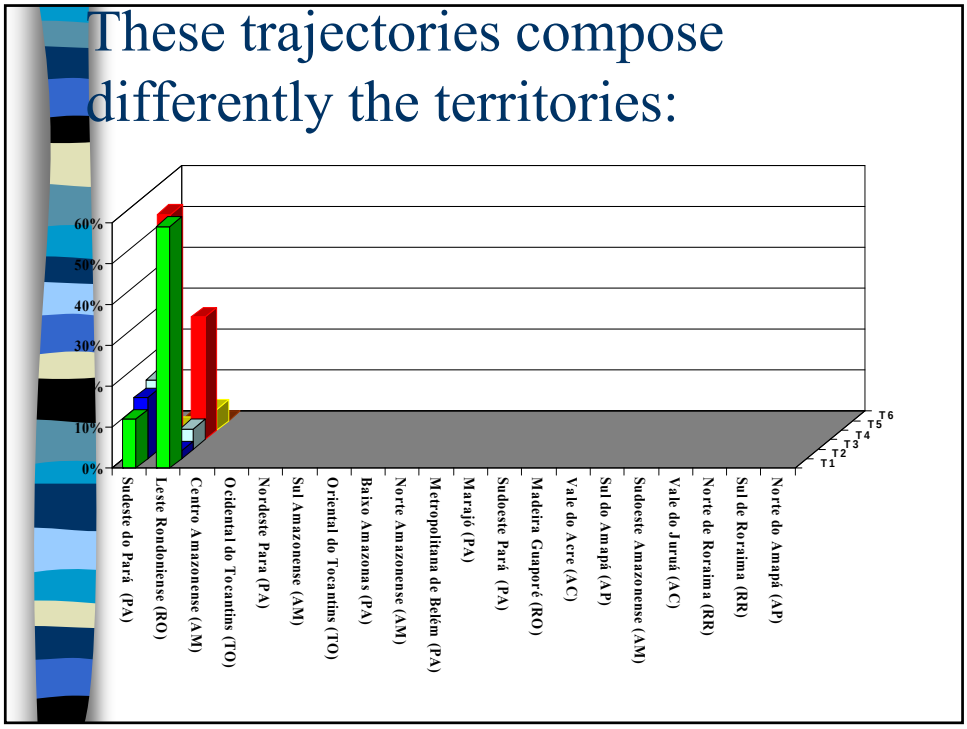

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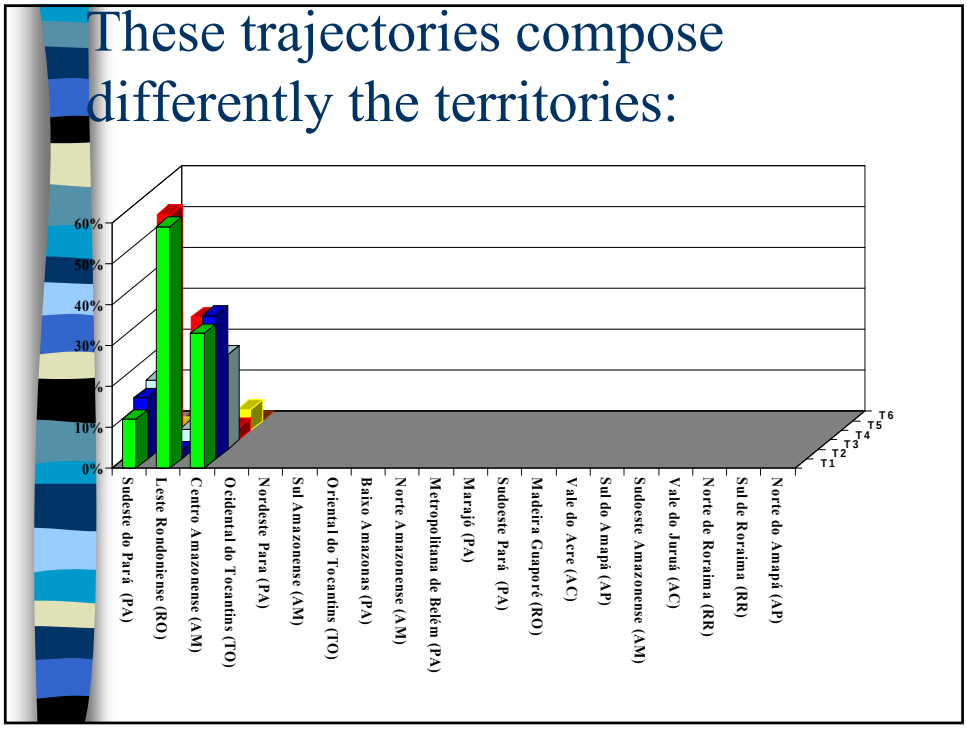

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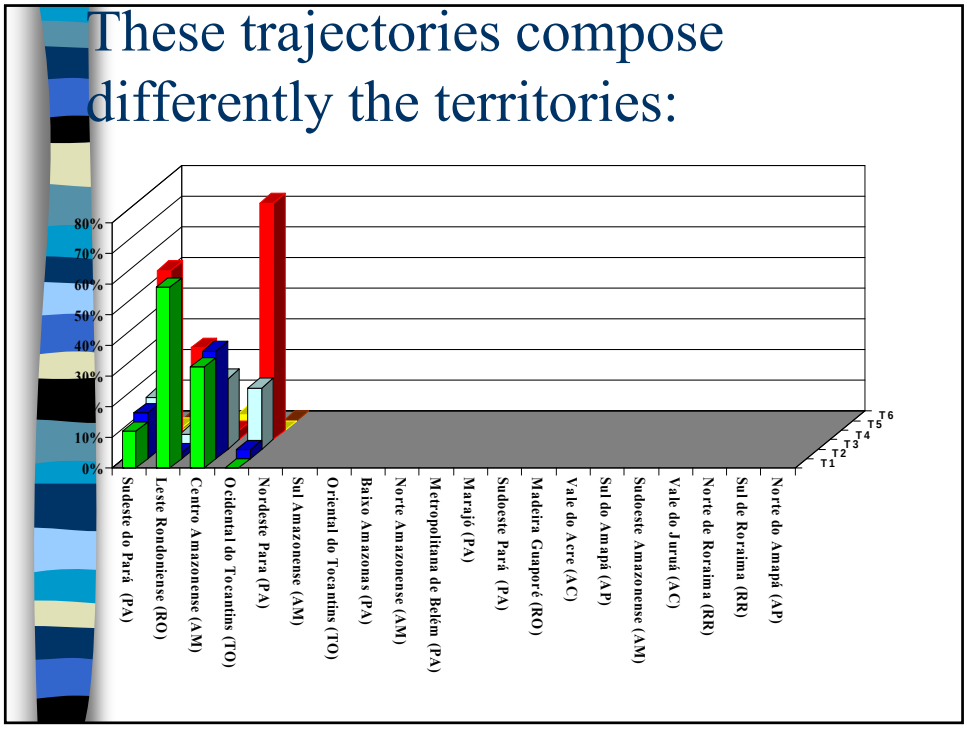

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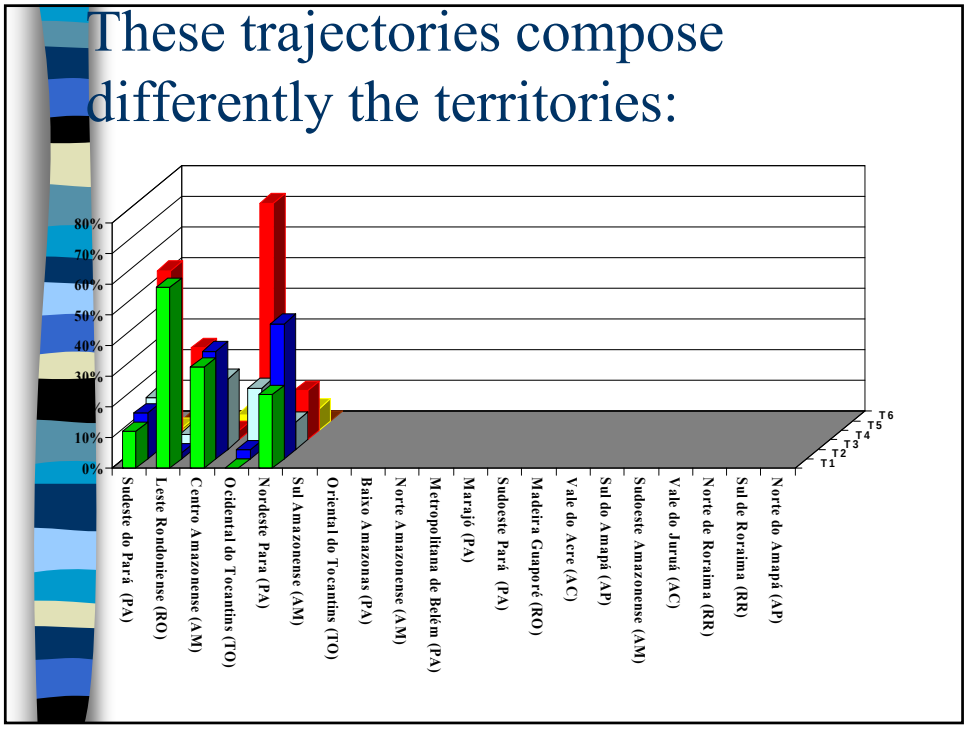

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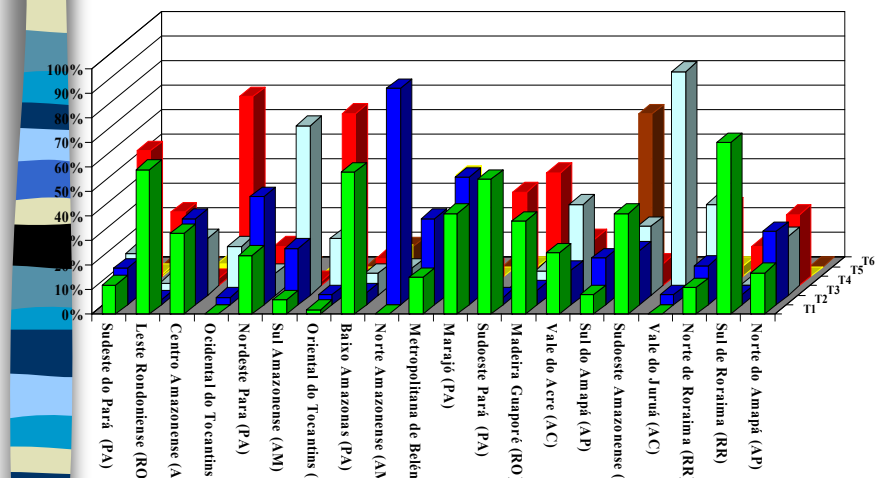


In such a context a policy based on generic agent and abstract production function is a obvious strategic error

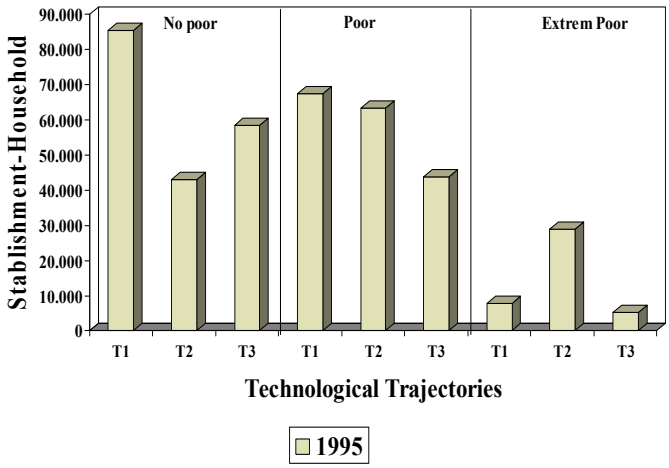
In a country like Brazil, where:

- Social inequality is structurally determined and
- Structural diversity is regionally defined

Regionally designed **development** policies are required to correct social unequalities.

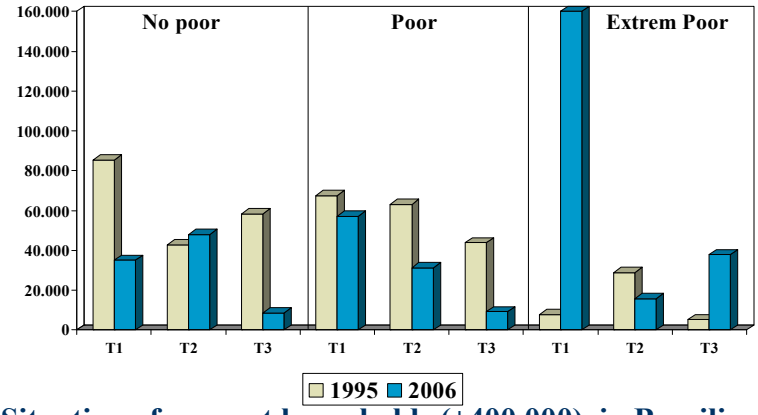
For exemple:

Poverty is regionally and structurally defined:



Situation of peasant households (±400.000) in Brazilian Amazon

Poverty is regionaly and structuraly defined and changes with the time:



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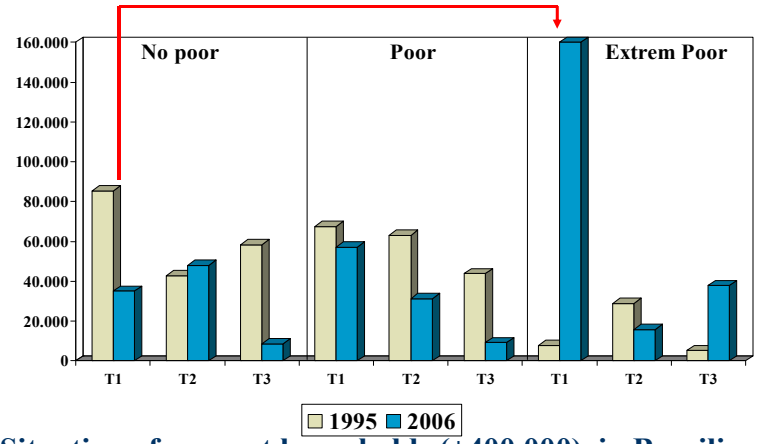
Poverty is regionaly and structuraly defined and changes with the time as a result of:

Ec. development *plus* misconceived policies

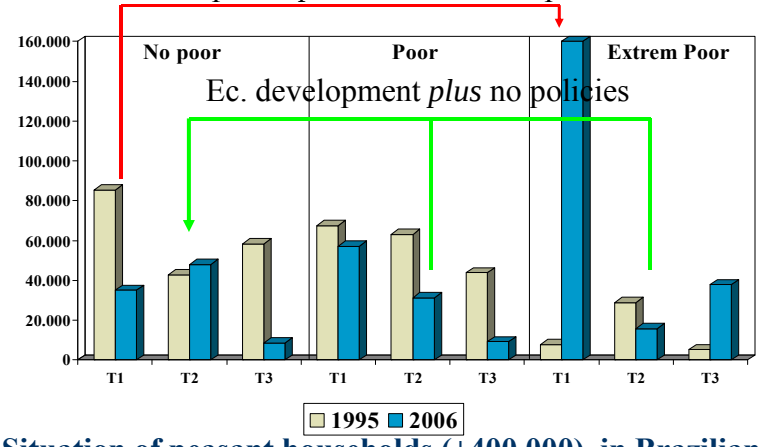


Situation of peasant households (±400.000) in Brazilian Amazon

Poverty is regionaly and structuraly defined and changes with the time as a result of:

Ec. development *plus* misconceived policies

Ec. development *plus* no policies



Situation of peasant households (±400.000) in Brazilian Amazon

In such a context a social policy must be conceived as development policy

The first challenge we face relates to our capacity to understand adequately these complex realities (knowledge as science - *logo*):

- To have the tools
  - Theoretical,
  - Methodological and
  - Empirical
- to decode, to monitor and to foresee in a comprehensive way the interation among the
  - natural specificities;
  - structural diversity and
  - territorial dissimilarities which
- differentiate the regions

Understanding the country as a "system of regions", the second challenge we face relates to the adjusted knowledge to political action (knowledge as *techné* to conceive theory-based development planing). It means:

- To design development policies considering structural and regional diversity – *development is path and territory dependent; the history like the nature do matter.*
- To build the capacity to planing the development in its territorial diversity – *development is policy dependent; strategic and political will do matter*.

At the theorical-methodologial dimention of the knowledge we are:

- Exploring, as far as possible, the perspectives of endogenous and sustainable development theories (ESDT):
- Trying to give consistency to LIPS category
- Establishing its key-position in understanding the development following two paths:
  - one of generalization of it and
  - other of its integration to the evolving body of the ESDT' categories.
- Developing methodologies able to operate our theoretical results and
- To assess the dynamic of LIPS observing its role to development at a local, regional, national level.

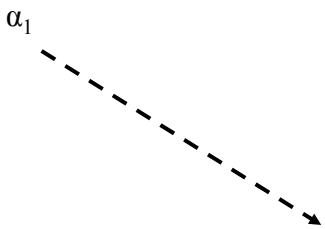
Local Innovation and Production Systems (LIPS) is a key-category in these efforts:

- Firstly, because it is a synthesis-category of the ESDT,
  - a very effective one regarding the before mencioned specificities of countries like Brazil.
- Secondly, because it seems to be very effective also regarding political actions (theory-based planing).

Local Innovation and Production Systems (LIPS), thought as unity of analyze, is a synthesis-category of the ESDT:

- A set of productions units, which, as open systems evolving in given territory, performing in the social division of labor supplying a certain good or service, mantain (directly or indirectly) systemic relations among them accessing natural, (natural capital), human (human capital) na institutional resources (social capital), either tangible (infra-estructure, physical capital) or intangible ones (tacit, embodied in the culture, and laboratorial konowledge).

LIPS emerges and evolves through the relations among constituent, endogenous (α) and



LIPS emerges and evolves through the relations among constituent, endogenous (α) and exogenous (β) trajectories:

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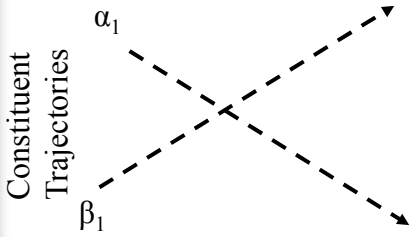
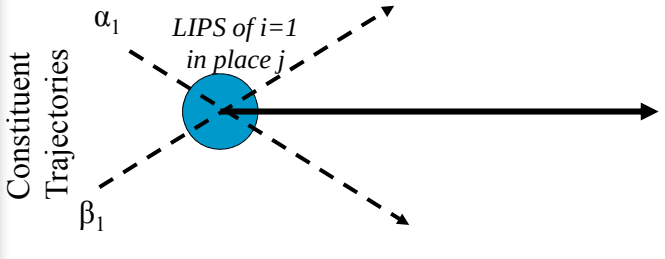


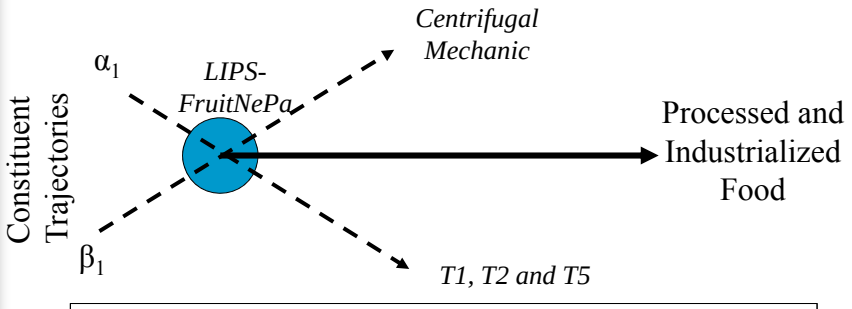
LIPS emerges and evolves through the relations among **constituent**, (endogenous (α) e exogenous (β)), **and constituted trajectories:**

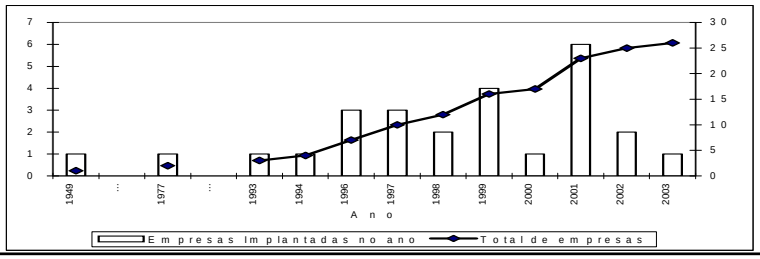


- LIPS realizes the production of the constituent trajectories.
- LIPS is a operation moment of the constituted trajectory.

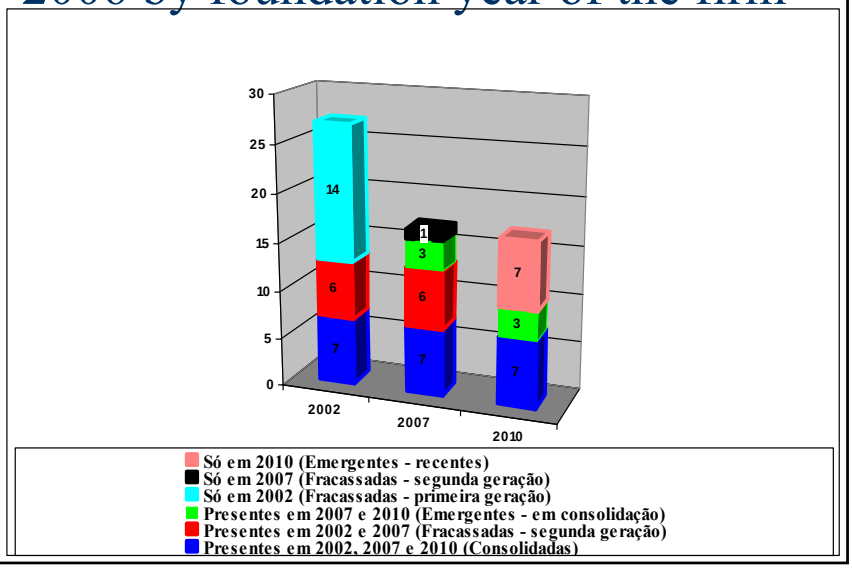
For exemple:

There is a LIPS in North Eastern Pará (Amazon), the *LIPS-FruitsNePa*, which emerged from the following relations

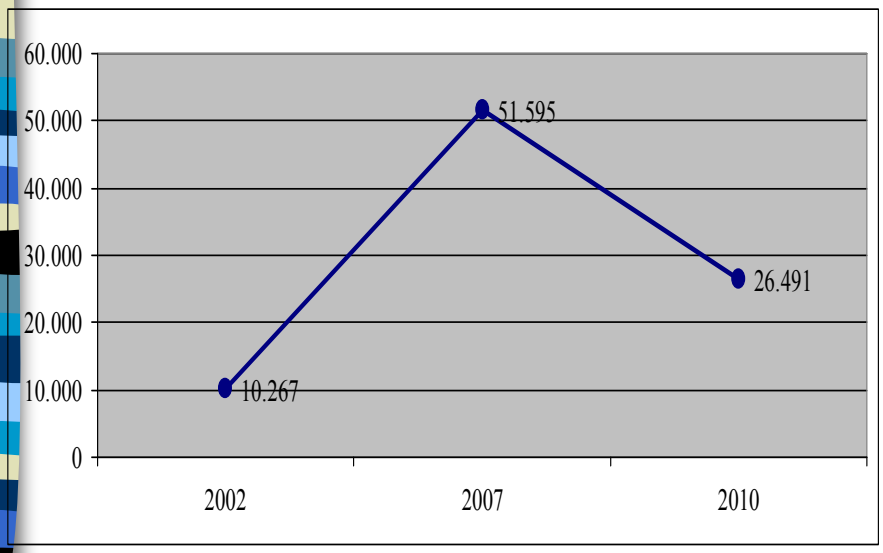




The structure of *LIPS-FruitNePa* in 2006 by foundation year of the firm

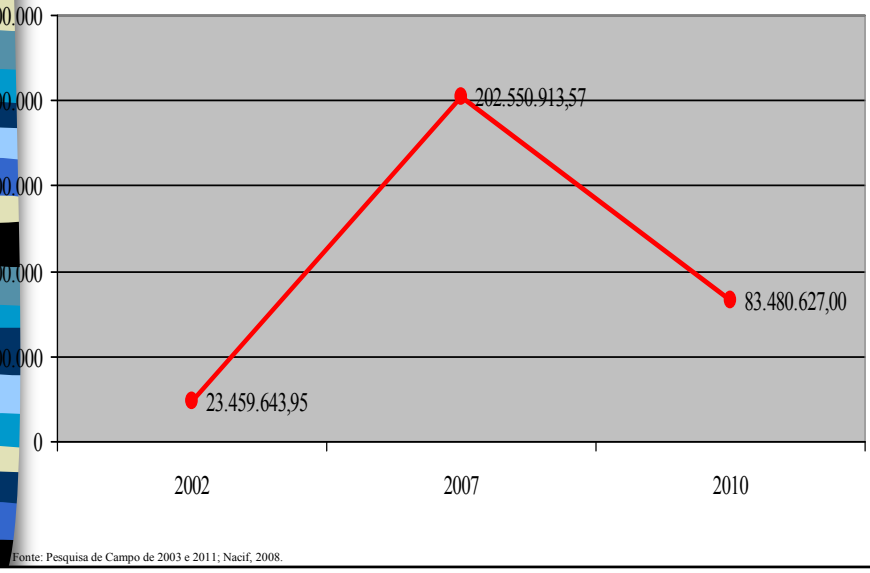


Dynamic of *LIPS-FruitsNePa (The way it participates of its constituted trajectory)*
Production (t of pulp) (Average 13%a.a.)



Fonte: Pesquisa de Campo de 2003 e 2011; Nacif, 2008.

Dynamic of *LIPS-FruitsNePa*
Gros Production Value (R$) (Average 17% a.a.)



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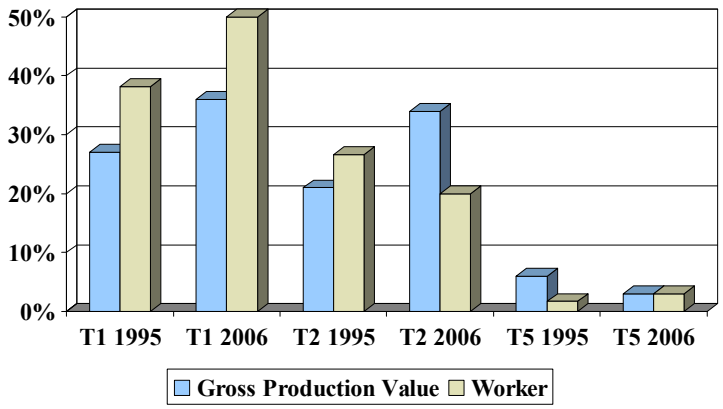
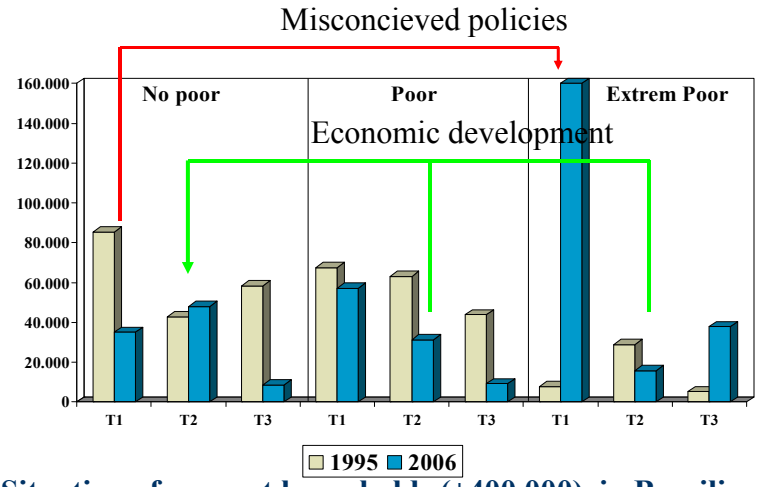
Dynamic of its constituent trajectories (1995-2006)



Related to structuraly determined rural poverty:



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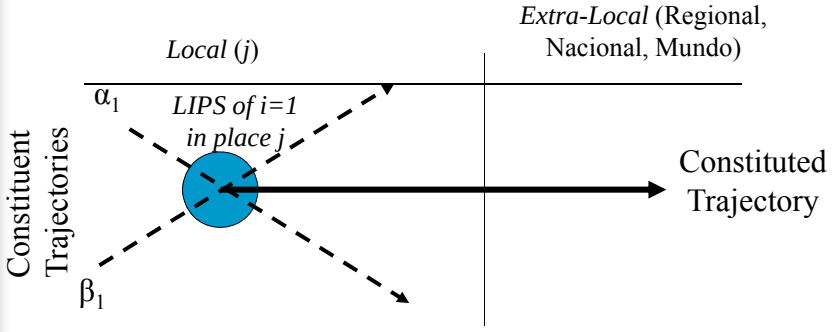
So, what is going on about the *LIPS-FruitsNePa* has very much to do with:

- Rural poverty reduction and
- Environmentally sustainable development

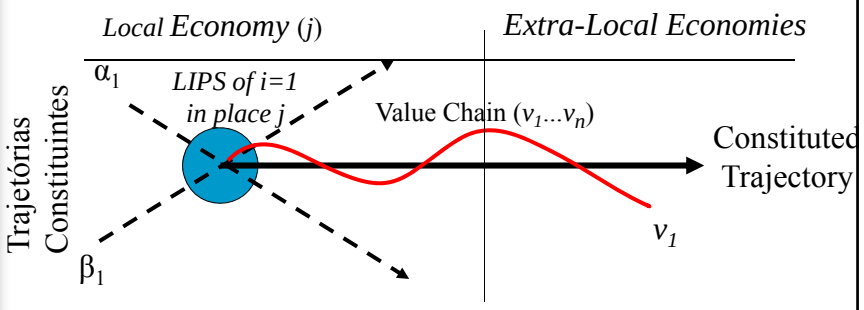
If there is a crisis, it must be assessed, so that solutions could be addressed. How to do that?

LIPS is an emergency conformed as local reality (emerges and evolves locally).

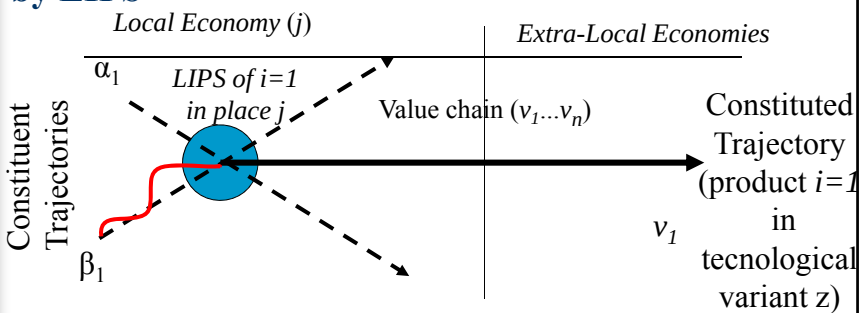


At the same time LIPS is part of a social division of labor organized nationally and globally.

About the trajectories articulate value chains: mediations in the realization of the mechandise of LIPS



About the trajectories articulate themselves product and value chains: mediation in the realization of the mechandise of LIPS and in the absortion of inputs by LIPS



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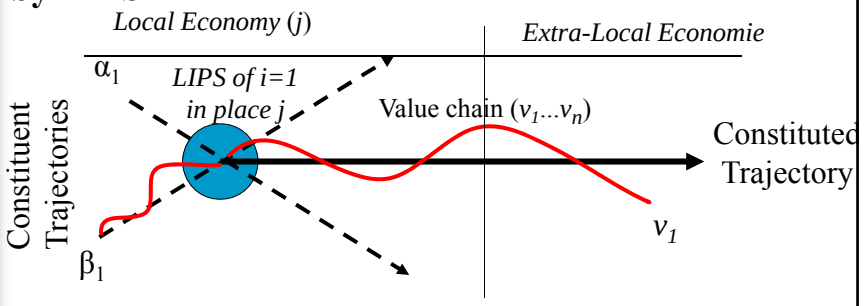
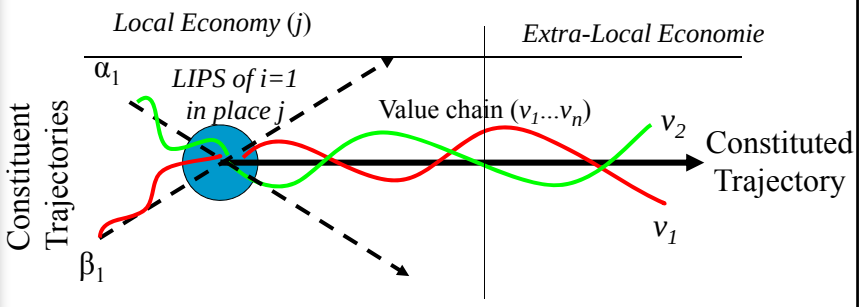
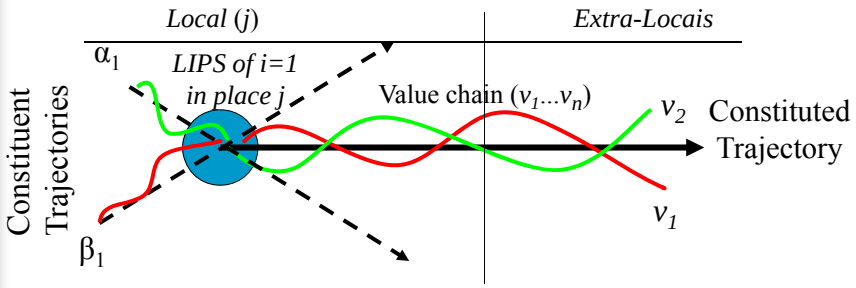


About a trajectory constituted by a specific LIPS in a place along with other similar LIPS in all places can be integrated some value chains:



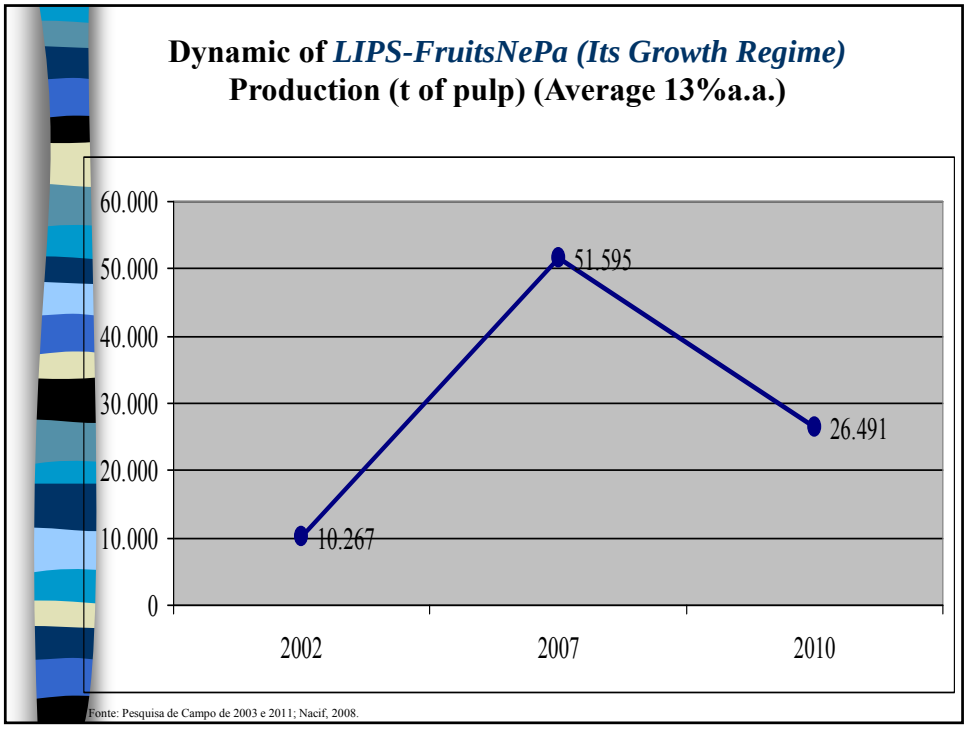
- The **trajectory** relate to the condition of production and therefore, to content of **labor value** and to physical **productivity**.
- The **value chain** relate to transations environment, therefore, to the conditions of the transformation of value into **price**, and so to **profitability.**

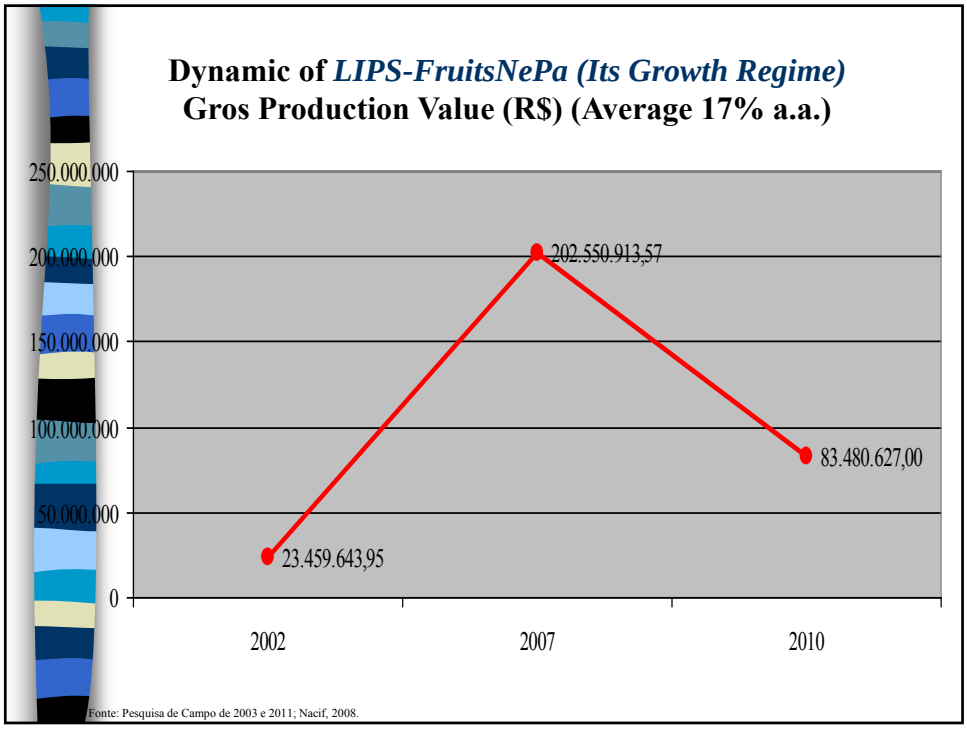
The dynamics of a LIPS depends on the dynamics of its constituted trajectory (on the evolution of the medium productivity) and on the performance of the value chains (on the profitability).



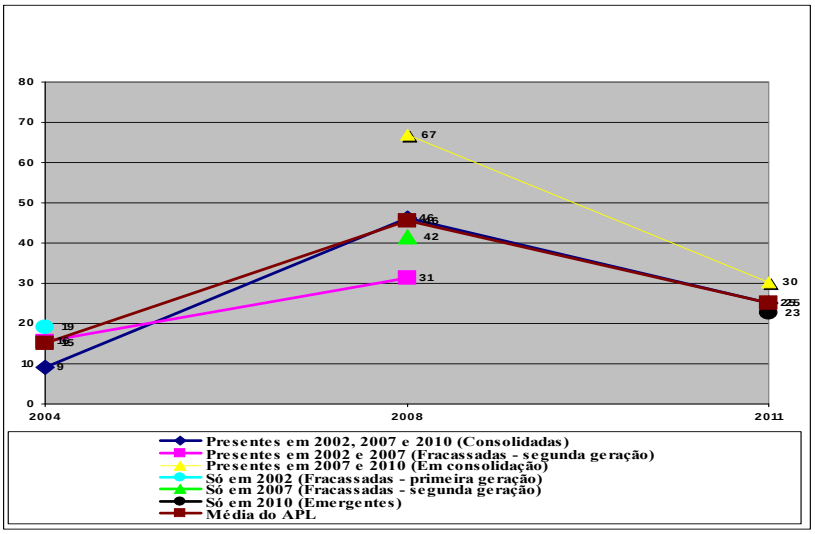
- The dynamic of LIPS is its "growth regime".
- The participation of LIPS in its constituted trajectory, what depends on its constituent trajectories, is its "productivity regime".
- The structure of the value chains transforming the power of purchase of the demand in surplus and distributing this as profit is its "demand regime"

For exemple:


Dynamic of LIPS-FruitsNePa (Its Growth Regime)
Production (t of pulp) (Average 13%a.a.)
60.000
50.000
40.000
30.000
20.000
10.000
0
51.595
26.491
10.267
2002
2007
2010
Fonte: Pesquisa de Campo de 2003 e 2011; Nacif, 2008.

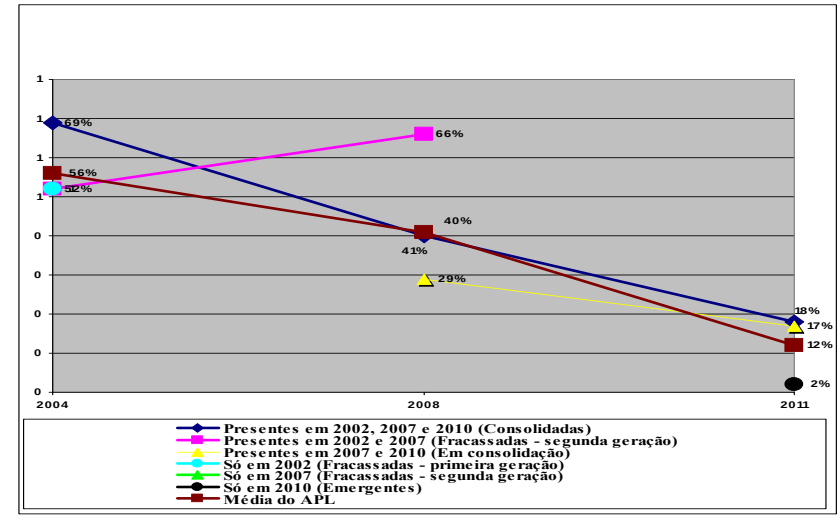

Dynamic of LIPS-FruitsNePa (Its Growth Regime)
Gros Production Value (R$) (Average 17% a.a.)
250.000.000
200.000.000
150.000.000
100.000.000
50.000.000
0
202.550.913,57
83.480.627,00
23.459.643,95
2002
2007
2010
Fonte: Pesquisa de Campo de 2003 e 2011; Nacif, 2008.

Dynamic of *LIPS-FruitsNePa (Its Productivity Regime)*
Productivity per worker (t)



Fonte: Pesquisa de Campo de 2003 e 2011; Nacif, 2008.

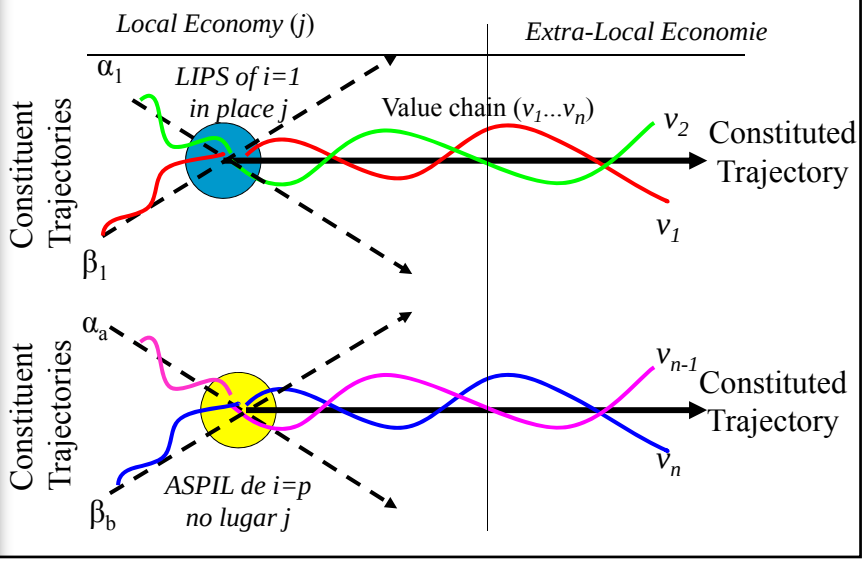
Dynamic of *LIPS-FruitsNePa (Its Demand Regime)*
Profitability (%)

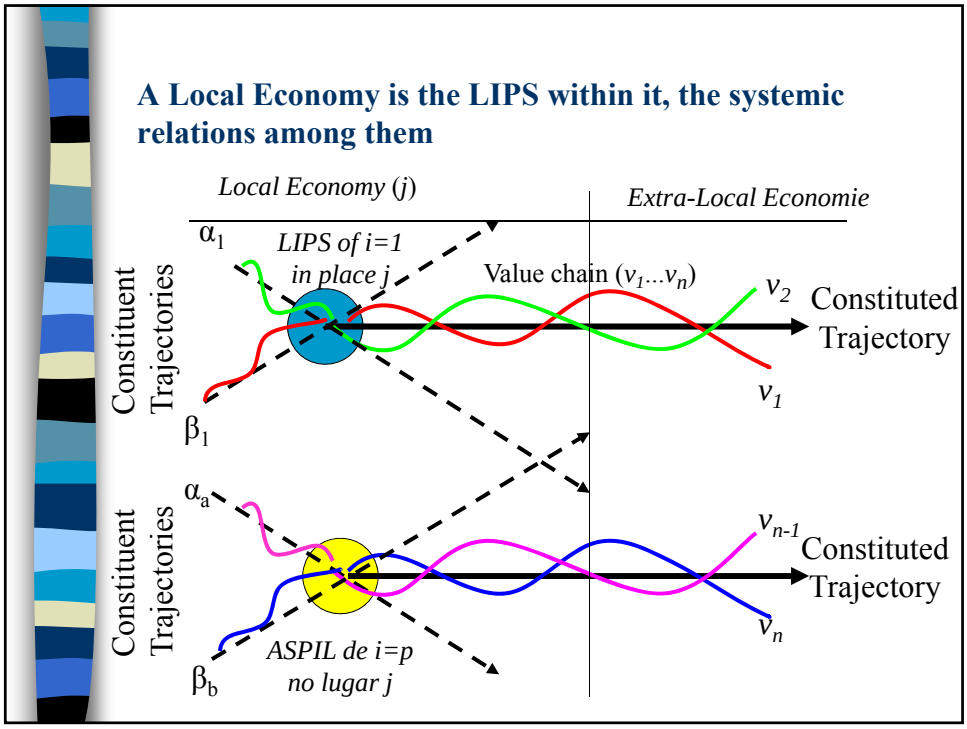


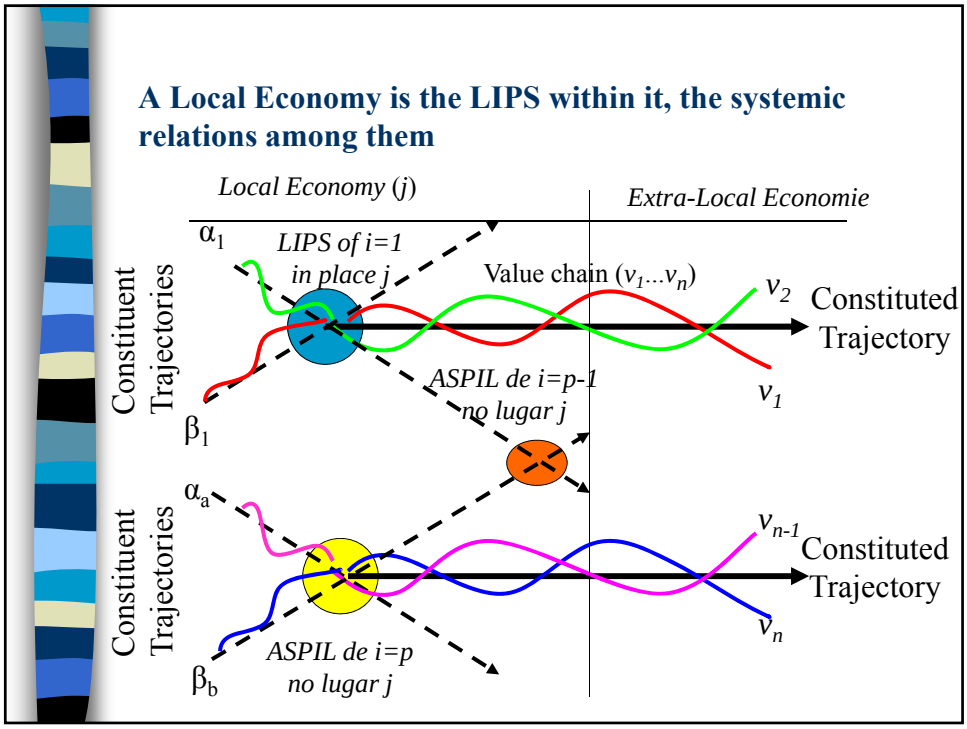
Fonte: Pesquisa de Campo de 2003 e 2011; Nacif, 2008.

- The "Regime of Growth" of a LIPS is the form its participation in the development (in general);
-
- The first, more immediate expression, of the "Regime of Growth" of a LIPS is the way it participates in the local development

A Local Economy is the LIPS within it,




A Local Economy is the LIPS within it, the systemic relations among them
Local Economy (j)
Extra-Local Economie
α1
LIPS of i=1
in place j
Value chain (v1...vn)
v2
Constituted Trajectory
v1
Constituent Trajectories
β1
αa
vn-1
Constituted Trajectory
vn
Constituent Trajectories
ASPIL de i=p
no lugar j
βb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β1
αa
vn-1
Constituted Trajectory
vn
Constituent Trajectories
ASPIL de i=p
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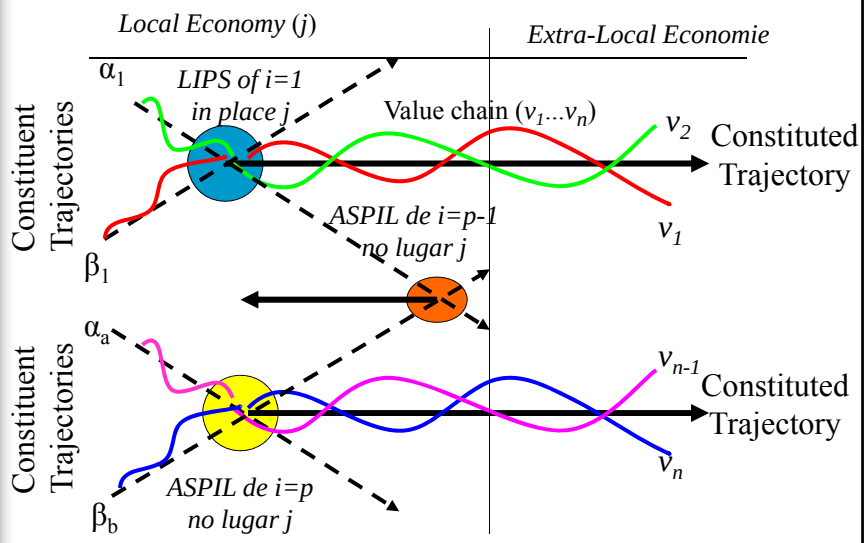
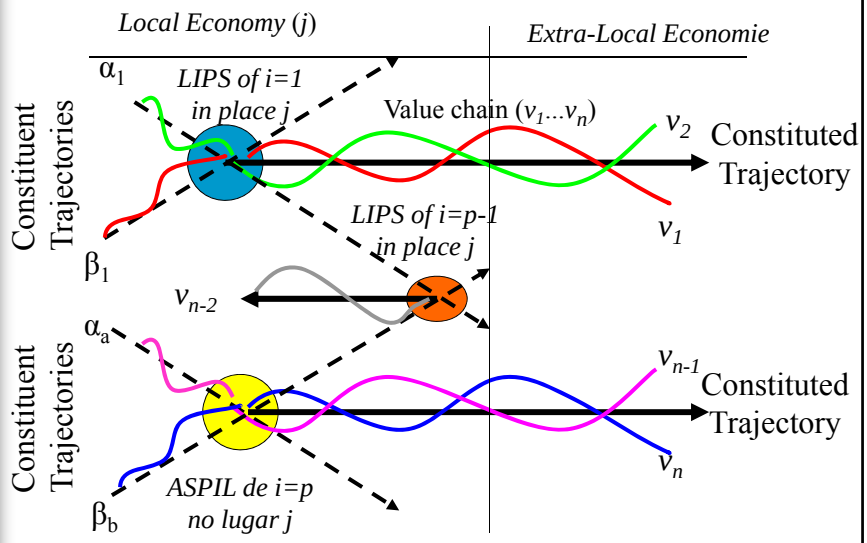
βb

A Local Economy is the LIPS within it, the systemic relations among them, the derived transcendencies



A Local Economy is the LIPS within it, the systemic relations among them, the derived transcendencies in a common territory, like local and regional systems of innovation:



For exemple:

LIPS and Value Chains about the non-peasants trajectories in South Eastern Pará in 2005. Input-Output Matrix (R$ 1.000.00 of 2004)

	Produção Intermediária																Demanda Final						
	Economia Local							Economia do resto do Pará				Economia do resto do Brasil					Local						
Produção/Setores	Fazendas	Camponeses	Mineração	Intermediação primária	Indústria Beneficiamento.	Indústria Transformação[4]	Comércio Atacado	Comércio Varejo e serviços[2]	Indústria Beneficiamento[3]	Indústria Transformação[4]	Comércio Atacado	Comércio Varejo e serviços[2]	Indústria Beneficiamento[3]	Indústria Transformação.[4]	Comércio Atacado	Comércio Varejo e serviços[2]	Total	Famílias	Formação de Capital[5]	Resto do Pará	Resto do Brasil[7]	Total	VBP
1ªFazendas	5,11	-	-	8,98	184,59	17,60	39,86	70,34	0,17	-	0,59	-	-	-	1,56	0,00	333,92	263,20	277,17	-	-	540,36	869,18
1b.Camponeses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1c.Mineração	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.Intermed.Prim.	-	-	-	0,00	33,02	-	1,87	56,66	-	-	0,25	0,02	-	-	0,00	-	91,82	0,28	-	0,03	-	0,32	92,14
3.IndBenef.	-	-	-	-	14,95	43,31	1,83	68,43	-	5,18	31,77	141,02	-	34,44	24,55	66,03	431,51	0,46	-	-	2,77	3,23	434,74
4.IndTransf.Transformação	-	-	-	0,26	-	-	-	96,87	-	-	-	2,69	-	58,21	-	16,10	174,14	-	-	-	-	-	174,14
5.Atacado	2,28	-	-	0,00	0,28	13,30	4,65	50,12	18,03	5,13	16,26	0,00	1,09	-	8,15	0,00	119,30	0,94	-	-	-	0,94	120,24
6.Var.e	218,08	-	-	0,00	7,25	-	0,29	0,00	-	0,00	0,07	0,00	0,00	-	-	0,00	225,69	398,04	76,42	0,00	-	474,47	700,16
7.IndBenef.	-	-	-	-	-	-	-	0,35	-	24,83	19,78	-	-	-	-	-	44,96	-	-	-	-	-	44,96
8.IndTransf	-	-	-	-	-	-	4,75	-	-	-	17,42	56,49	-	-	5,70	-	84,35	-	-	0,00	0,04	0,04	84,39
9.Atacado	1,67	-	-	0,33	14,74	17,31	26,69	93,51	1,52	2,34	0,75	20,55	0,20	-	-	-	179,59	-	-	6,60	52,28	58,88	238,47
10.Var.eServ.Serviços	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,24	-	290,62	-	310,87	310,87
11.IndBenef.	-	-	-	-	-	-	-	-	-	10,17	-	-	-	138,94	-	0,13	149,23	-	-	-	0,06	0,06	149,30
12.IndTransf.	-	-	-	-	-	13,30	4,75	20,92	-	-	78,68	7,70	-	-	104,26	125,94	355,56	-	-	-	0,02	0,02	355,57
13.Atacado	-	-	-	-	-	-	19,76	73,88	-	-	13,83	-	4,72	12,05	0,59	5,87	130,69	4,88	-	-	46,06	50,94	181,63
14.Var.eServ.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,00	-	-	283,34	283,34	283,34
x.TotaldeInsumos	227,14	-	-	9,58	254,82	104,83	104,45	531,08	19,73	47,65	179,39	228,46	6,00	243,65	144,81	214,07	2.315,65	688,04	353,59	297,26	384,57	1.723,45	4.039,11
x.Fazendas	642,03	-	-	82,56	179,92	69,31	15,79	169,08	25,24	36,74	59,08	82,41	143,29	111,93	36,82	69,27	1.723,45						
y.Camponeses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
z.Mineração	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
V.Adicionado[6]	642,03	-	-	82,56	179,92	69,31	15,79	169,08	25,24	36,74	59,08	82,41	143,29	111,93	36,82	69,27	1.723,45						
s.Salários[6]	172,74	-	-	3,96	27,57	12,27	5,17	58,82	1,93	5,95	10,25	26,12	5,05	27,66	11,87	34,59	403,95						
l.Lucros[6]	456,41	-	-	70,31	132,86	52,34	9,07	78,71	23,27	27,75	17,66	30,89	134,22	74,83	(0,74)	10,67	1.118,26						
i.Impostos	12,87	-	-	8,29	19,48	4,69	1,55	31,54	0,03	3,04	31,17	25,40	4,02	9,44	25,69	24,01	201,24						
RendaBruta(r+s)	869,18	-	-	92,14	434,74	174,14	120,24	700,16	44,96	84,39	238,47	310,87	149,30	355,57	181,63	283,34	4.039,11						
Emprego(1.000)	51,63	-	-	0,71	4,65	1,76	0,93	8,30	0,25	0,77	1,71	3,13	0,67	2,35	1,52	3,20	81,58						

LIPS and Value Chains about the peasants trajectories in South Eastern Pará in 2005. Input-Output Matrix (R$ 1.000.000 of 2004)

	Produção Intermediária																Demanda Final						
	Economia Local								Economia do resto do Pará				Economia do resto do Brasil				Local						
	Produção/Setores			Inter-mediação primária	Indústria		Comércio		Indústria		Comércio		Indústria		Comércio		Total			Res-to do Pará	Resto do Brasil[7]	Total	VBP
	Fazendas	Camponeses	Mineração		Beneficiamento.	Transformação[4]	Atacado	Varejo e serviços[2]	Beneficiamento[3]	Transformação[4]	Atacado	Varejo e serviços[2]	Beneficiamento[3]	Transformação.[4]	Atacado	Varejo e serviços[2]		Famílias	Formação de Capital[5]				
1ªFazendas	-																						
1b.Camponeses	-	24,90	-	10,38	77,73	43,86	32,13	41,19	0,25	-	2,23	-	-	-	8,95	0,00	241,62	409,11	-	-	-	409,11	650,73
1c.Mineração	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.Intermed.Prim.	-	-	-	0,00	9,63	-	8,55	27,68	0,00	-	0,59	0,00	-	-	0,02	-	46,48	0,05	-	0,00	-	0,05	46,53
3.IndBenef.	-	-	-	-	4,54	13,15	1,97	90,62	0,00	1,72	8,74	42,83	0,00	10,73	6,81	20,08	201,20	2,17	-	-	0,84	3,01	204,20
4.IndTransf.Transformação	-	-	-	0,03	-	-	-	73,47	-	-	-	6,76	-	17,68	-	40,51	138,46	-	-	-	-	-	138,46
5.Atacado	-	2,46	-	0,00	1,28	9,60	18,09	45,56	5,48	1,63	34,33	0,01	3,41	-	20,49	0,00	142,35	4,06	-	-	-	4,06	146,41
6.Var.c	-	117,59	-	0,00	2,20	-	0,61	0,00	-	0,00	0,10	0,00	0,00	-	-	0,00	120,51	341,05	45,77	0,00	-	386,82	507,33
7.IndBenef.	-	-	-	-	-	-	-	-	-	8,90	12,06	-	-	-	-	0,00	21,46	-	-	0,00	0,00	0,00	21,46
8.IndTransf.	-	-	-	-	-	-	3,43	-	-	-	9,49	17,16	-	-	2,88	-	32,96	-	-	0,00	0,35	0,36	33,31
9.Atacado	-	1,40	-	0,17	6,92	13,17	16,86	50,56	0,73	0,84	0,48	9,54	0,71	-	-	-	101,37	-	-	34,87	15,68	50,54	151,91
10.Var.eServ.Serviços	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12,25	-	97,09	-	109,34	109,34
11.IndBenef.	-	-	-	-	-	-	-	-	-	5,58	-	-	-	71,13	0,00	0,04	76,75	-	-	-	0,04	0,04	76,79
12.IndTransf.	-	-	-	-	-	9,60	3,43	4,06	-	-	43,76	4,21	-	-	54,22	53,66	172,95	-	-	-	0,80	0,80	173,75
13.Atacado	-	-	-	-	-	-	13,30	33,38	-	-	9,28	-	2,41	5,89	0,41	2,05	66,73	23,26	-	-	32,41	55,67	122,40
14.Var.eServ.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,00	-	-	160,01	160,02	160,02
r.TotaldeInsumos	-	146,35	-	10,58	102,30	89,39	98,38	367,02	6,45	18,68	121,07	80,52	6,53	105,43	93,78	116,35	1.362,83	646,09	191,63	131,96	210,13	1.179,81	2.542,64
x.Fazendas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
y.Camponeses	-	504,38	-	35,95	101,90	49,07	48,02	140,31	15,01	14,63	30,85	28,83	70,26	68,32	28,62	43,67	1.179,81						
z.Mineração	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
V.Adicionado[6]	-	504,38	-	35,95	101,90	49,07	48,02	140,31	15,01	14,63	30,85	28,83	70,26	68,32	28,62	43,67	1.179,81						
s.Salários[6]	-	74,14	-	2,00	12,95	9,76	6,29	42,62	0,92	2,35	6,53	9,19	2,60	13,52	8,00	19,53	210,39						
l.Lucros[6]	-	429,34	-	30,34	78,04	35,59	35,97	67,97	14,06	11,15	(1,16)	11,11	66,29	48,89	(7,46)	10,12	830,26						
i.Impostos	-	0,90	-	3,61	10,91	3,72	5,76	29,71	0,03	1,13	25,48	8,53	1,37	5,91	28,08	14,01	139,15						
RendaBruta(r+s)	-	650,73	-	46,53	204,20	138,46	146,41	507,33	21,46	33,31	151,91	109,34	76,79	173,75	122,40	160,02	2.542,64						
Empregos(1.000)	-	138,40	-	0,36	2,18	1,40	1,13	6,01	0,12	0,31	1,09	1,10	0,35	1,15	1,02	1,81	156,43						

LIPS and Value Chains about the mineral production in South Eastern Pará in 2005. Input-Output Matrix (R$ 1.000.000 of 2004)

	Produção Intermediária																Demanda Final					
	Economia Local								Economia do resto do Pará				Economia do resto do Brasil				Local					
	Produção/Setores			Inter-mediação primária	Indústria		Comércio		Indústria		Comércio		Indústria		Comércio		Total			Res-to do Pará	Resto do Brasil[7]	Total	VBP
	Fazendas	Camponeses	Mineração		Beneficiamento.	Transformação[4]	Atacado	Varejo e serviços[2]	Beneficiamento[3]	Transformação[4]	Atacado	Varejo e serviços[2]	Beneficiamento[3]	Transformação.[4]	Atacado	Varejo e serviços[2]		Famílias	Formação de Capital[5]				
1ªFazendas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1b.Camponeses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1c.Mineração	-	-	-	-	410,4	-	-	-	-	-	-	-	334,68	-	-	-	745,15	-	-	-	4.098,7	4.098,7	4.843,90
2.Intermed.Prim.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.IndBenef.	-	-	-	-	-	-	0,64	-	-	-	-	-	-	-	-	-	0,64	-	-	482,30	482,30	482,94	
4.IndTransf.Transformaçã	-	-	-	-	-	-	-	727,32	-	-	-	-	-	-	-	-	727,32	-	-	-	-	-	727,32
5.Atacado	-	-	32,44	-	-	184,8	-	489,00	-	-	-	-	-	-	-	-	706,30	-	-	-	-	-	706,30
6.Var.c	-	-	367,64	-	-	-	-	-	-	-	-	-	-	-	-	-	367,64	2.447,0	528,33	-	-	2.975,3	3.342,99
7.IndBenef.	-	-	-	-	-	-	-	-	-	103,1	226,91	-	-	-	-	-	330,04	-	-	-	-	-	330,04
8.IndTransf.	-	-	-	-	-	-	30,59	-	-	-	143,20	-	-	-	61,34	-	235,13	-	-	-	-	-	235,13
9.Atacado	-	-	5,56	0,00	16,37	98,08	297,5	619,57	11,19	5,08	3,85	88,67	-	-	-	-	1.145,94	-	-	-	-	-	1.145,94
10.Var.eServ.Serviços	-	-	54,21	-	-	-	-	-	-	-	-	-	-	-	-	-	54,21	244,71	-	-	-	244,71	298,92
11.IndBenef.	-	-	-	-	-	-	-	-	-	56,20	-	-	-	2.493,7	-	-	2.549,94	-	-	-	-	-	2.549,94
12.IndTransf.	-	-	-	-	-	85,66	61,36	378,86	-	-	535,88	125,2	-	-	1.509,1	-	2.696,15	-	-	476,58	476,58	3.172,74	
13.Atacado	-	-	526,55	-	-	-	266,4	658,67	-	-	134,80	2,22	84,54	107,56	5,77	-	1.786,59	12,75	-	-	12,75	1.799,35	
14.Var.eServ.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
r.TotaldeInsumos	-	-	986,41	0,00	427,0	368,5	656,6	2.873,4	11,19	164,4	1.044,6	216,1	419,22	2.601,3	1.576,2	-	11.345,3	2.704,4	528,33	-	5.057,6	8.290,4	19.635,5
x.Fazendas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
y.Camponeses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
z.Mineração	-	-	3.857,4	0,24	55,86	358,7	49,65	469,57	318,8	70,72	101,29	82,82	2.130,7	571,44	223,06	-	8.290,44						
V.Adicionado[6]	-	-	3.857,4	0,24	55,86	358,7	49,65	469,57	318,8	70,72	101,29	82,82	2.130,7	571,44	223,06	-	8.290,44						
s.Salários[6]	-	-	272,04	0,01	30,63	51,24	30,36	280,86	14,16	16,57	49,26	25,11	86,23	246,81	117,58	-	1.220,86						
l.Lucros[6]	-	-	2.942,2	0,21	10,00	303,0	17,47	135,29	300,6	53,90	51,41	54,42	1.951,7	191,65	100,15	-	6.112,29						
i.Impostos	-	-	643,18	0,02	15,24	4,41	1,82	53,41	4,00	0,26	0,62	3,29	92,72	132,97	5,34	-	957,28						
RendaBruta(r+s)	-	-	4.843,9	0,24	482,9	727,3	706,3	3.342,9	330,0	235,1	1.145,9	298,9	2.549,9	3.172,7	1.799,3	-	19.635,7						
Empregos(1.000)	-	-	13,95	0,00	5,17	7,33	5,45	39,61	1,81	2,16	8,23	3,01	11,51	20,96	15,06	-	134,25						

Estruture of the Local Economy of South Eastern Pará in year 2005. Input-Output Matriz (R$ 1.000.000 of 2004)

	Produção Intermediária																	Demanda Final					
	Economia Local								Economia do resto do Pará				Economia do resto do Brasil					Local			Resto do Brasil[7]		VBP
	Produção/Setores			Inter-medi-ação pri-mária	Indústria		Comércio		Indústria		Comércio		Indústria		Comércio		Total			Res-to do Pará		Total	
	Faze-ndas	Cam-pone-ses	Mine-ração		Bene-fici-ame-nto.	Trans-forma-ção[4]	Ata-cado	Vare-jo e servi-ços[2]	Bene-fici-ame-nto[3]	Trans -forma -ção[4]	Ata-cado	Vare-jo e servi-ços[2]	Bene-fici-ame-nto[3]	Trans-forma-ção.[4]	Ata-cado	Vare-jo e servi-ços[2]		Fami-lias	Forma-ção de Capi-tal[5]				
1*Fazendas	5,11	-	-	8,98	184,59	17,60	39,86	70,34	0,17	-	0,59	-	-	-	1,56	0,00	328,81	263,20	277,17	-	-	540,36	869,18
1b.Camponeses	-	24,90	-	10,38	77,73	43,86	32,13	41,19	0,25	-	2,23	-	-	-	8,95	0,00	241,62	263,25	145,86	-	-	409,11	650,73
1c.Mineração	-	-	-	-	410,47	-	-	-	-	-	-	-	334,68	-	-	-	745,15	-	-	-	4.098,7	4.098,75	4.843,90
2.Intermed.Prim.	-	-	-	0,00	42,89	-	10,43	84,35	0,00	-	0,84	0,02	-	-	0,02	-	138,54	0,33	-	0,04	-	0,37	138,91
3.IndBenef.	-	-	-	-	19,49	56,46	4,44	159,05	0,00	6,91	40,51	183,8	0,00	45,17	31,36	86,10	633,35	2,62	-	-	485,91	488,53	1.121,88
4.IndTransf/Transformaç	-	-	-	0,29	-	-	-	897,66	-	-	-	9,45	-	75,89	-	56,61	1.039,91	-	-	-	-	-	1.039,91
5.Atacado	2,28	2,46	32,44	0,00	1,56	207,77	22,74	584,68	23,50	6,76	50,59	0,02	4,50	-	28,64	0,00	967,95	5,00	-	-	-	5,00	972,95
6.Var.eServ.	218,0	117,5	367,64	0,00	9,45	-	0,91	0,00	-	0,00	0,17	0,00	0,00	-	-	0,00	713,84	3.186,1	650,52	0,00	-	3.836,63	4.550,47
7.IndBenef	-	-	-	-	-	-	-	0,84	-	136,8	258,76	-	-	-	0,00	0,00	396,46	-	-	0,00	0,00	0,00	396,46
8.IndTransf	-	-	-	-	-	-	38,77	-	-	-	170,11	73,64	-	-	69,91	-	352,44	-	-	0,00	0,39	0,39	352,83
9.Atacado	1,67	1,40	5,56	0,50	38,03	128,55	341,1	763,64	13,44	8,27	5,08	118,7	0,90	-	-	-	1.426,90	-	-	41,47	67,96	109,42	1.536,33
10.Var.eServ.Serviços	-	-	54,21	-	-	-	-	-	-	-	-	-	-	-	-	-	54,21	277,21	-	387,7	-	664,92	719,13
11.IndBenef.	-	-	-	-	-	-	-	-	-	71,95	-	-	-	2.703,8	0,00	0,17	2.775,92	-	-	-	0,10	0,10	2.776,02
12.IndTransf.	-	-	-	-	-	108,56	69,54	403,84	-	-	658,32	137,1	-	-	1.667,6	179,6	3.224,66	-	-	-	477,40	477,40	3.702,06
13.Atacado	-	-	526,55	-	-	-	299,5	765,93	-	-	157,91	2,22	91,67	125,50	6,76	7,92	1.984,02	40,89	-	-	78,47	119,36	2.103,37
14.Var.eServ.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,00	-	-	443,35	443,35	443,35
x.TotaldeInsumos	227,1	146,3	986,41	20,16	784,20	562,81	859,4	3.771,5	37,36	230,7	1.345,1	525,0	431,75	2.950,3	1.814,8	330,4	15.023,7	4.038,6	1.073,5	429,2	5.652,3	11.193,7	26.217,4
x.Fazendas	642,0	-	-	82,56	179,92	69,31	15,79	169,08	25,24	36,74	59,08	82,41	143,29	111,93	36,82	69,27	1.723,45						
y.Camponeses	-	504,3	-	35,95	101,90	49,07	48,02	140,31	15,01	14,63	30,85	28,83	70,26	68,32	28,62	43,67	1.179,81						
z.Mineração	-	-	3.857,4	0,24	55,86	358,73	49,65	469,57	318,8	70,72	101,29	82,82	2.130,7	571,44	223,06	-	8.290,44						
V.Adicionado[6]	642,0	504,3	3.857,4	118,7	337,68	477,10	113,4	778,95	359,1	122,0	191,22	194,0	2.344,2	753,68	288,50	112,9	11.193,7						
s.Salários[6]	172,7	74,14	272,04	5,97	71,16	73,27	41,82	382,31	17,01	24,86	66,04	60,42	93,87	287,99	137,44	54,12	1.835,20						
l.Lucros[6]	456,4	429,3	2.942,2	100,8	220,90	391,01	62,51	281,98	338,0	92,80	67,91	96,42	2.152,2	315,37	91,95	20,79	8.060,82						
i.Impostos	12,87	0,90	643,18	11,92	45,63	12,82	9,13	114,66	4,06	4,43	57,27	37,23	98,12	148,33	59,11	38,02	1.297,68						
RendaBruta(r+s)	869,1	650,7	4.843,9	138,9	1.121,8	1.039,9	972,9	4.550,4	396,4	352,8	1.536,3	719,1	2.776,0	3.702,0	2.103,3	443,3	26.217,4						
Emprego(1.000)	51,63	138,4	13,95	1,07	12,00	10,49	7,51	53,92	2,17	3,24	11,03	7,25	12,53	24,45	17,60	5,01	372,26						

Final Remarks:

- We can think of a broad theory-based planing system supported by the LIPS concept:
  - "Local Economy" and "Poles" could be thought as a composition of LIPS of different nature (supplying different items of the social division of labor) and their related value chains, the whole system confined in a defined territory.
  - "National Sector" could be thought as a composition of LIPS and related Value Chains producing and distributing a item of the social labor division at national level.
  - The internal elements of the LIP could be easily addressed and monitored in their structural heterogeneity (peasant could visualized in relation to corporation, for example).
  - Through LIPS we could transpose different scale and visualize nets.
  - Through LIPS we could go to their constituent and constituted trajectories and value chains
  - Related to these structures we can derive national, regional and local innovation systems.

Muito obrigado!

Trajetórias Tecnológicas:
Um padrão de soluções técnicas na obtenção de uma necessidade social. Procedimentos técnicos e configurações sociais associados a estruturas em movimento que combinam de modo similar trabalho direto e recursos tangíveis (capital físico e natural) e intangíveis (capital humano e instituições) no atendimento de um conjunto particular de necessidades sociais (definidas na divisão social do trabalho), cujo equacionamento, seja na esfera da produção, seja na esfera do consumo, segue razões privadas
(lucro e eficiência reprodutiva).