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Livestock Development Goals

with an Application to Senegal

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A Living from Livestock
Pro-Poor Livestock Policy Initiative

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1. Introduction

- As part of its commitments to advance livestock's contribution to poverty alleviation, the FAO's Pro-Poor Livestock Policy Initiative (PPLPI) has created a set of development objectives and metrics to assess progress toward them.
- The Livestock Development Goals (LDGs) are so named to evoke their close relationship with the more general United Nations Millennium Development Goals (MDGs).
- While the LDGs are of independent relevance to PPLPI and livestock policy makers, their conformity with the MDGs recognizes the usefulness of the latter in the international development dialogue and is also intended to emphasize the integral contribution of livestock to improving the livelihoods of the majority of the world's poor who live in rural areas.

- The LDGs cover not only direct income from livestock production, but a variety of other welfare criteria associated with this economic activity, nutrition, including hygiene and disease risk, and sustainable agricultural practices.
- In addition to the LDGs themselves, we set out a series of indicators to measure the degree of progress toward each of the goals.

- These indicators offer a means to draw upon the immense and diverse reserve of household survey and other data that has been assembled in developing countries.
- By establishing standards and metrics to support policy dialogue, PPLPI can contribute to more effective development strategy in its own programs and in the larger universe of rural, agricultural, and food-oriented policy.

2. Livestock Development Goals

- ***Goal 1: Eradicate extreme poverty***
- ***Goal 2: Increase smallholder food security and protein sufficiency***
- ***Goal 3: Increase smallholder value-added***
- ***Goal 4: Improve animal health***
- ***Goal 5: Combat epidemic and zoonotic diseases***
- ***Goal 6: Ensure sustainability of livestock keeping***
- ***Goal 7: Conserve indigenous livestock varieties***
- ***Goal 8: Develop a global partnership for pro-poor livestock policy development, market standards and technology sharing***

3. Livestock Development Indicators

- In addition to the LDGs themselves, we set out a series of Livestock Development Indicators (LDIs) to measure the degree of progress toward each of the goals.
- These offer a means to draw upon the immense and diverse reserve of household survey and other data that has been assembled in developing countries.
- Over twenty-five types of indicators are proposed, each distilling raw data to better interpret the effectiveness of development policies ex post, concurrently, and even ex ante (using simulation methods).

4. Definitions

- The remainder of this talk is devoted to the definition and estimation of indicators that measure progress toward the LDGs.
- Detailed metrics are proposed for progress toward each of the eight LDGs.

Goal 1: Eradicate Extreme Poverty

Objective

- Halve between 1990 and 2015 the proportion of livestock dependent (LD) people whose income is less than 1$/day.

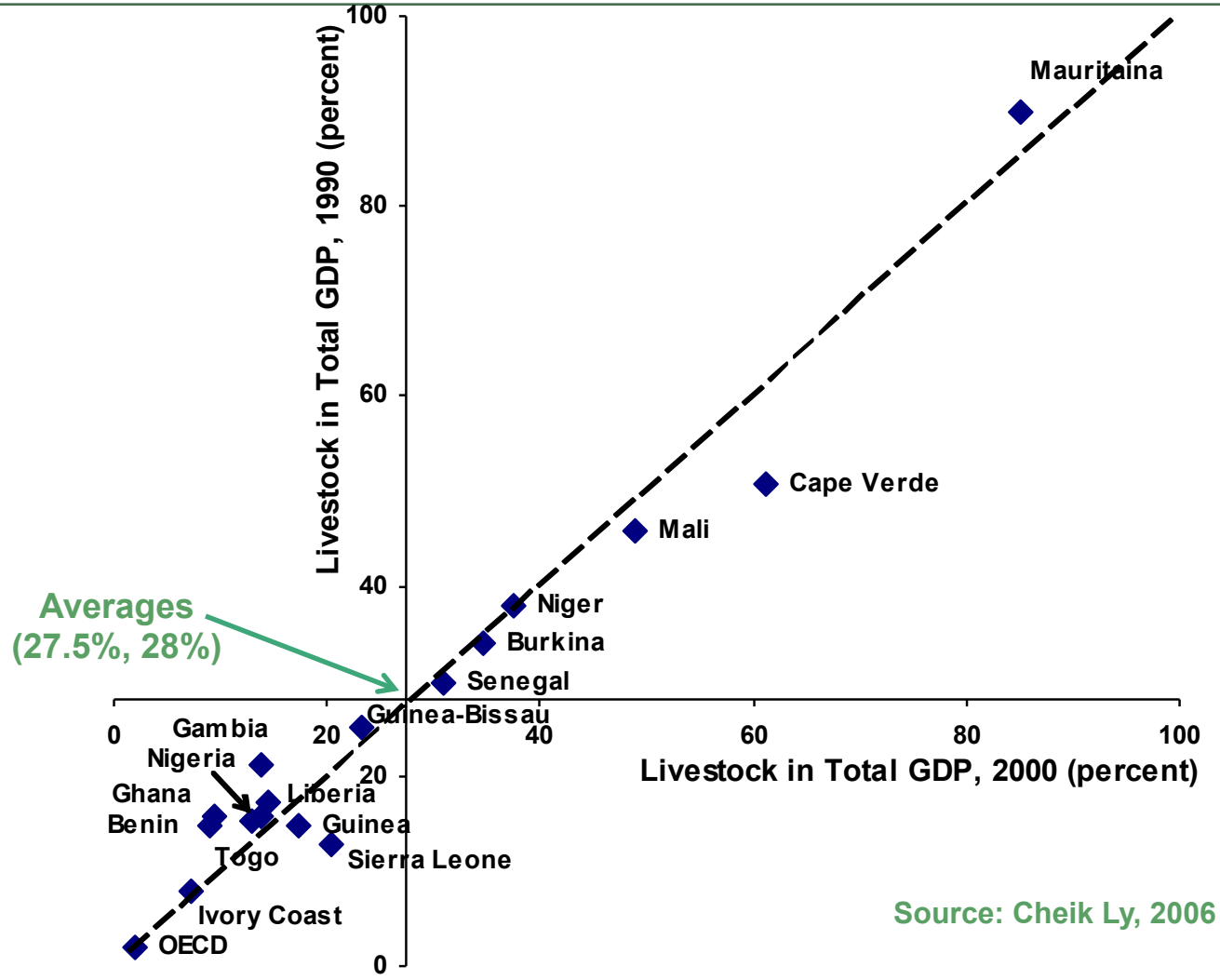
Indicators

1. Proportion of LD population below $1 (PPP) a day
2. Poverty headcount ratio (percent of LD population below national poverty line)
3. Poverty gap ratio (incidence x depth of poverty)
4. Share of poorest quintile in national consumption

Impact Assessment: Livestock and Rural Poor Livelihoods

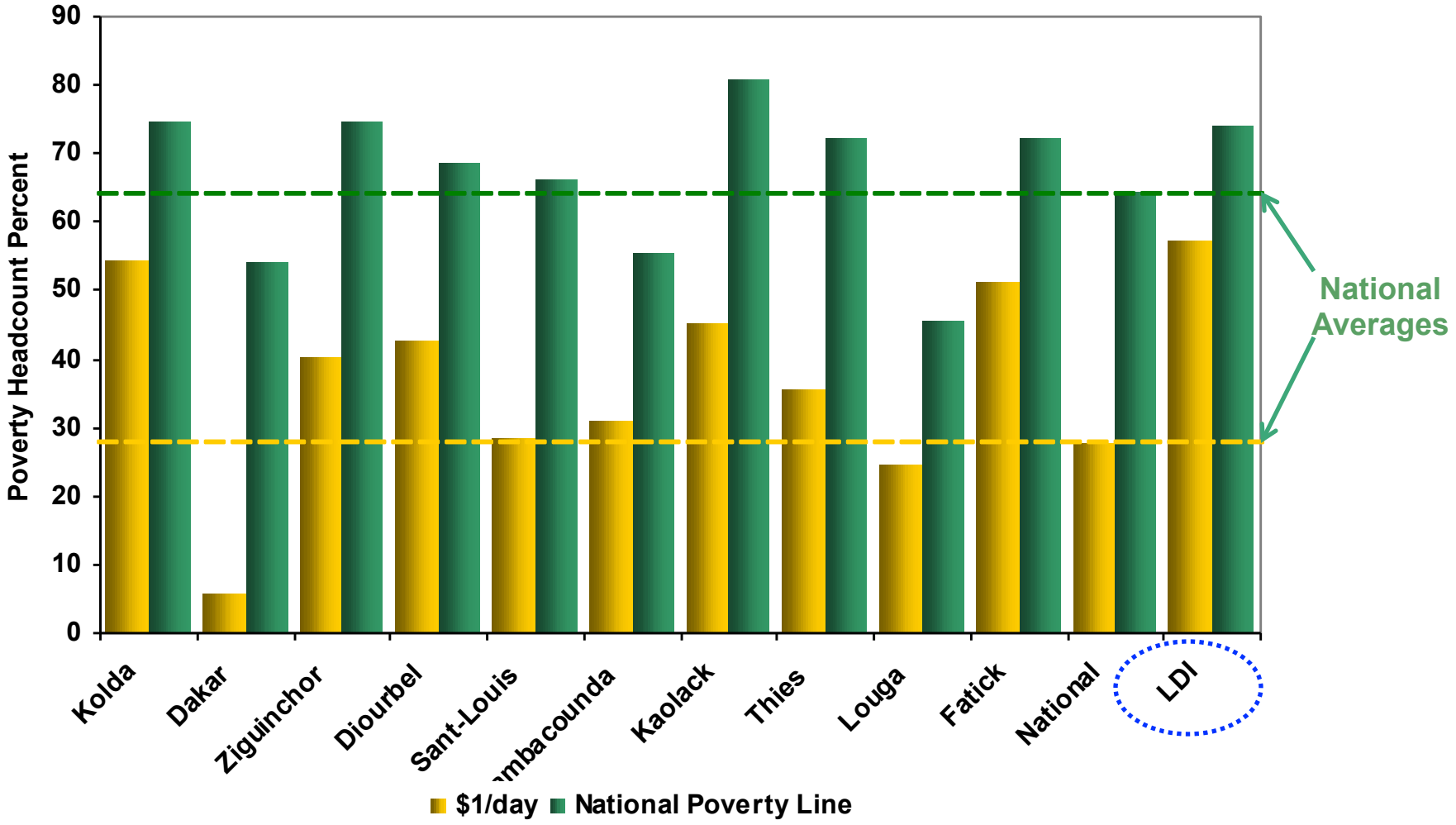
- With the benefit of improved sector data and detailed microeconomic surveys, we are seeing again and again the importance of livestock to smallholder livelihoods.
- The challenge before us is to translate livestock dependence into a sustained source of income growth.
- In most of the cases examined so far, improving the terms for smallholder participation in food markets offers the best means of doing this.

West Africa: National Livestock Dependence

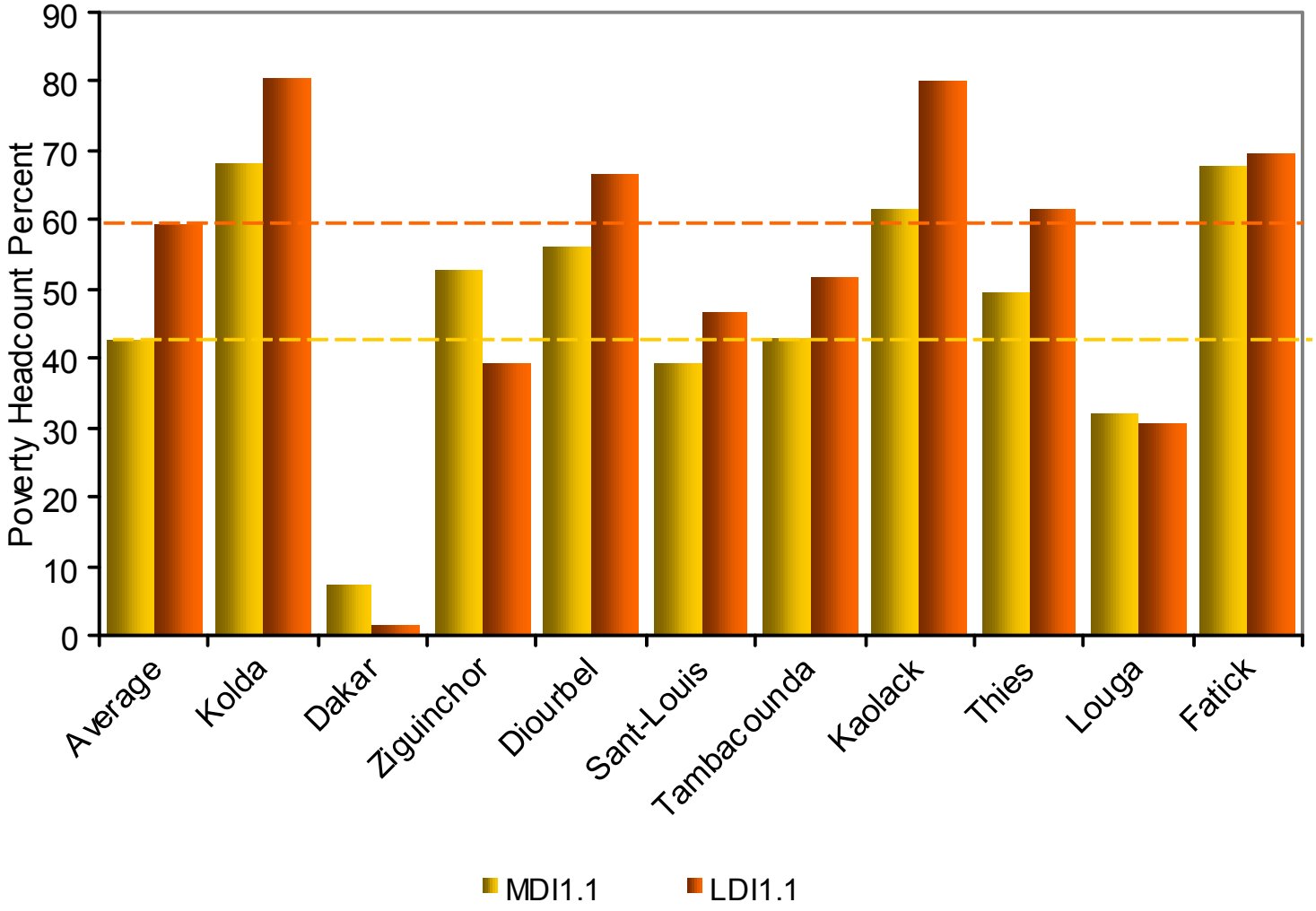


Source: Cheik Ly, 2006

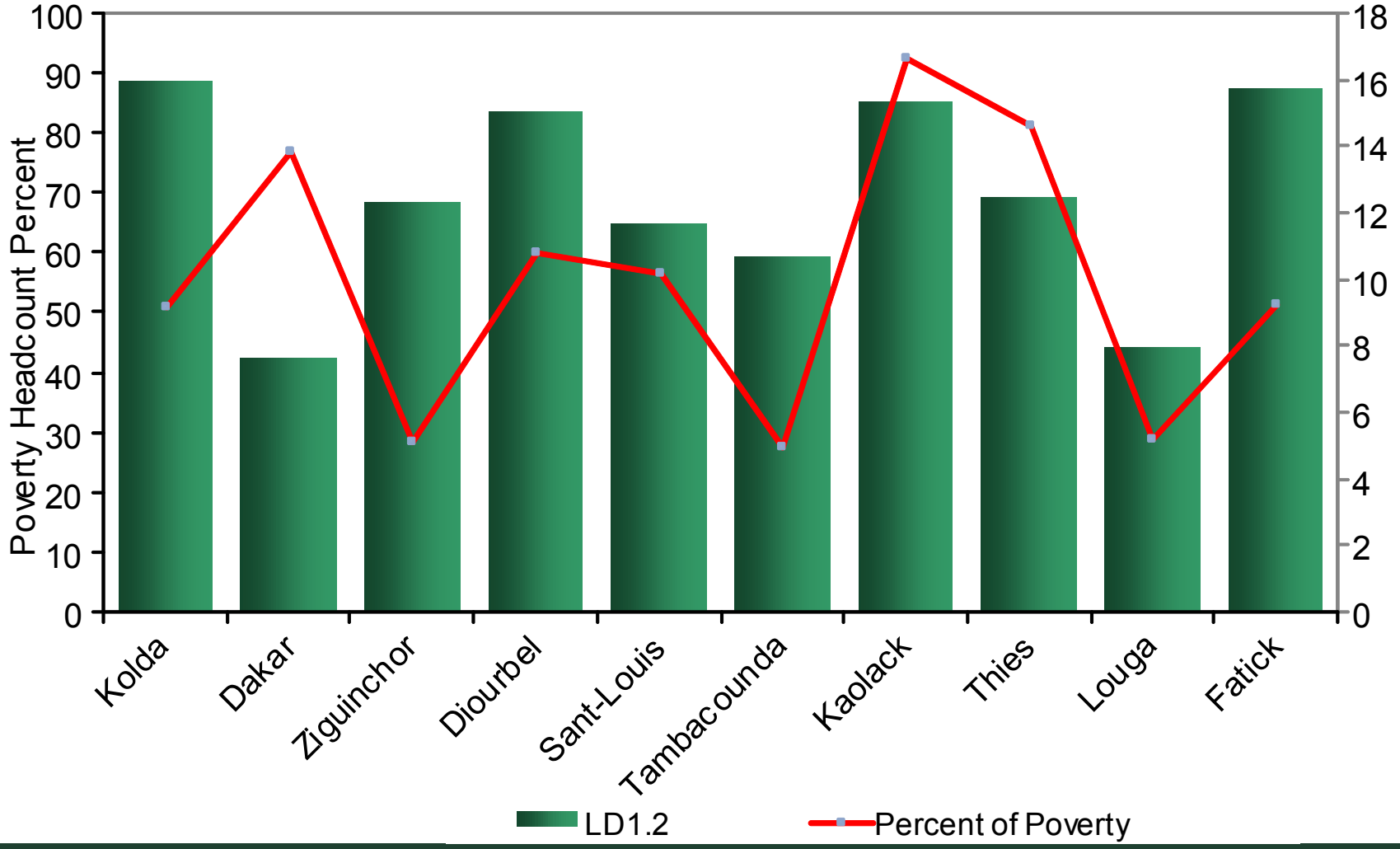
Senegal: Poverty Headcounts



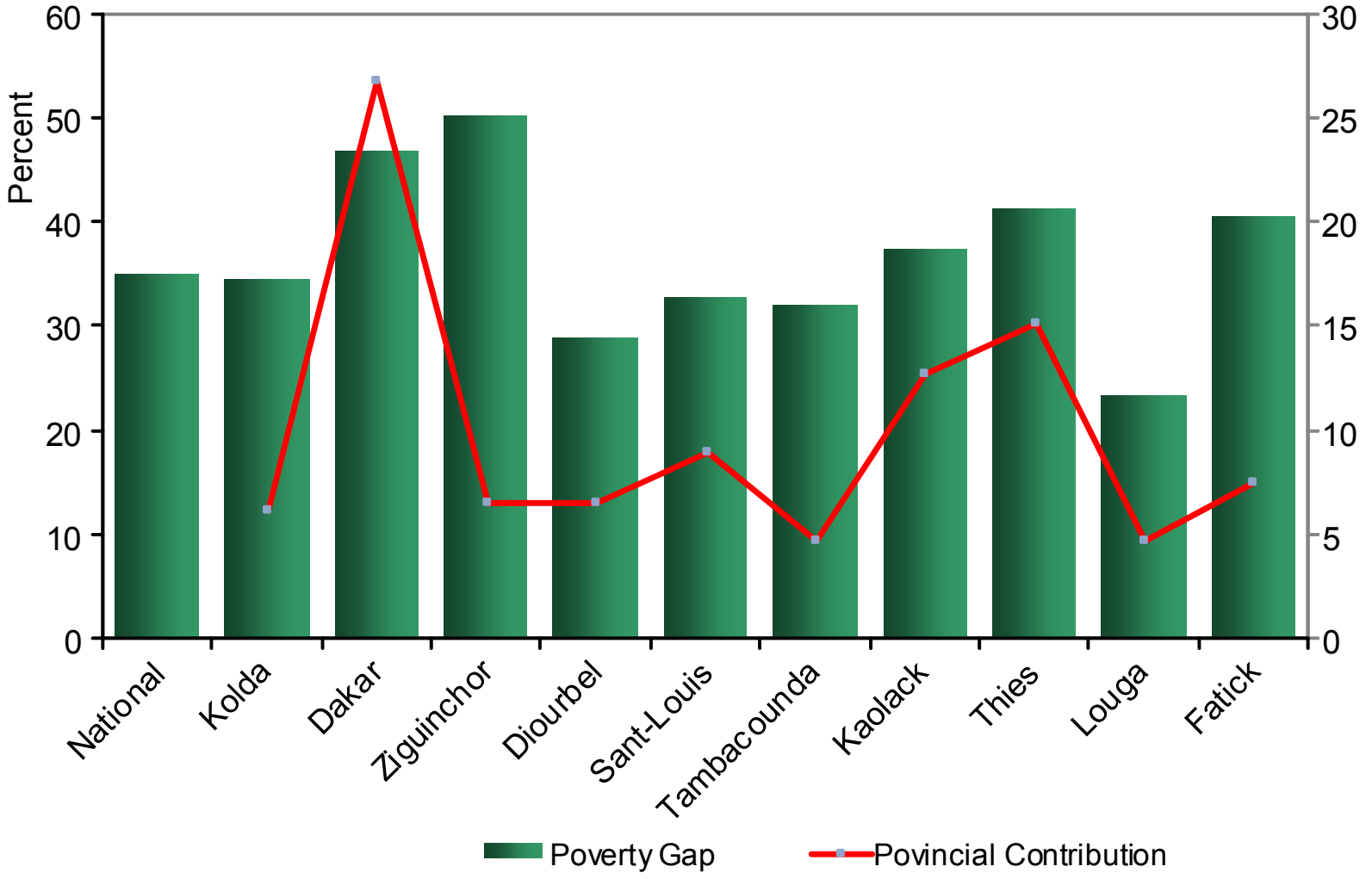
Overall and Livestock Dependent Poverty Headcounts, Senegal Global Poverty Lines



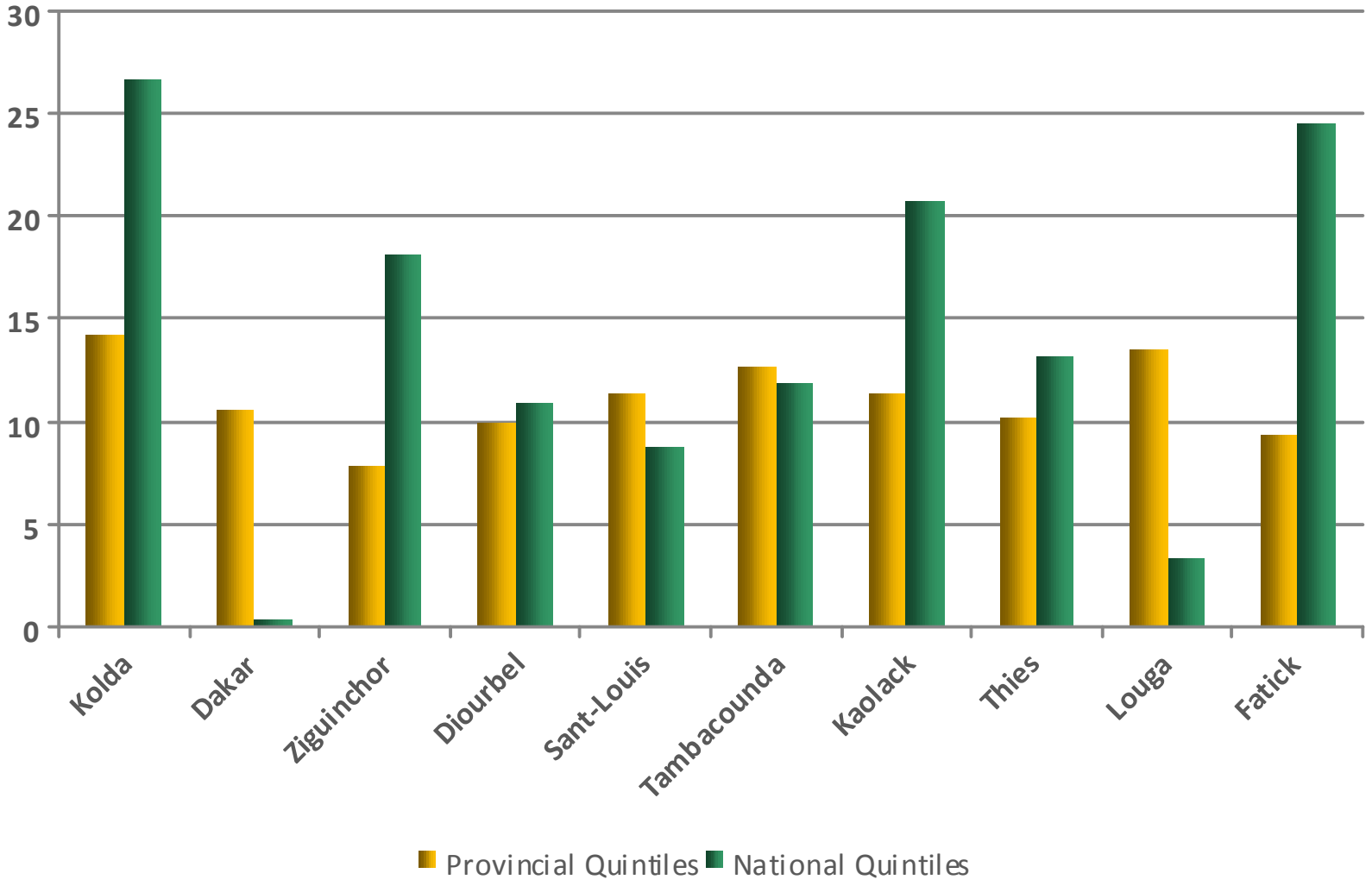
Livestock Poverty Headcount and Density by Province, Senegal National Poverty Lines



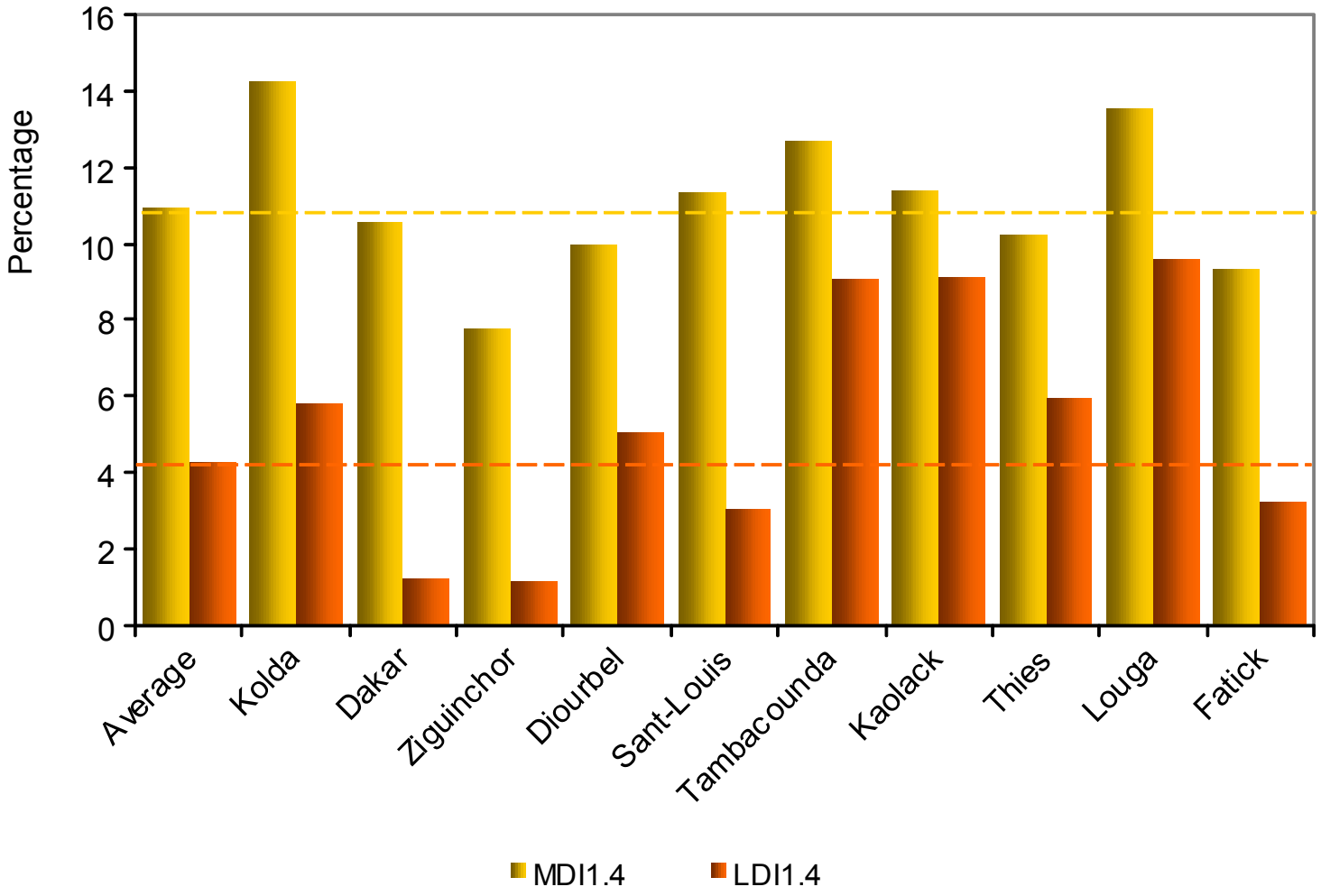
Poverty Gaps at the National and Provincial Levels



Consumption Shares of the Poorest Income Quintiles



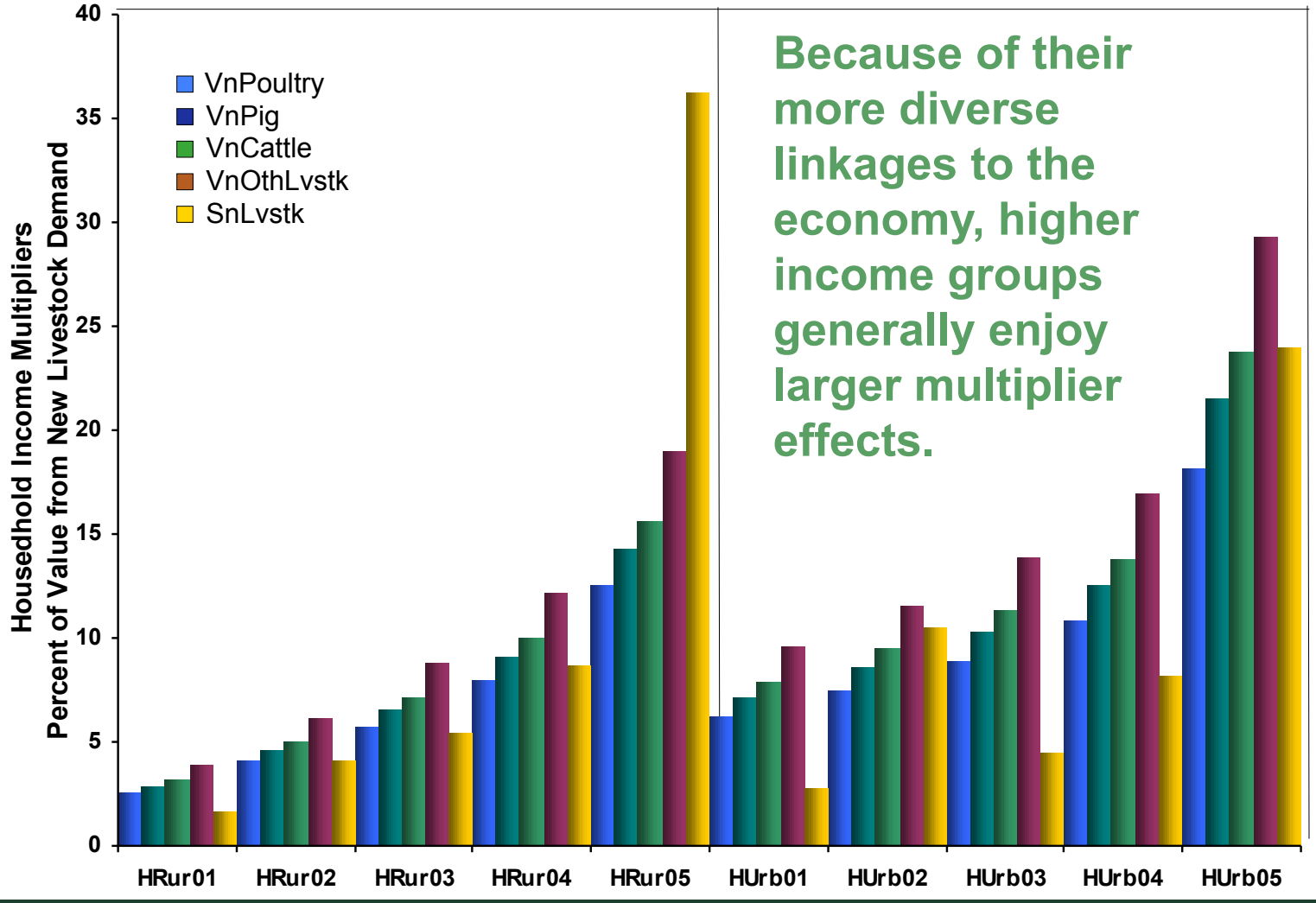
Consumption Shares for Provincial Income Quintiles, Overall and LD Population



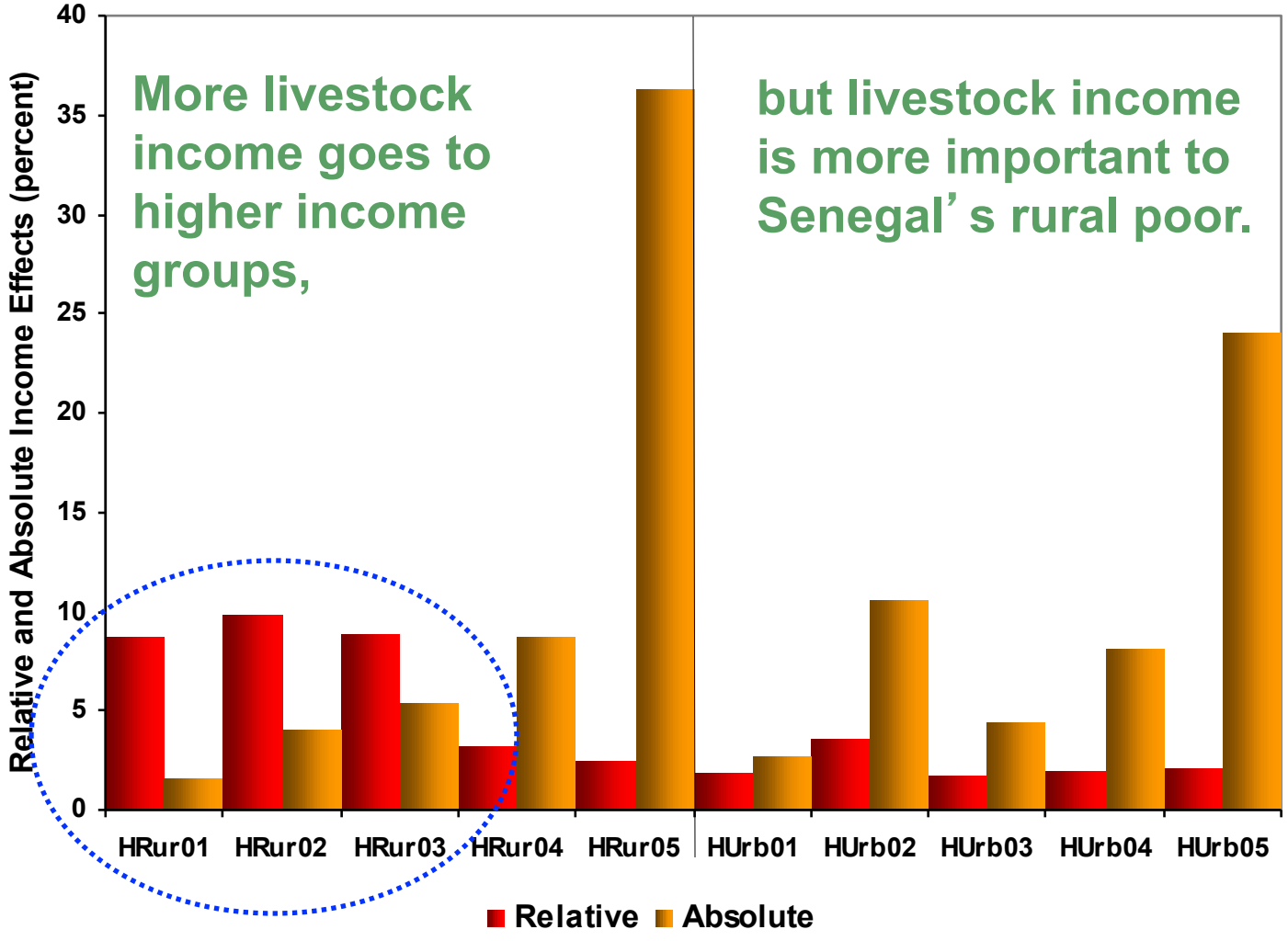
4. Impact Assessment: Linkage Analysis with SAMs

- Multiplier analysis with Social Accounting Matrices (SAMs) offers a convenient way to examine livestock's linkages across the economy.
- To date, we have developed five SAMs for Vietnam and three for Senegal, working with different aggregations to look at a variety of income-expenditure linkages.

Multiplier Linkages to Households
Vietnam (Vn) and Senegal (Sn) Compared



Senegal: Income Effects from Livestock



Path Decomposition (1): Rural

Target	<=Sector1	<=Sector2	<=Sector3	<=Sector4	Global	Local	Percent	Total
HRur01	Lvst				1.6	8.7	77.2	77.2
	ProcMeat	Lvst					4.1	81.3
	Mill	Lvst					3.5	84.8
	OtProcFd	ProcMeat	Lvst				1.8	86.6
	Mill	ProcMeat	Lvst				1.6	88.2
	OtProcFd	Lvst					0.8	89
	HotelRest	ProcMeat	Lvst				0.7	89.7
Target	<=Sector1	<=Sector2	<=Sector3	<=Sector4	Global	Local	Percent	Total
HRur02	Lvst				4.1	9.8	81.5	81.5
	ProcMeat	Lvst					4.7	86.2
	OtProcFd	ProcMeat	Lvst				2.8	89
	Mill	Lvst					1.6	90.6
	OtProcFd	Lvst					1.3	91.9
	HotelRest	ProcMeat	Lvst				1.1	93
	Mill	ProcMeat	Lvst				0.7	93.7

- **Individual global effects are aggregations of extended income-expenditure chains across the economy.**

Path Decomposition (2): Rural

Target	<=Sector1	<=Sector2	<=Sector3	<=Sector4	Global	Local	Percent	Total
HRur03	Lvst				5.4	8.8	76.9	76.9
	ProcMeat	Lvst					6.1	83
	HotelRest	ProcMeat	Lvst				4.8	87.8
	OtProcFd	ProcMeat	Lvst				2.4	90.2
	Mill	Lvst					2	92.2
	OtProcFd	Lvst					1.1	93.3
	HotelRest	Lvst					1	94.3
	Mill	ProcMeat	Lvst				0.9	95.2
Target	<=Sector1	<=Sector2	<=Sector3	<=Sector4	Global	Local	Percent	Total
HRur04	Lvst				8.7	3.2	81.9	81.9
	ProcMeat	Lvst					6.5	88.4
	OtProcFd	ProcMeat	Lvst				1.7	92.7
	Mill	Lvst					1.1	89.4
	HotelRest	ProcMeat	Lvst				1.1	94
	OtProcFd	Lvst					0.8	90.2
	Mill	ProcMeat	Lvst				0.5	91

- Higher income groups generally have more indirect linkages to livestock income.

Path Decomposition (3): Rural

Target	<=Sector1	<=Sector2	<=Sector3	<=Sector4	Global	Local	Percent	Total
HRur05	Lvst				36.3	2.4	1.7	1.7
	ProcMeat	Lvst					28.9	30.6
	OtProcFd	ProcMeat	Lvst				6.6	37.2
	HotelRest	ProcMeat	Lvst				6.4	43.6
	PublServ	Labor	HUrb02	ProcMeat			3.9	47.5
	PublServ	Labor	HUrb02	Lvst			3.8	51.3
	PublServ	Labor	HRur01	Lvst			3.4	54.7
	PublServ	Labor	HRur02	Lvst			3.4	58.1
	OtProcFd	Lvst					3.1	61.2
	HotelRest	Lvst					1.4	62.6
	PublServ	Lvst					1.4	64
	Mill	Lvst					1.3	65.3
	Leather	ProcMeat	Lvst				1	66.3
	Silvc	Capital	HRur03	Lvst			0.9	67.2
	FoodCr	Lvst					0.7	67.9
	Silvc	Capital	HRur02	Lvst			0.7	68.6
	Mill	ProcMeat	Lvst				0.6	69.2
	Silvc	Capital	HRur04	Lvst			0.6	69.8
	FoodCr	Capital	HRur03	Lvst			0.5	70.3
	PublServ	Labor	HUrb02	OtProcFd			0.5	70.8

- **This means they may capture a large percentage of gains, even from policies targeted elsewhere.**

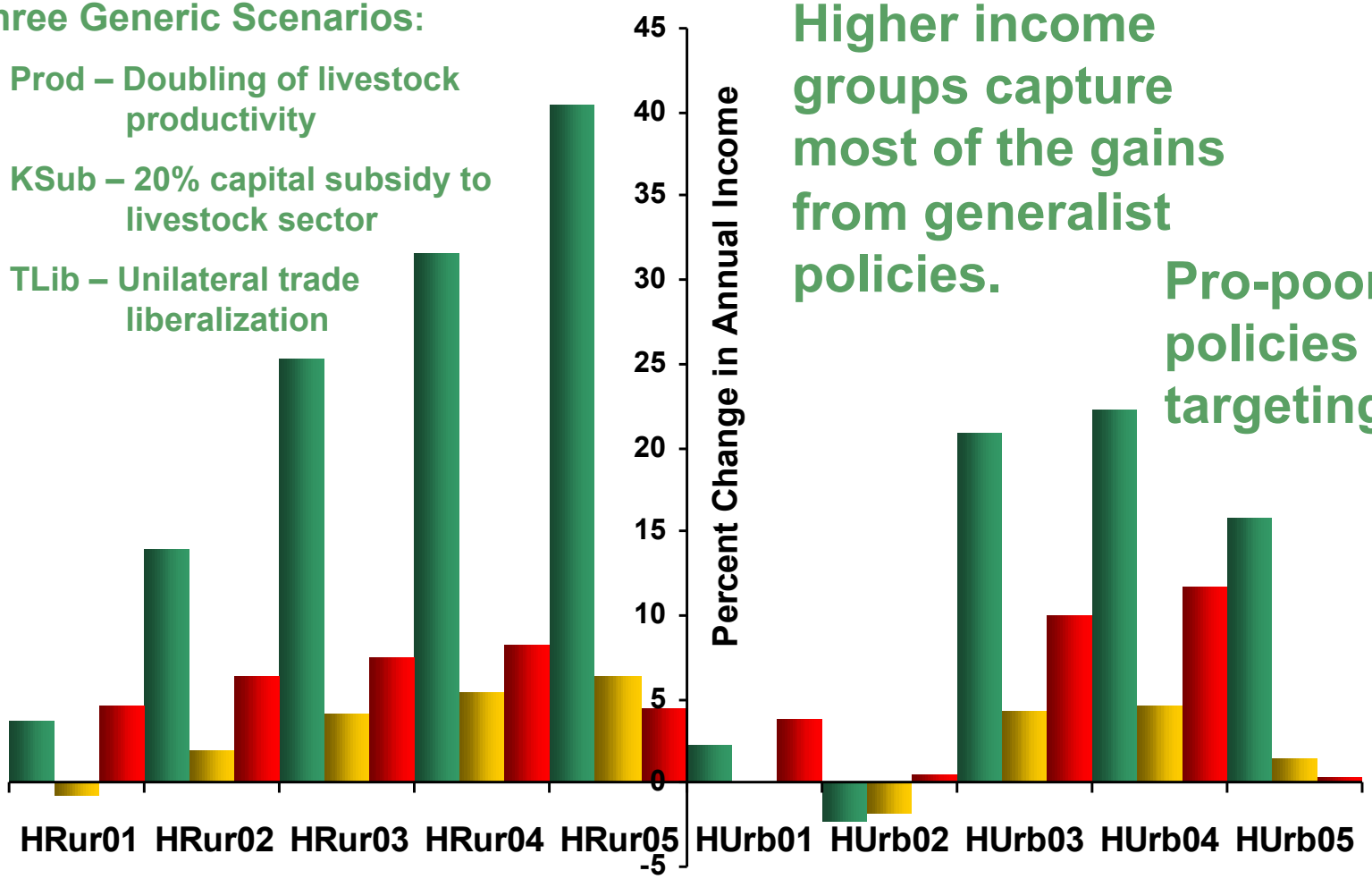
Policy Simulation

- Using simulation models, we can assess a wide variety of policies *ex ante*.
- Because we develop these models with consistent macro-micro datasets, we can evaluate economywide linkages and detailed incidence such as poverty alleviation.
- Here we look at two generic kinds of scenarios:
  - Policies targeted to improve livestock production
  - Policies to improve market access

Simulations of Producer Support and Trade Liberalization: Senegal

Three Generic Scenarios:

- **Prod – Doubling of livestock productivity**
- **KSub – 20% capital subsidy to livestock sector**
- **TLib – Unilateral trade liberalization**



Higher income groups capture most of the gains from generalist policies.

Pro-poor policies need targeting.

DISCUSSION