Livestock Development Goals with an Application to Senegal

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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.
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
2. Livestock Development Goals

- 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.
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.

- 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.
3. Livestock Development Indicators

• Over twenty-five types of indicators have been proposed for each of the LGS, each distilling raw data to better interpret the effectiveness of development policies ex post, concurrently, and even ex ante (using simulation methods).

• The remainder of this talk is devoted to the definition and estimation of indicators that measure progress toward the LDGs as well as multiplier analysis and policy simulation that shows potential poverty impacts of livestock policy.

• Here we will discuss the 4 indicators for the first LDG.
3. Livestock Development Indicators

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
3. Livestock Development Indicators

Senegal: Poverty Headcounts

Senegal: Poverty Headcounts

- Kolda
- Dakar
- Ziguinchor
- Diourbel
- Saint-Louis
- Tambacounda
- Kaolack
- Thies
- Louga
- Fatick
- National

Poverty Headcount Percent

National Averages

National Poverty Line

$1/day

National Poverty Line

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Pro-Poor Livestock Policy Initiative
3. Livestock Development Indicators

Overall and Livestock Dependent Poverty Headcounts, Senegal Global Poverty Lines (LDI2)
3. Livestock Development Indicators

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

Poverty Headcount Percent

Kolda | Dakar | Ziguinchor | Diourbel | Sant-Louis | Tambacounda | Kaoleck | Thies | Louga | Fatick

LD1.2

Percent of Poverty
3. Livestock Development Indicators

Poverty Gaps at the National and Provincial Levels

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<th>Region</th>
<th>Poverty Gap</th>
<th>Provincial Contribution</th>
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3. Livestock Development Indicators

Consumption Shares of the Poorest Income Quintiles

- Kolda
- Dakar
- Ziguinchor
- Diourbel
- Sant-Louis
- Tambacounda
- Kaolack
- Thies
- Louga
- Fatick

Provincial Quintiles
National Quintiles
3. Livestock Development Indicators

Consumption Shares for Provincial Income Quintiles, Overall and LD Population

- **Percentage**
- **Consumption Shares for Provincial Income Quintiles, Overall and LD Population**


- **MDI1.4** and **LDI1.4**

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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.
4. 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.
4. Impact Assessment

Multiplier Decomposition Analysis Results

- Individual global effects are aggregations of extended income-expenditure chains across the economy.
- Higher income groups generally have more indirect linkages to livestock income.
- This means they may capture a large percentage of gains, even from policies targeted elsewhere.
4. Impact Assessment

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

Because of their more diverse linkages to the economy, higher income groups generally enjoy larger multiplier effects.
4. Impact Assessment

Senegal: Income Effects from Livestock

More livestock income goes to higher income groups, but livestock income is more important to Senegal’s rural poor.
4. Impact Assessment

**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
4. Impact Assessment

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.
References & Further Reading

PPLPI Research Reports

PPLPI’s Livestock Development Goals: Application of LDG1 to Peru, Senegal and Viet Nam
Livestock & Livelihoods: Development Goals & Indicators applied to Senegal
Integrated Poverty Assessment of Livestock Promotion: The Case of Viet Nam
Pro-Poor Livestock Policies: Which Poor to Target?

For more information please visit the PPLPI website:
www.fao.org/ag/pplpi.html
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