

Livestock Master Plan (LMP): Roadmaps for the Ethiopia Growth and Transformation Plan (GTP II - 2015-2020)

The Livestock State Ministry, MOA and ILRI



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Livestock Sector Analysis (LSA) & Livestock Master Plan (LMP) Process

- Making a LMP required quantitative sector analysis – creating a sector model for long-term livestock sector analysis (LSA)
- Over 50 specialists were consulted on **data and parameters** for animal productivity, value chains and cross-cutting issues
- A national data base and baseline (depicting the current situation – 2013 and 2015) were created
- Potential interventions were identified– combined policy and technology -- and tested ex-ante over the long-term (15-year) and 5 year planning
- Foresight scenario analysis was done on the interventions

A Technical Advisory Committee (TAC) was also set up and met regularly to give advice on the project activities and outputs and oversee progress – created buy-in and ownership



LSA pre-test of possible interventions against indicators of GOE Goals for GTP I & II

Potential LMP intervention impacts were assessed against Ethiopian Government development objectives for GTP II -- measured by livestock development indicators using the livestock sector model built on a herd model.

The GTP objectives are the following:

- Reducing poverty (household income)
- Achieving food security (production-consumption balance)
- Contributing to economic growth (GDP)
- Contributing to exports (foreign exchange earnings)
- Contributing to climatic sustainability (GHG emissions)

Development of the Ethiopia LSA was a fully **consultative process** to get expert advice and stakeholder ownership – ensure agreement on approach, data, parameters, and results



The Six Key LMP Commodity Value Chains and cross-cutting activities

Cow dairy

1. Improved **Family Dairy** systems (IFD) in MRS and MRD dairy belts (peri-urban)
2. **Specialized Dairy** Production (SP Dairy)

Red meat (and milk) from cattle, sheep, goats and camels

3. **Improved Family** Red Meat-Milk (ITMM) systems in all production zones (MRS, MRD and LG)
4. **Specialized Beef** Cattle Feedlots (SPF)

Poultry

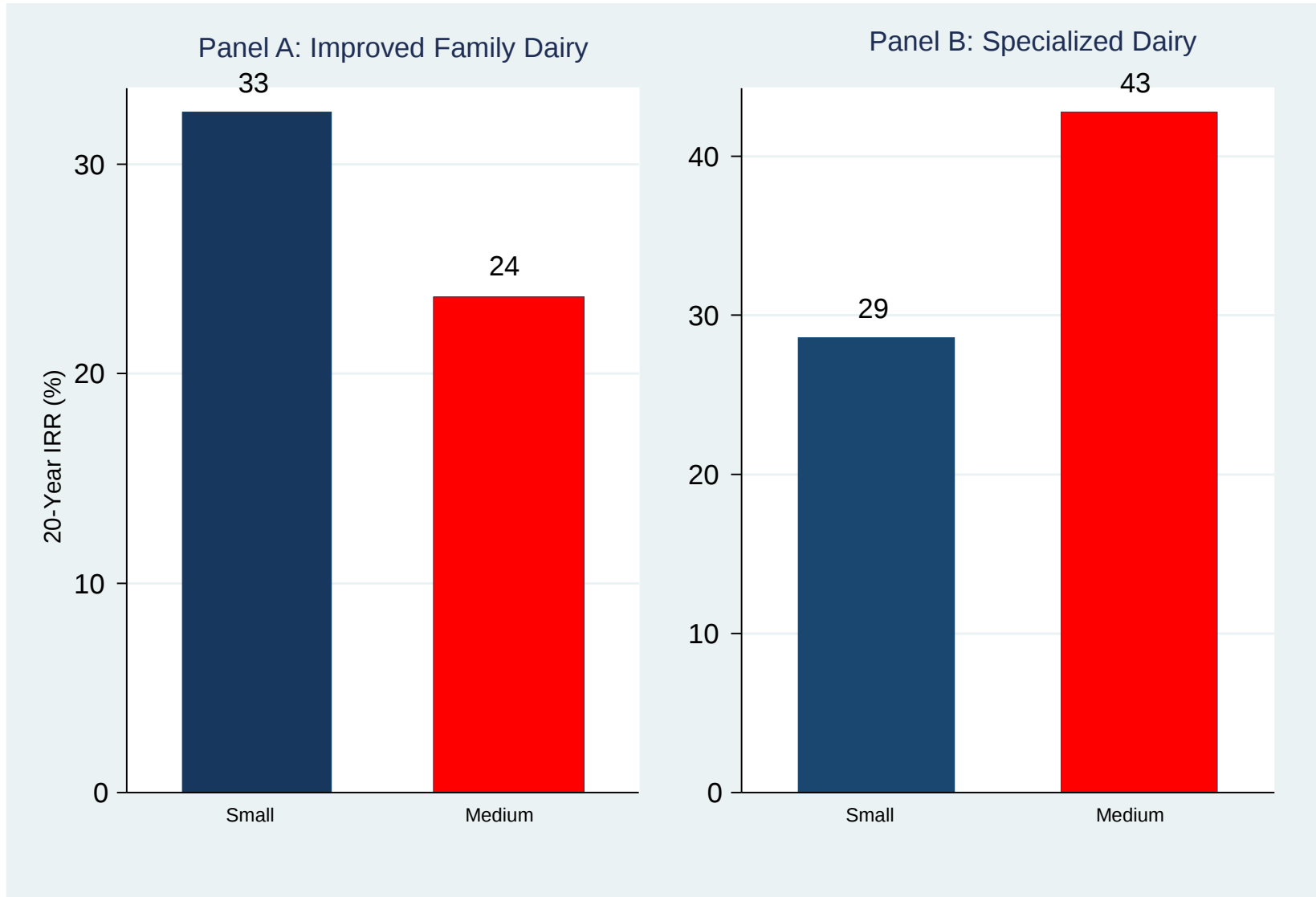
5. Improved **Family Poultry** (IFP) in all production zones (MRS, MRD and LG Agro-pastoral)
6. **Specialized Poultry** (SPP) – Broilers and Layers

Cross-cutting activities within each value chain

- Animal Health
- Animal Feed
- Animal Genetics
- Policy



Impacts of Investments in Improved Family Dairy (IFD) in MRS and Specialized Dairy (SPD): Internal Rates of Return (IRR) over 20-Years , 2013-2028





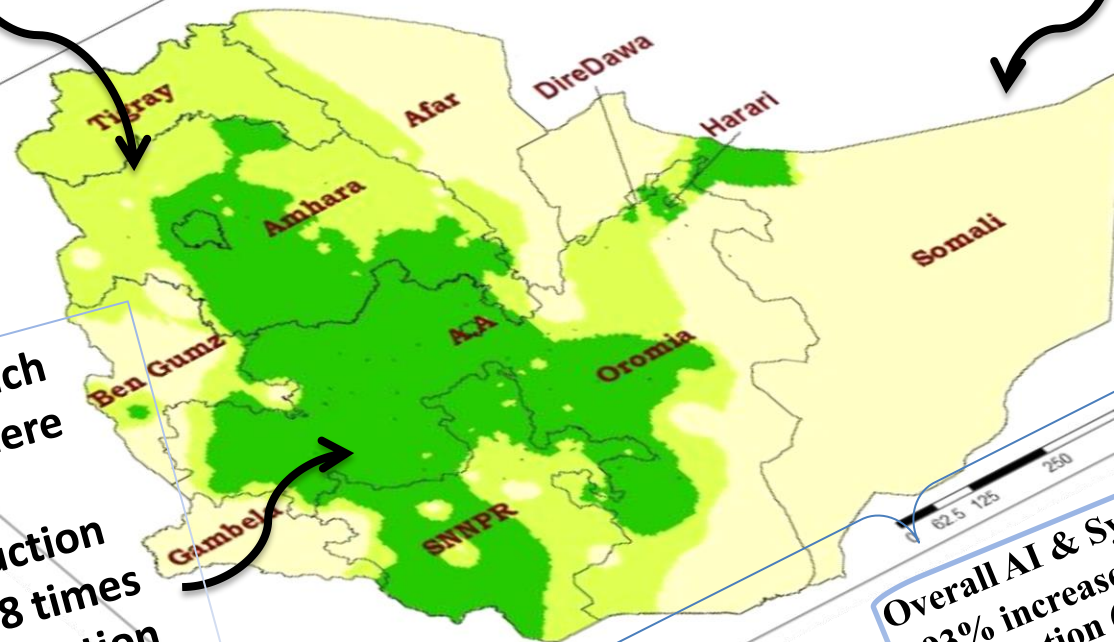
Impacts at national and regional levels of AI & Synchronization

In MRD, AI & Synch worked in per-urban areas and milk sheds

In LG, AI & Synch Not right for breed improvement

In MRS AI & Synch works everywhere

- IRR = 33%
- Milk production increases 8 times
- GDP contribution increases 10 times



Overall AI & Synch Results:

- 93% increase in national milk production (4 B to 7.9 B liters)
- Cow milk contribution to GDP increases from 28 B to 52.9 B ETB.
- 2.5 B liter surplus



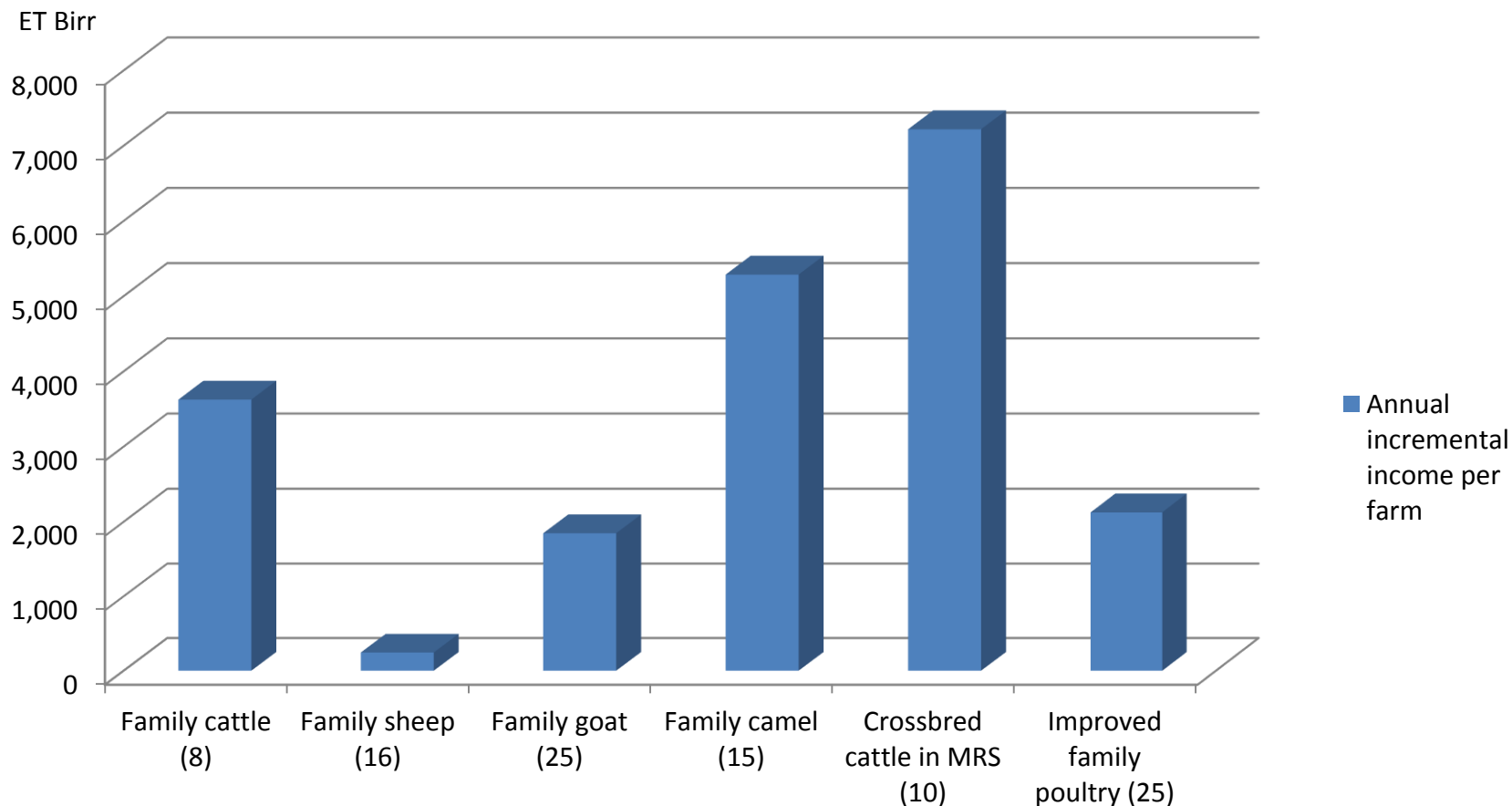
Similar results for red meat and poultry

- Red meat (and milk) from cattle, sheep, goat and camel
 - Improved Traditional Red Meat-Milk (ITMM) very profitable in all production zones (MRS, MRD and LG)
 - Specialized Beef Cattle Feedlots (SPF) very profitable
- Poultry
 - Improved Family Poultry (IFP) very profitable in ALL production zones (MRS, MRD, LG Agro-pastoral)
 - Specialized Poultry (SPP) very profitable – Broilers and Layers



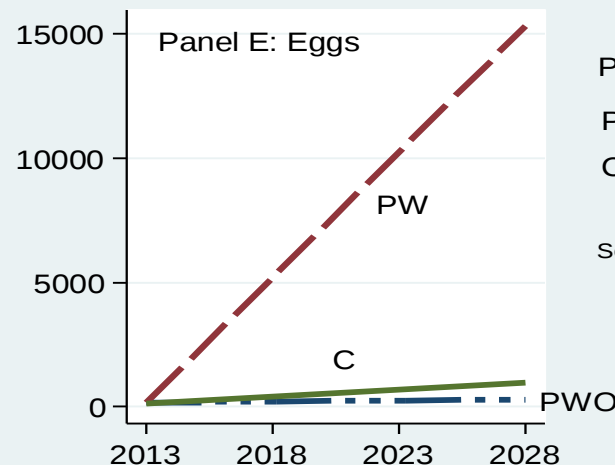
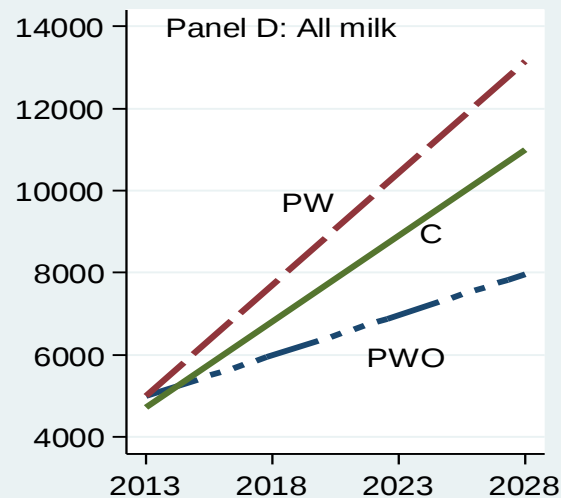
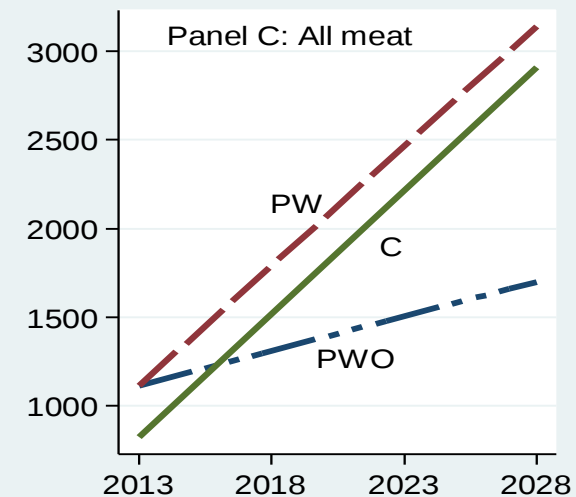
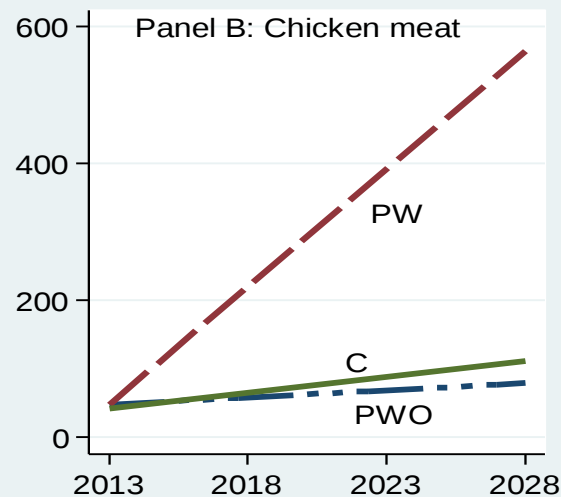
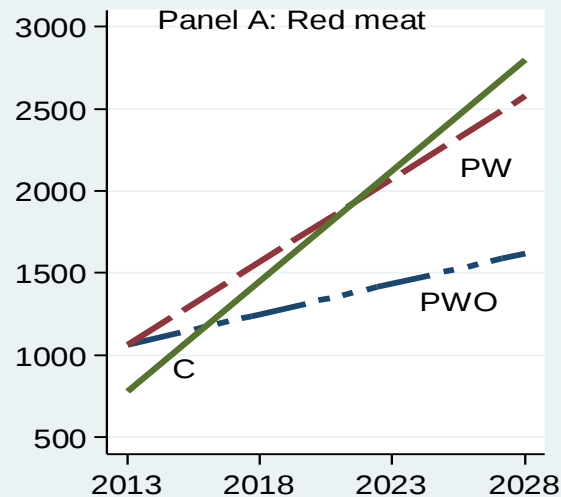
Annual farm-level increases in income due to proposed investment interventions in family cattle, sheep, goats and camels

Annual incremental income per farm (ET Birr)





LSA results changed MoA opinion on domestic and export potential of livestock & products



Legend:

PWO= Production without intervention

PW=Production with intervention

C= Consumption

Source: Based on LSIPT results.

Production-Consumption
Balance

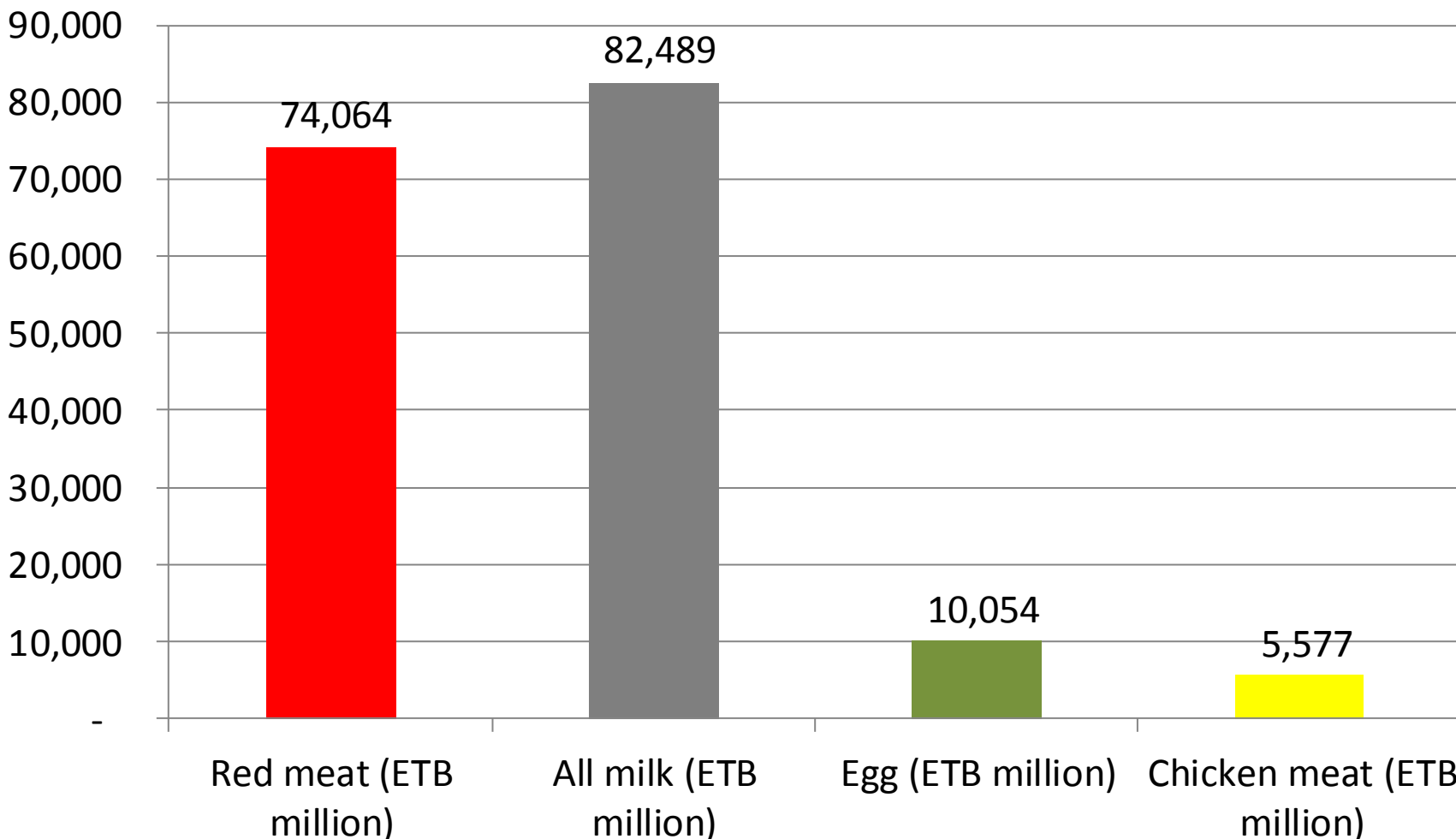


Framework of the LMP roadmaps -- based on LSA results

- Baseline for 2015
- 5-year GTP II development targets (2015-2020)
- Challenges and strategies
- Ex-ante testing of LMP interventions to achieve targets
- LMP impacts – Return on Investment (ROI), GDP, production-consumption balance
- Investment requirements (financial and human resources)
- Activities timeline and sequencing
- Complimentary success requirements (policy)

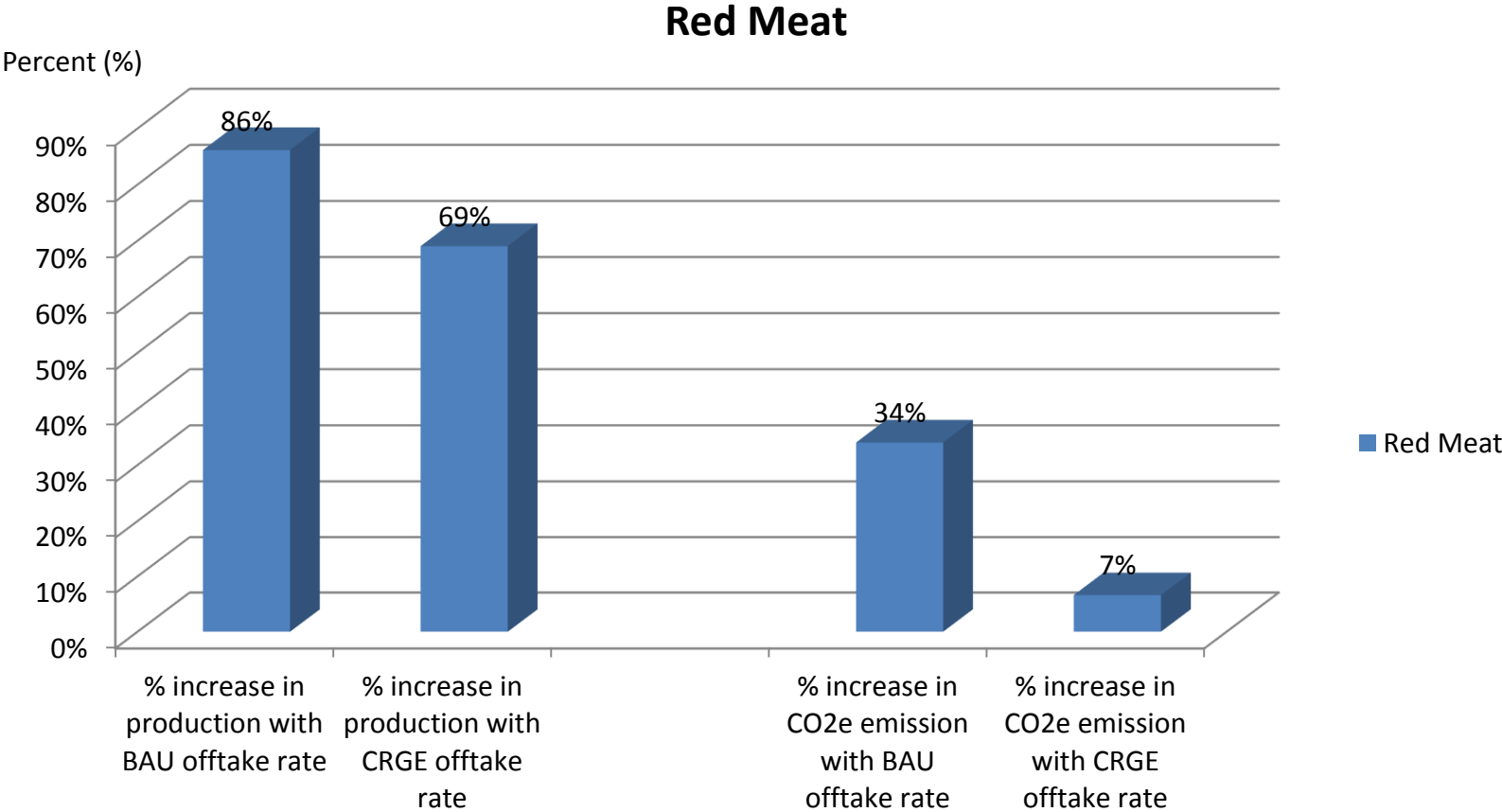


GDP contribution from LMP interventions for milk, red meat, and chicken meat and eggs



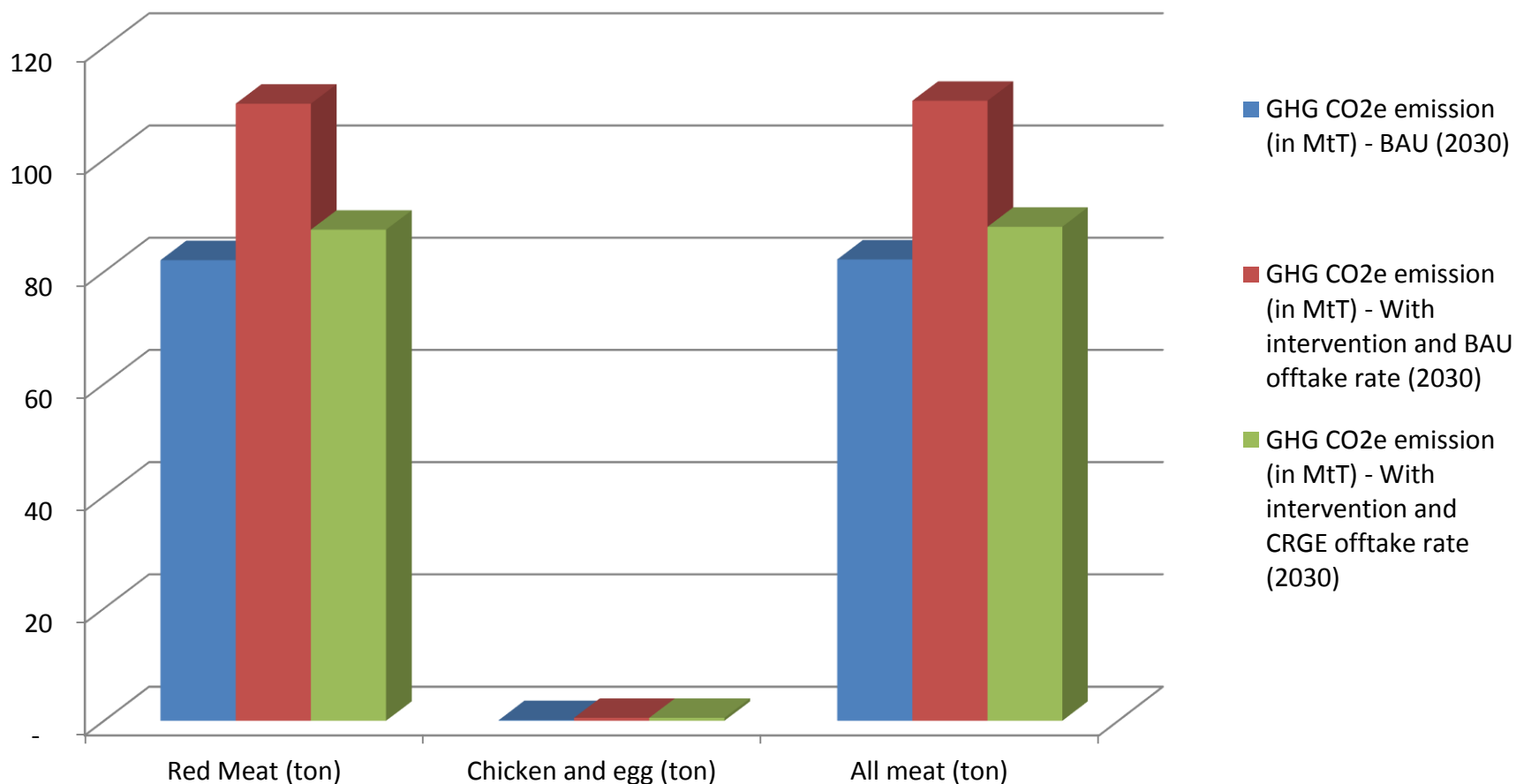


Percentage increase in **Red Meat** production and CO₂e emissions from interventions with “business as usual” (BAU or LMP) and CRGE offtake rates (%)





GHG (CO₂e) emissions from BAU (without intervention) and with interventions with LMP and CRGE offtake rates (in Mt ton)





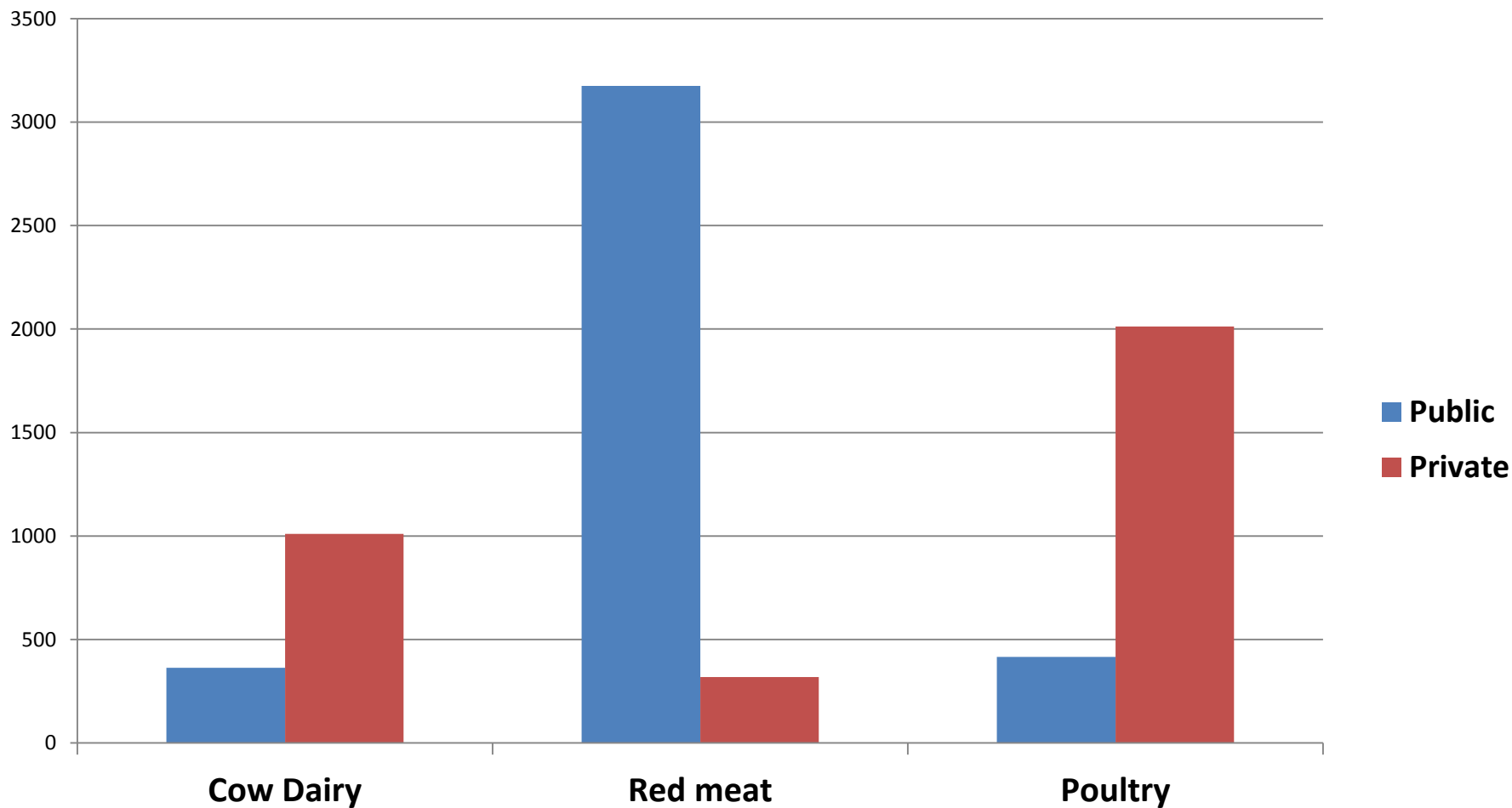
What do LMP results mean for the GTP II

Government livestock development policy goals need to avoid significant trade-offs:

- If invest in all LMP interventions GOE could eliminate poverty in 2.35 million livestock keeping households
- Focus on poultry development to achieve better food security, enable red meat exports, and lower GHG emissions
- Combination of cattle and poultry can lower domestic meat prices, while increasing exports and foreign exchange earnings
- Focus on dairy development to achieve food security in domestic markets and also increase export earnings



Public (including donors) and Private investment shares by major value chains (ETB Millions)





What is needed for the PRIVATE SECTOR to play its investment role in GTP II

Success in these interventions during GTP II will require full participation of the private sector:

- Value adding processing by Private Sector is crucial for success
- Need to attract and enable very substantial private investment in livestock product production and processing
- Need dramatic improvement in the investment environment (streamline investment process for agribusinesses)
- Land made available for livestock investments – production, processing, growing animal feed, etc.
- Need more attractive incentives private investment -- subsidized land leasing rates, low interest loans, tax holidays



LMP Research Priorities

Priority research areas to implement the LMP include:

- Selection to improve indigenous red meat animals and on-farm record keeping
- Better cross-breeding of dairy cattle and small ruminants
- Improved family poultry and camel improvement
- How to manage/improve rangelands in pastoral areas
- Developing new poultry lines using indigenous and exotic breeds
- How to reduce animal traction and mechanization
- Ensuring that research has impact - learning how to scale up technologies
- Impact assessment to support better policy decisions
- Improving seed and feed options for livestock producers
- How to improve livestock and livelihoods data, esp. in pastoral areas



The Core LMP Team – MOA, EIAR & ILRI



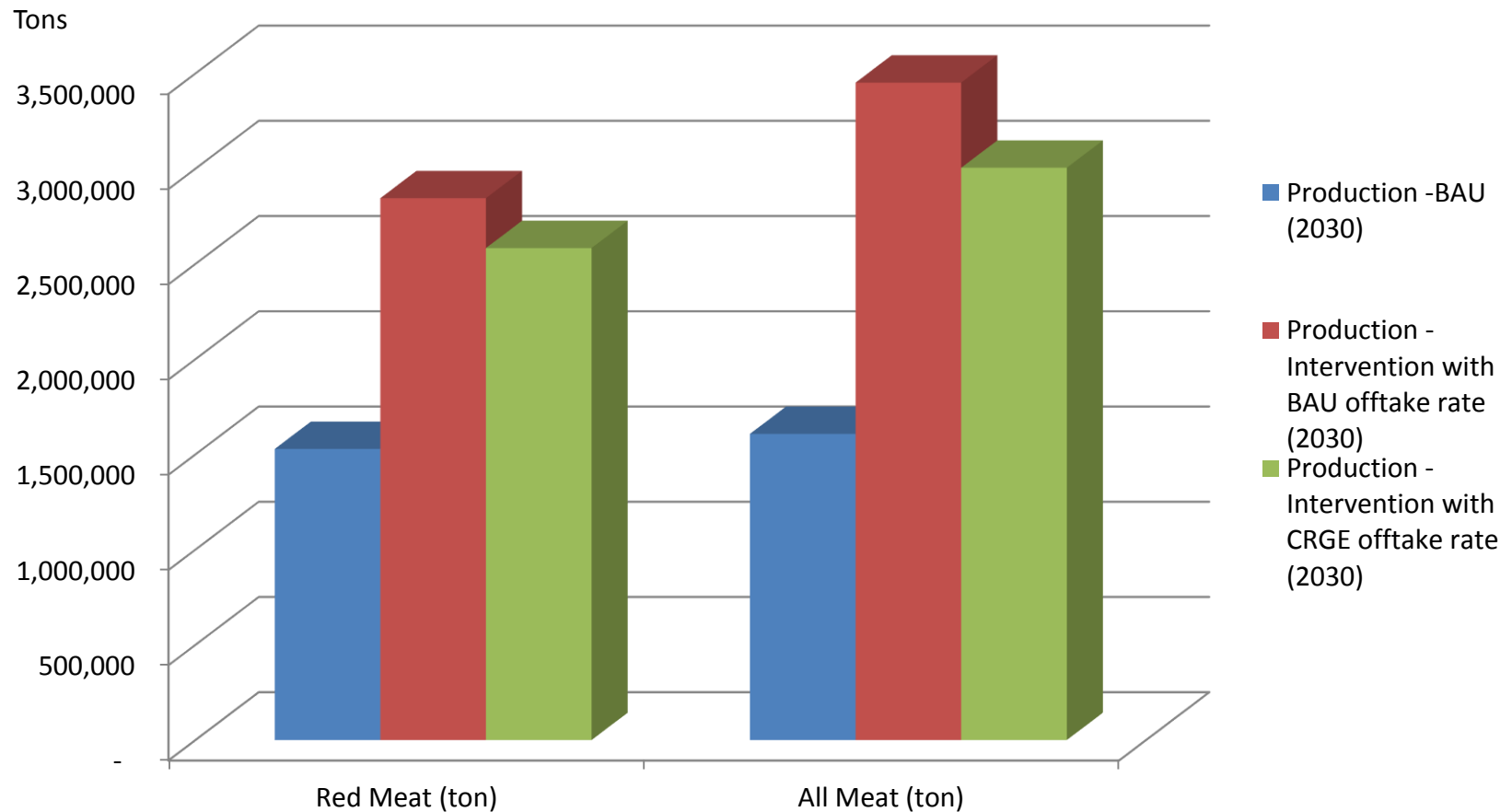


MoA Reaction to LMP

- The Agriculture Minister said “GOE will adopt and implement the LMP”
- Livestock State Ministry owns the LSA, GTP II and LMP
- Results taken as realistic, fact-based to inform investment decisions (based on GOE criteria: poverty reduction, food and nutrition security, or economic growth, or combination of all)
- Committed to expand the use of the tool in planning, policy analysis and research



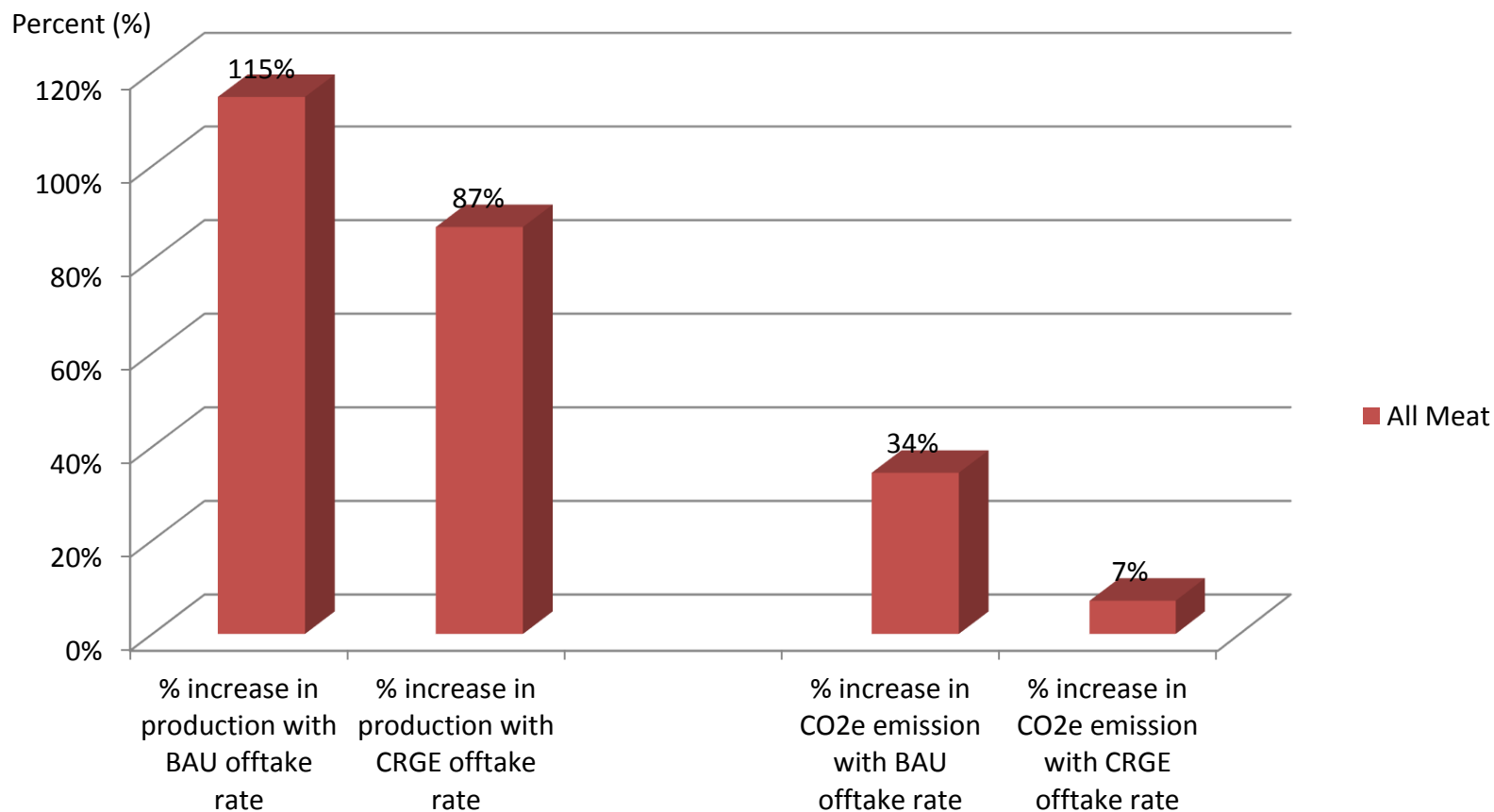
Red Meat production from BAU (no investment) and with intervention - with LMP and CRGE offtake rates (in tons)





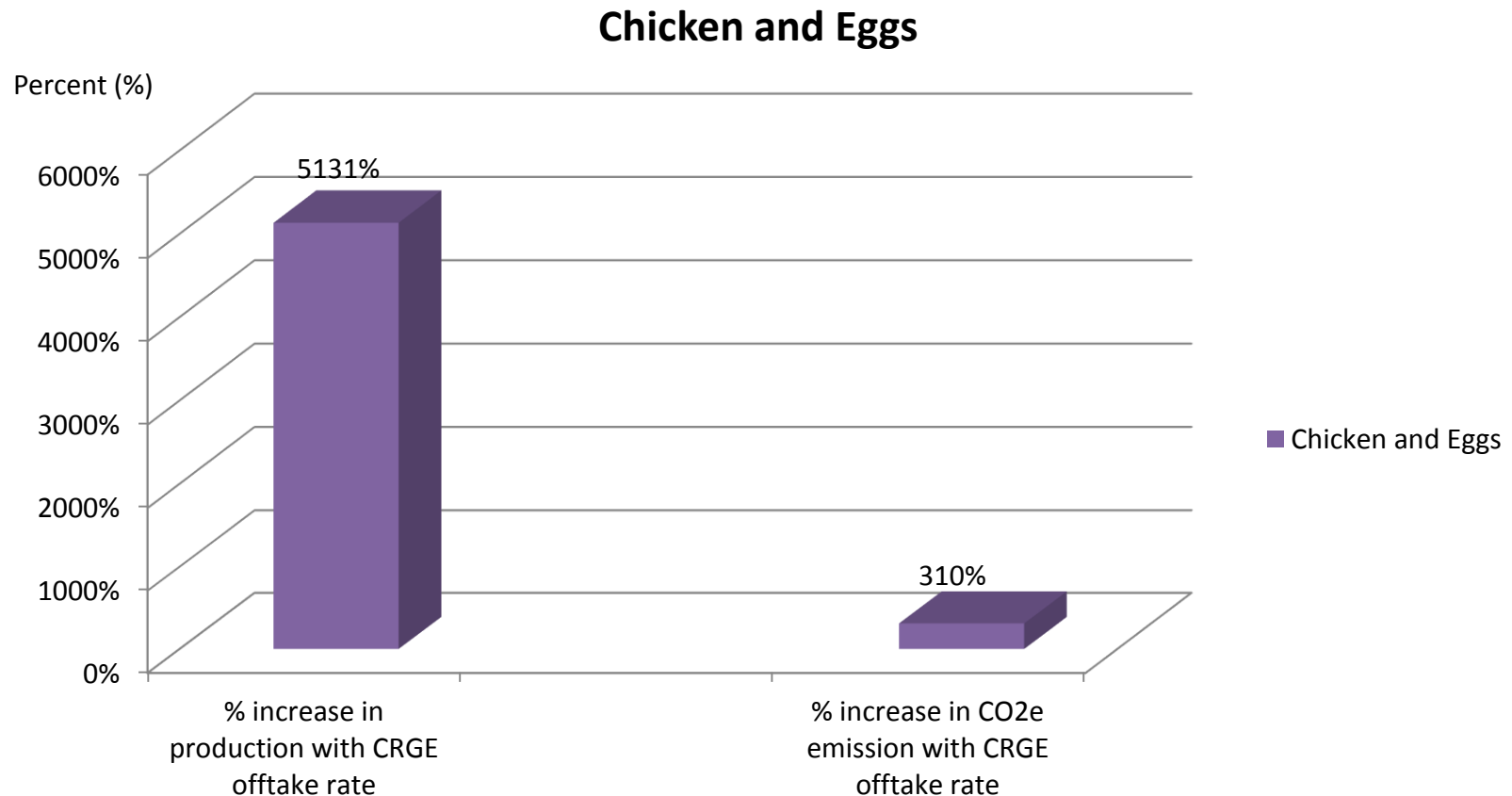
Percentage increase in **all meat** production and CO₂e emission from interventions with BAU (LMP) and CRGE offtake rates (%)

All Meat





Percentage increase in **Chicken Meat and Eggs** production and CO₂e emission from interventions with BAU (LMP) and CRGE offtake rates (%)





Percentage increase in **cow milk** production and CO₂e emission from interventions with CRGE and BAU offtake rates (%)

