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SAND2010-7424C

ENERGY, WATER AND AGRICULTURE

The Foundations for 21st Century Development

October 21, 2010

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THE CHALLENGE

- ✓ Water shortages, energy scarcity, food and nutrition insecurity, and poverty destabilize nations and threaten peace around the world

- ✓ Water, energy, and agriculture make the backbone that supports human civilization
  - alleviating global poverty
  - reducing global tensions
  - addressing global environmental degradation, and
  - providing the basis for improving public health and social well being

- ✓ The accessibility, availability, and affordability of energy, water, and food supplies are inexorably interlinked

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A RADICAL CHANGE IN APPROACH IS NEEDED

...in both developing and developed countries

- ✓ The current development paradigm has serious limitations
- ✓ Historical development patterns are unsustainable
- ✓ Development efforts must
  - ✓ allow developing countries to lead themselves,
  - ✓ to increase internal capacity
  - ✓ improve their infrastructure for energy, water, and agricultural production
  - ✓ Integrate across

A NEW APPROACH TO DEVELOPMENT

• On this slide, emphasize the technical approach, the collaborative part, and the Malawian leadership

•Human, technical and financial resources need to be systematically expanded if substantial progress is to be achieved.

following different policies and investment programs

• To accelerate economic development governments need to
  - ✓understand the impacts and
  - ✓assess the benefits of

- The process would enable the participating countries to develop the policies, programs and institutional arrangement that will attract capital to support sustainable development

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THE PROCESS

- ✓ Multi-sector national stakeholder team will guide, inform, and direct the planning process with funding from partner institutions
  - collaborative
  - stakeholder-driven
  - transparent
- ✓ The process will produce a long-term roadmap for sustainable development of infrastructure and capacity
- ✓ National stakeholder team will plan and monitor implementation, including
  - institutional development
  - loans, investments and incentives
  - international partnerships
  - training and education programs
  - schedule, milestones, success metrics

Iraq Water Modeling; A Case Study

C/FGI-MOD

Strategy for Land and Water Resources in Iraq (SLWRI) Water Systems Planning Model

A simulation tool for long term water planning developed collaboratively by:

Iraq Ministry of Water Resources,
US DOS Iraq Transition Assistance Office,
UNESCO, and Sandia National Laboratories

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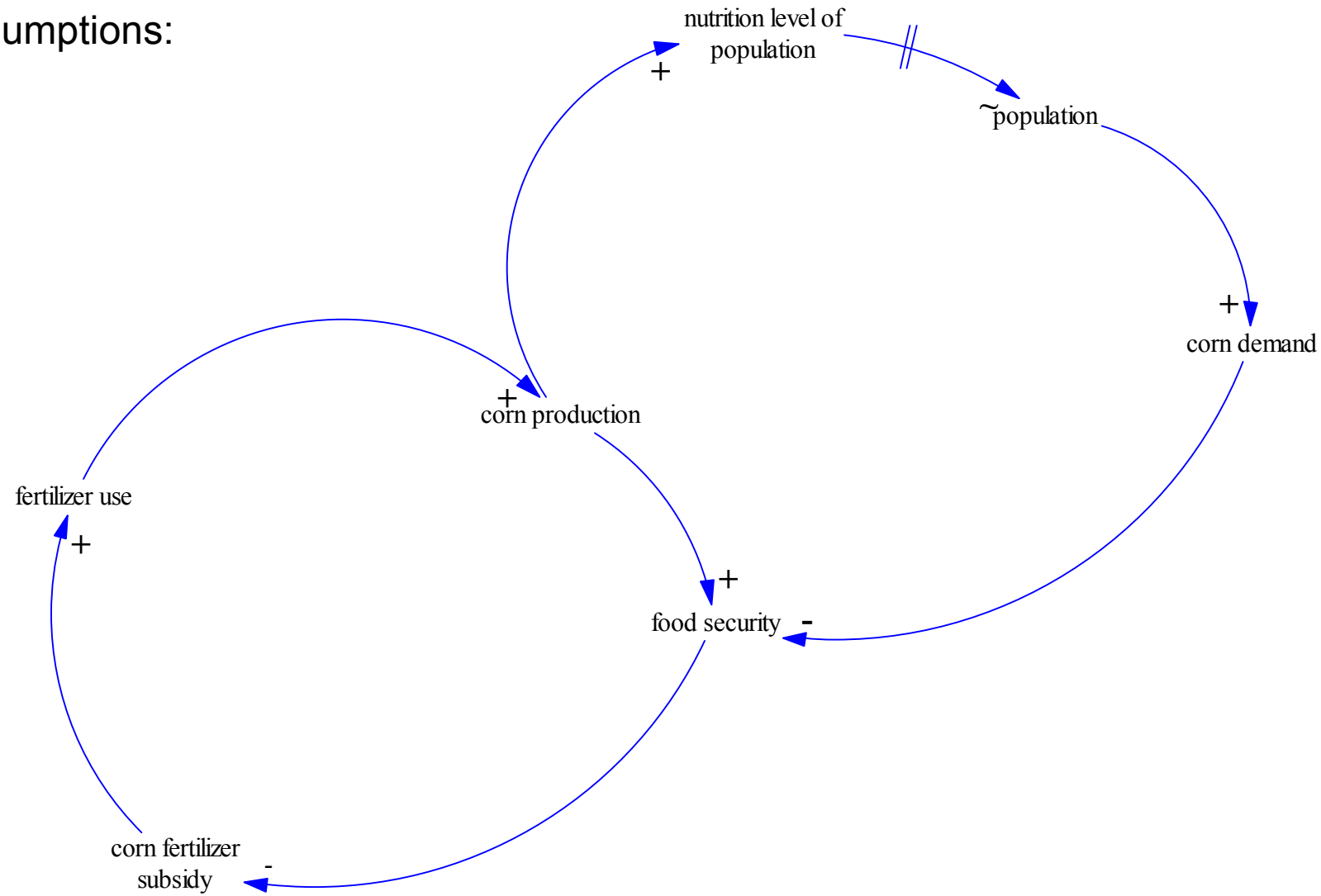
MALAWI - CAUSAL LOOP DIAGRAM

Assumptions:



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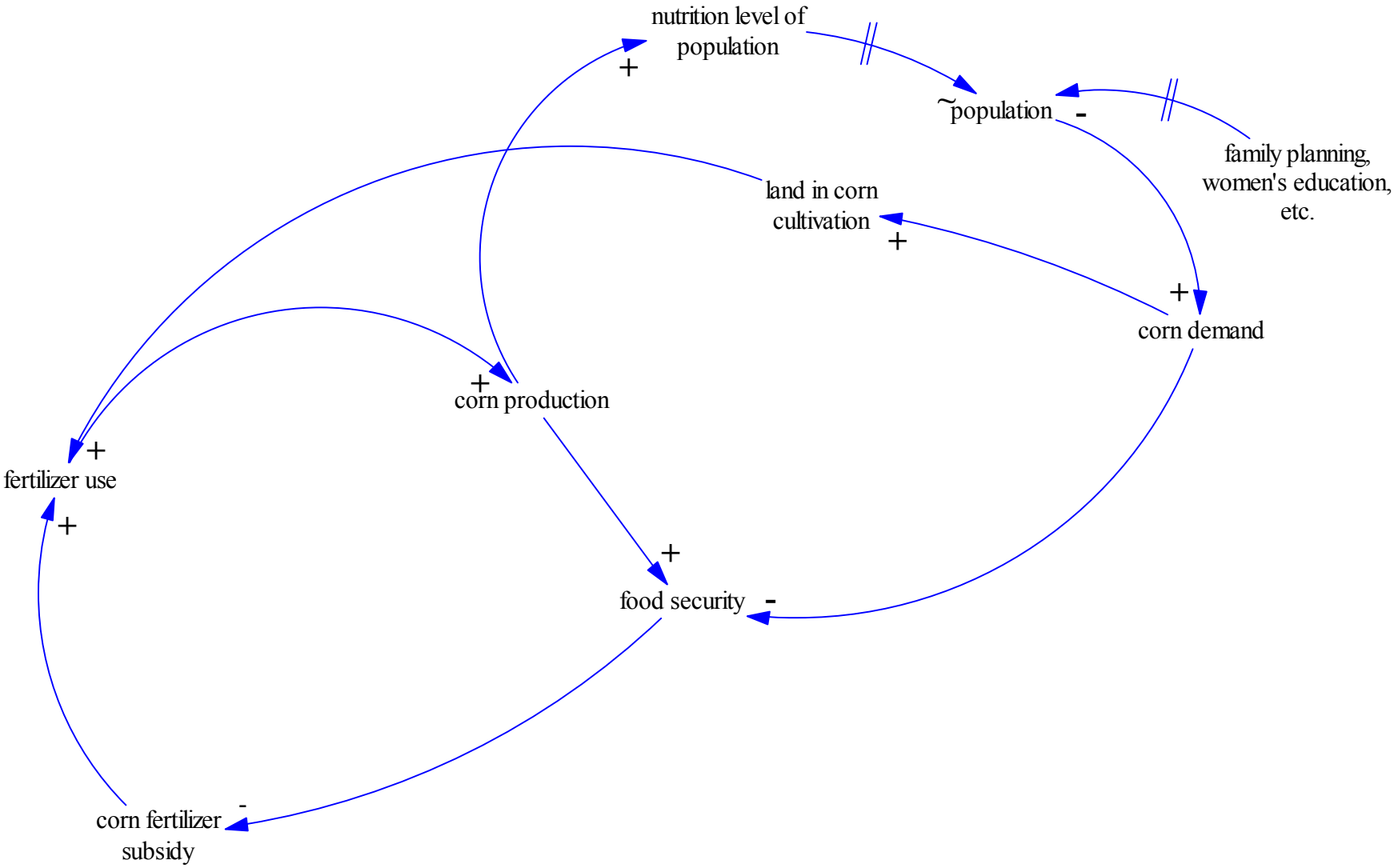

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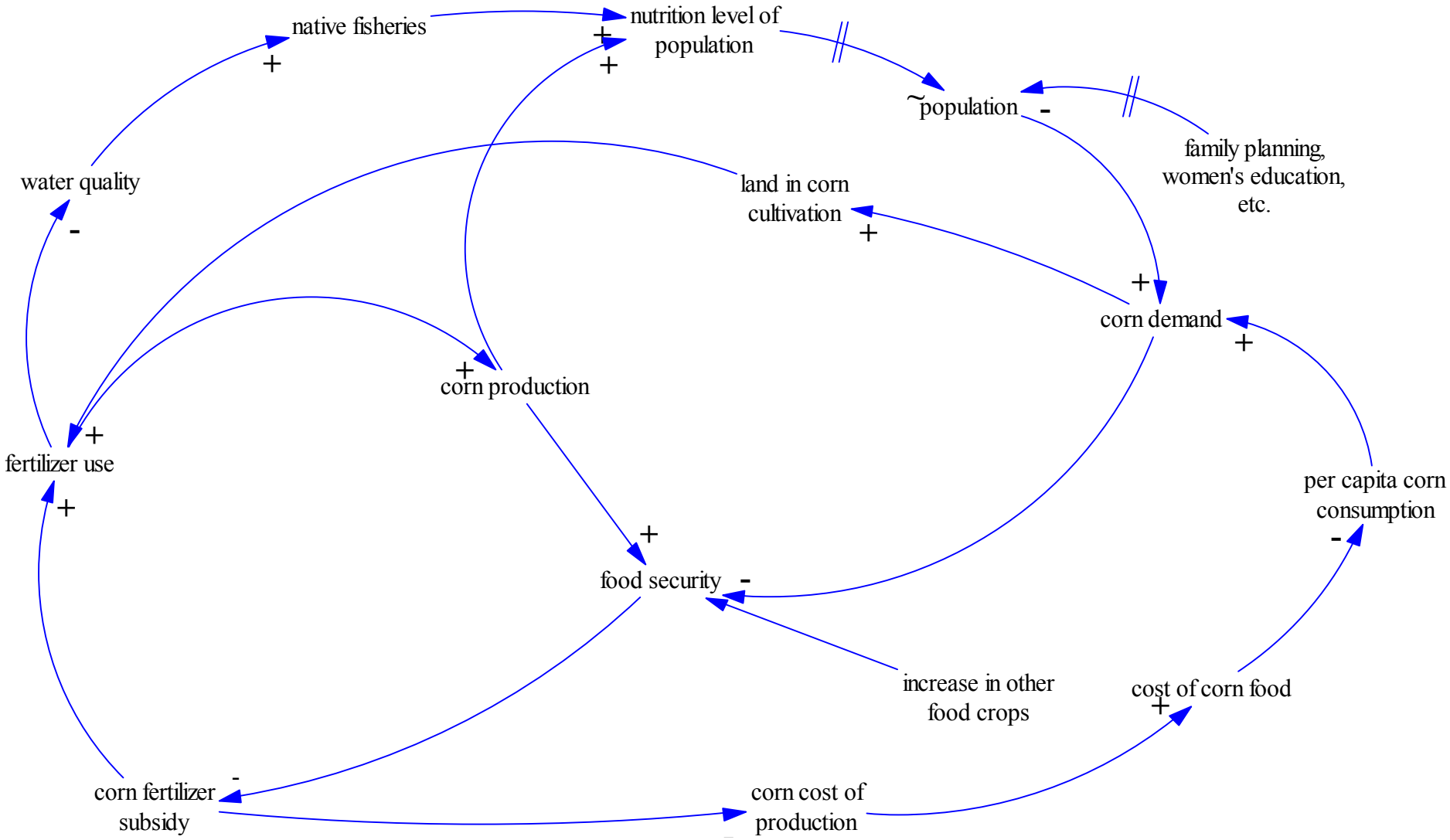

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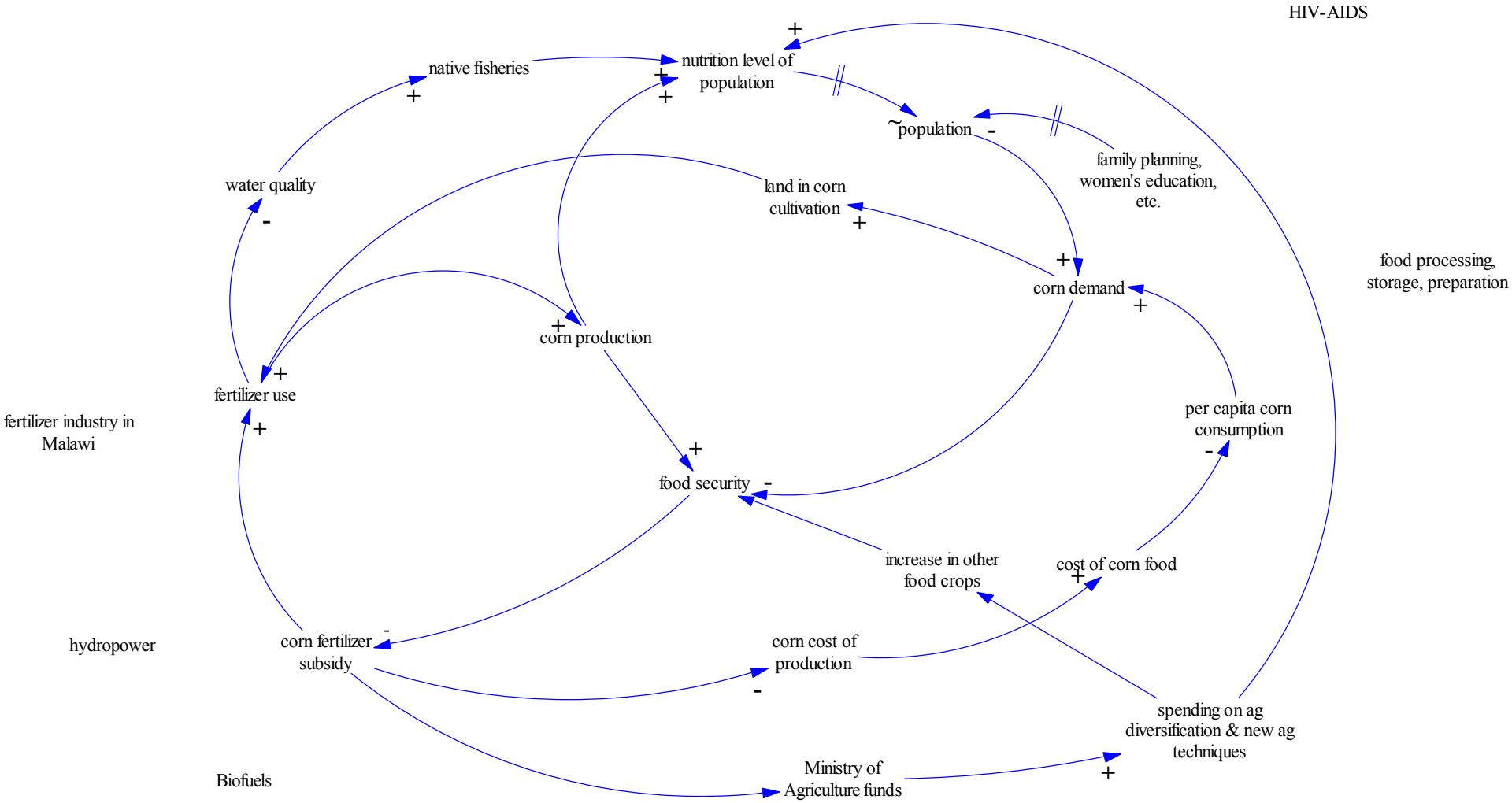

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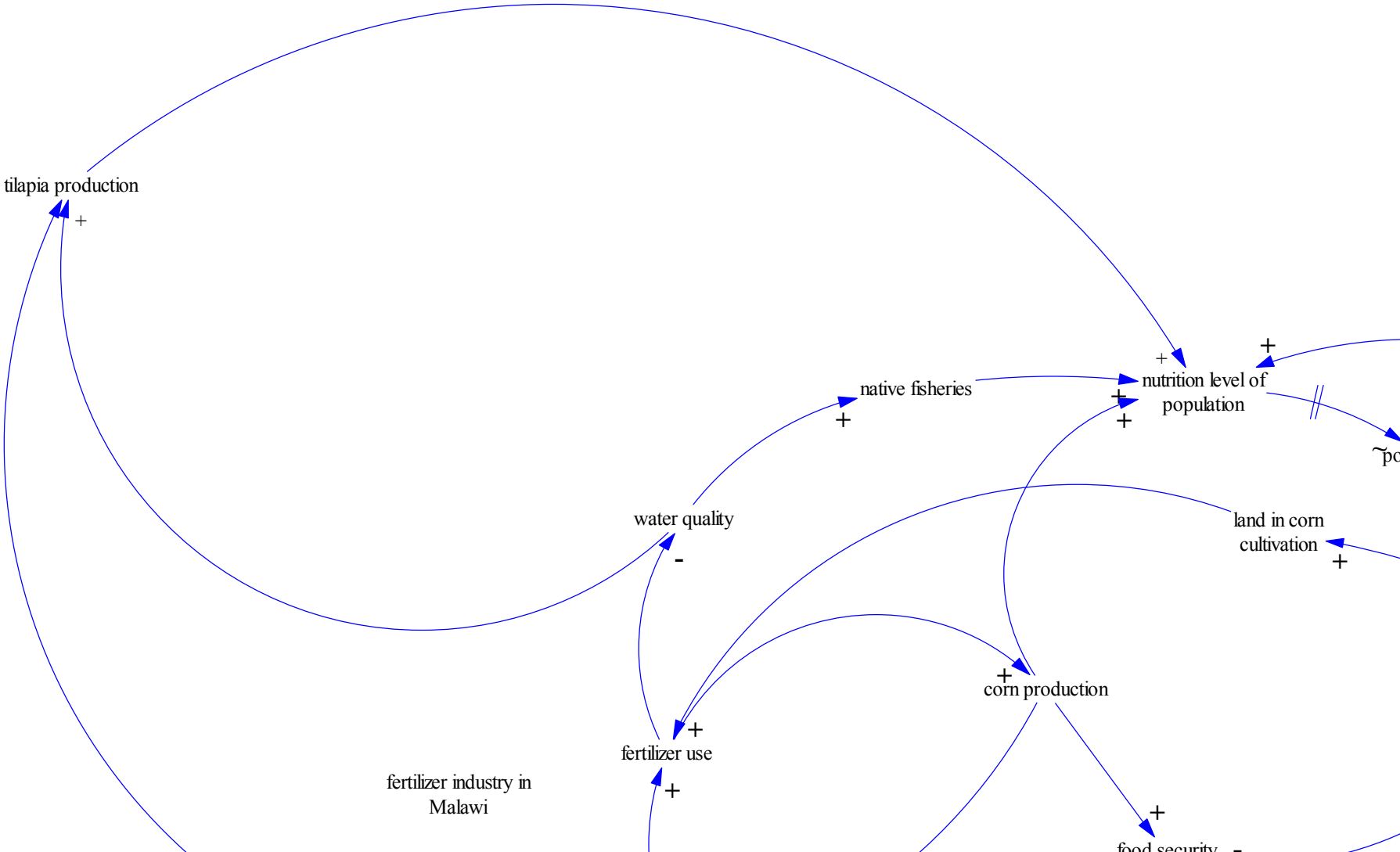

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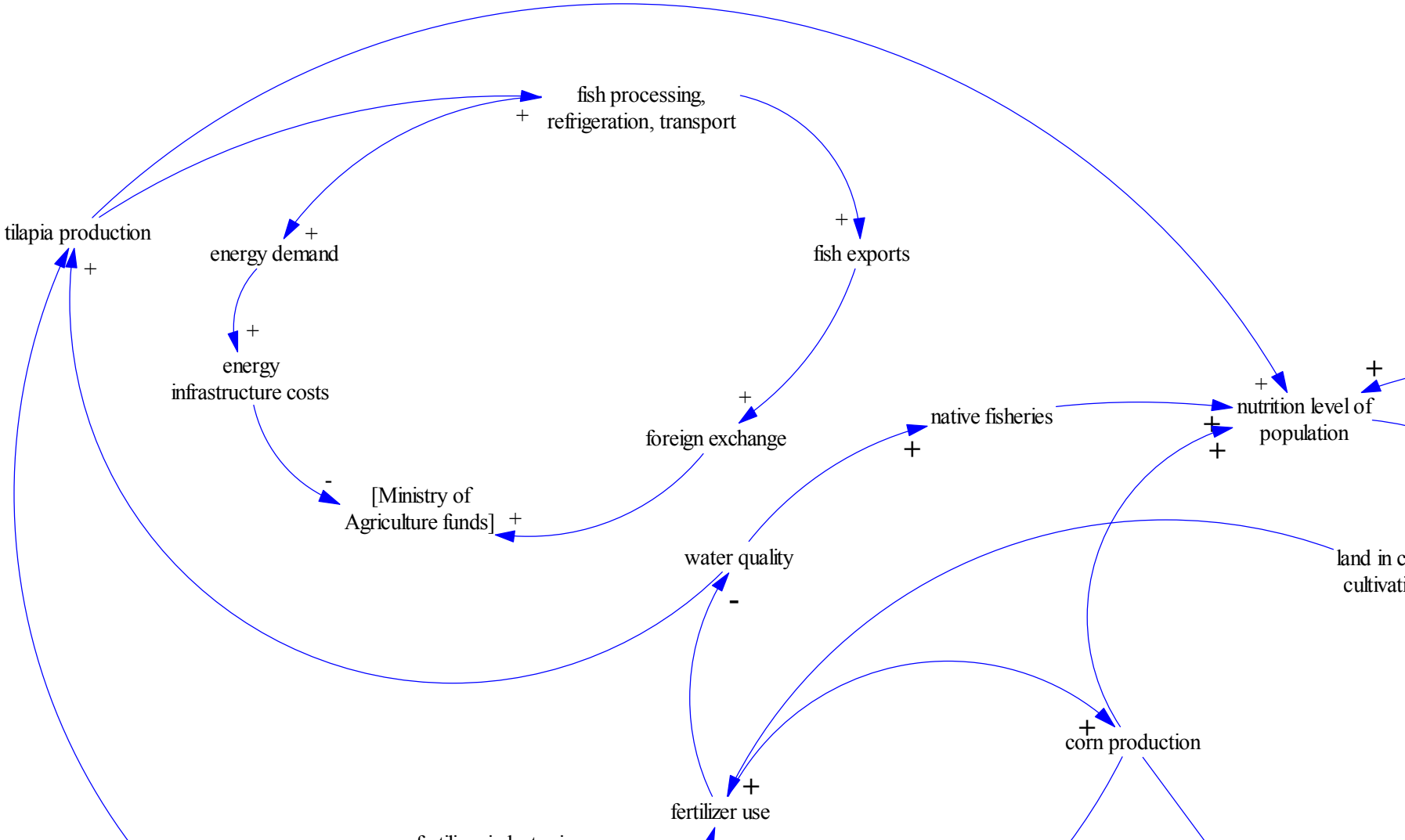

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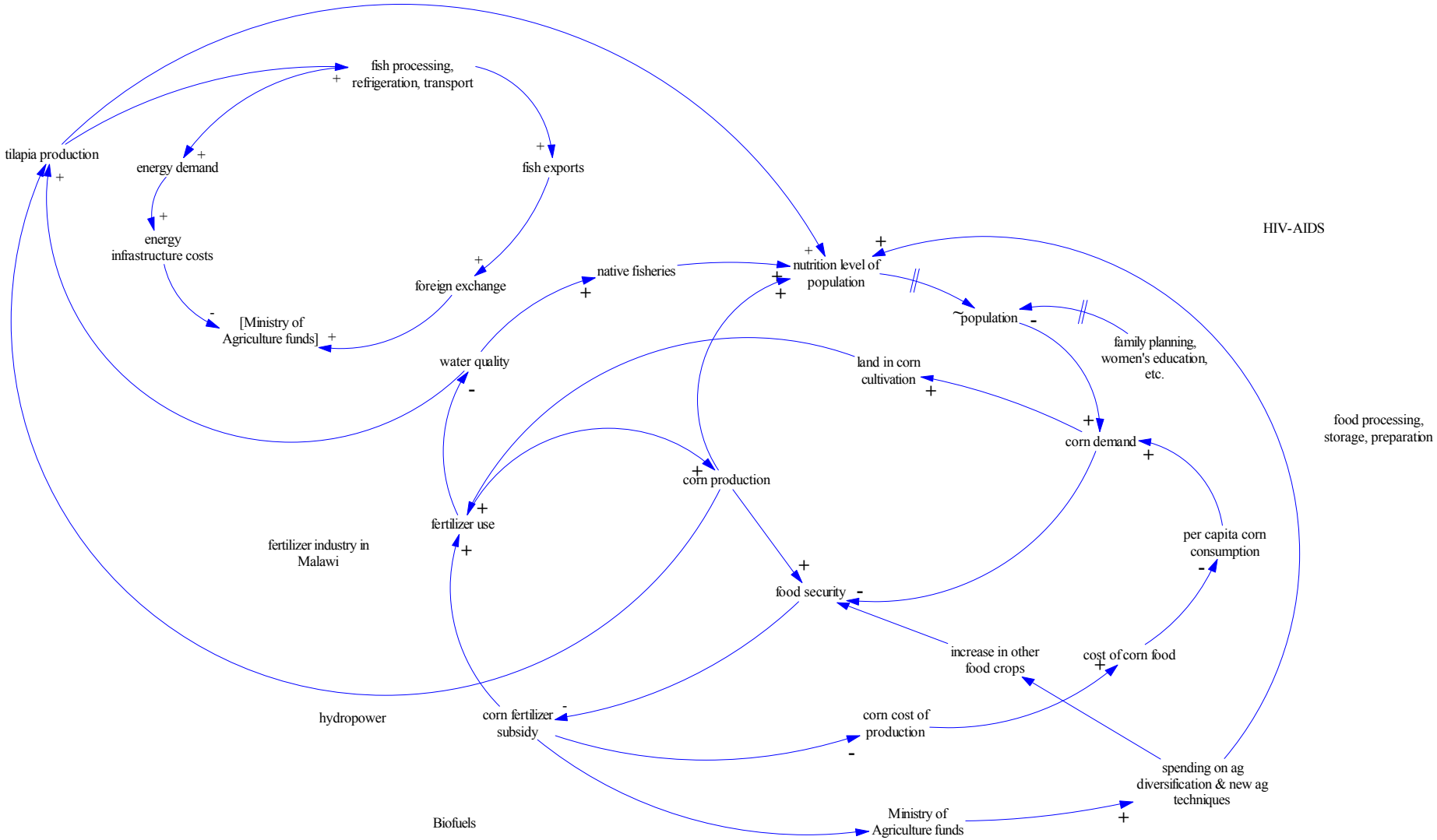

MALAWI - MATRIX

Sector		Agriculture		Energy		Water	
		Inst/Org	**Data**	**Inst/Org**	**Data**	**Inst/Org**	**Data**
Public	**Govt**	*MOAI*	Fertilizer Need/ Use Yield data	MoEM		*MOAI*	
		NFRA *SGR*	Local and international food prices				
		ADMARC	Food/seed prices data	*ESCOM*			
		MASAF	Access to cash economy data				
		DPDMA	Population, Disaster data				
		FSJTF	Coordination Funding data				
	NGO						
Private							

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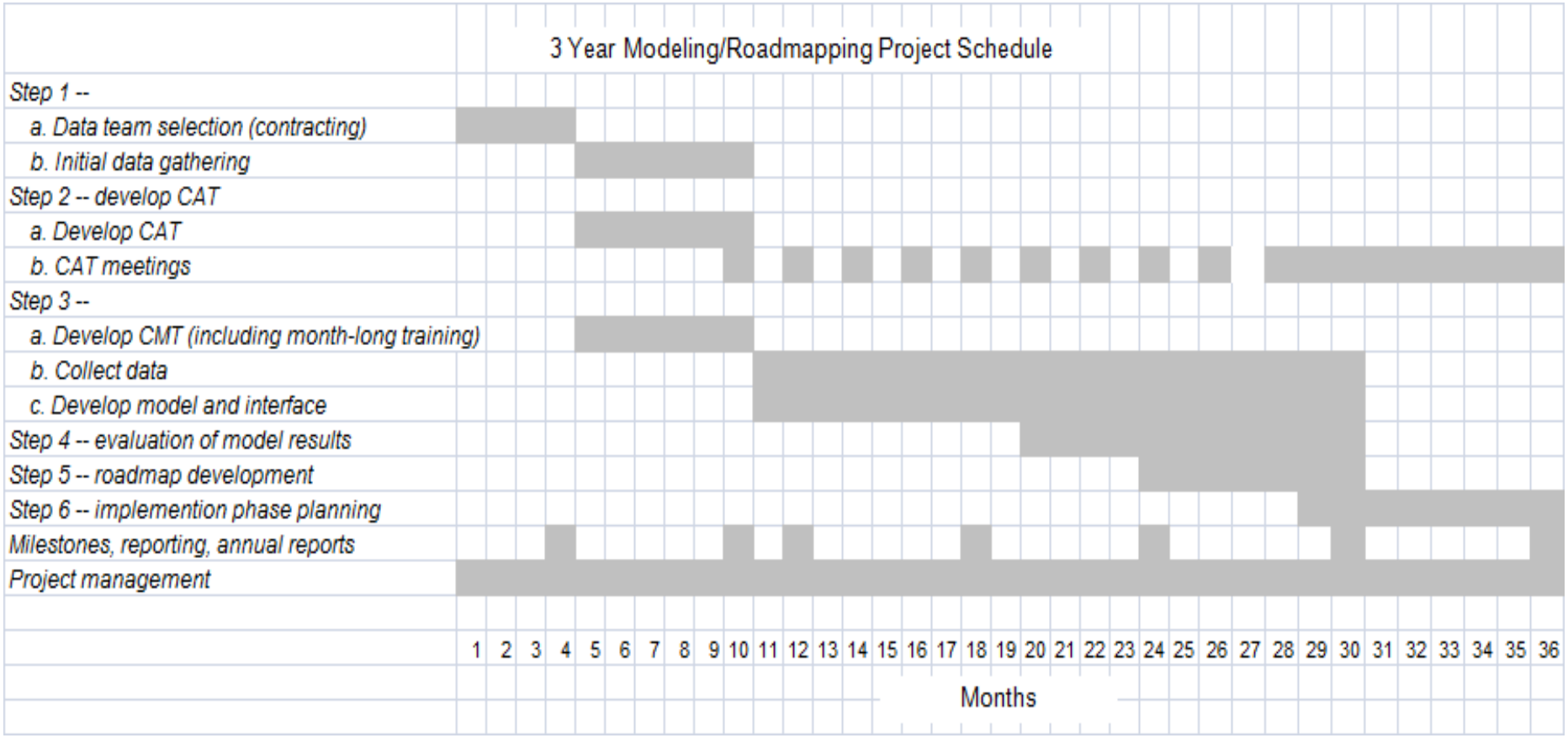
DRAFT OVERVIEW OF PROJECT IMPLEMENTATION



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ADVANTAGES AND FEASIBILITY

- Within the participating countries, the process will:
  - ✓ facilitate bottom-up, transparent, integrated, multi-sector economic, social, and political development
  - ✓ increase technical capabilities
  - ✓ build long-term, high-level, planning, and leadership capacity for the energy-water-agriculture sectors
  - ✓ allow for dynamic adaptation to new information and changing technology
  - ✓ Use of model improves credibility and access to international, private financing

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PROCESS OBJECTIVES

- ✓ Facilitate the flow of technology and capital to enable the development of integrated energy, water, and agriculture infrastructure, guided by Malawi
- ✓ Facilitate the establishment of policies needed to achieve long-term sustainable development

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Next Steps

- Confirm Malawian interest
- Confirm USG support


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