



Tanzania Horticulture Cold Chain

Sustainable Development Through Profit

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Introduction

- With the global population estimated to reach 9.5 billion by 2075, we need more food
- Around 30–50% (or 1.2–2 billion tons) of all food produced is lost before being consumed
 - Lower farm income
 - Higher food prices
 - Lower food availability
- Post Harvest Losses in Africa are high:
 - 20% of grain & 30-50% of horticulture
- Example: Tanzania

Sources: Institution of Mechanical Engineers, World Bank, FAO, McKinsey, USDA, UNEP



Agriculture in Tanzania



- Tanzania is located in East Africa
- Population: 44.9 million
- Per Capita GDP: \$1,700 (PPP)
- Per Capita GDP growth: 6.5%
- Despite high growth, poverty remains stubbornly high at 33.6%
 - The share of the population consuming insufficient calories is 23.6%
 - 38% of children under 5 stunted
- Agriculture contributes 26.7% of GDP



Agriculture in Tanzania



Agriculture in Tanzania



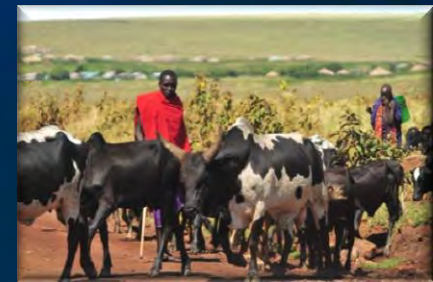
- No country has achieved a significant transformation without modernizing its agriculture
- No country has significantly reduced the poverty of its population without achieving a high level of productivity in agriculture.
- The transformation of Tanzania's agriculture must be the foundation of the country's socio-economic development
- More food production tames inflation



Agriculture in Tanzania



- Employs more than 80% of the population
- Contributes 30% of export earnings
- Major Products:
 - Fiber (sisal, cotton)
 - Beverages (coffee, tea)
 - Sugar
 - Edible Oils
 - Grains (a diverse range of cereals and legumes)
 - Horticulture (temperate and tropical fruits, vegetables and flowers)



Horticulture in Tanzania



- Horticulture production in Tanzania is diverse
 - Includes both tropical and temperate products that include citrus, mangoes, papaya, tomatoes, onions, cabbages, and vegetables
- The use of improved seed, fertilizer and chemicals is generally low
 - Average yields around only 50% of potential
- Exports and processed product channels are underdeveloped
 - 90% of fruit & vegetables sold fresh



Horticulture Post Harvest Losses

- Post-harvest losses are around 30-40% of horticultural production
- There is no true supply chain:
 - Lack of cooling after harvest & cold storage
 - Lack of refrigerated transport
 - Little or no infrastructure
 - Lack of consistent electricity
 - Problem worst in wet season when road conditions are poor and crops exposed to elements



Horticulture Post Harvest Losses

- Farm incomes are low because of:
 - High post-harvest losses
 - Low yields
 - Many middlemen
- Low production reduces farm income, increases prices and cuts food supplies
 - Example: Farmers sell green beans on the side of the road instead of supermarkets or export markets
 - Result: Much lower prices



Cold Chain Project

- Locally suitable equipment & capital
 - Cooling equipment / post-harvest
 - Energy solutions
- Management training
 - Cold chain is not just equipment
- Government policy support
- Supporting network/institutions



Cold Chain Project

- Different Actors...



Cold Chain Project



- Public Private Partnership (PPP)
- Public/Donors
 - Public Goods – infrastructure, public policy, seed capital, education and health
- Private Sector
 - Profit Drives Sustainability – investment in technology, scaling production, food processing/value added, finding local and overseas markets for products
- Key: Markets willing to pay
 - Sourcing for local/global markets



Cold Chain Project



- Sample list of current & potential partners:
 - Tanzania Horticultural Association (TAHA)
 - Major Global Agbusiness Firms
 - US Agency for International Development
 - US Department of Agriculture
 - Fintrac
 - German Marshall Fund (GMF)
 - Global Cold Chain Alliance



Cold Chain Project

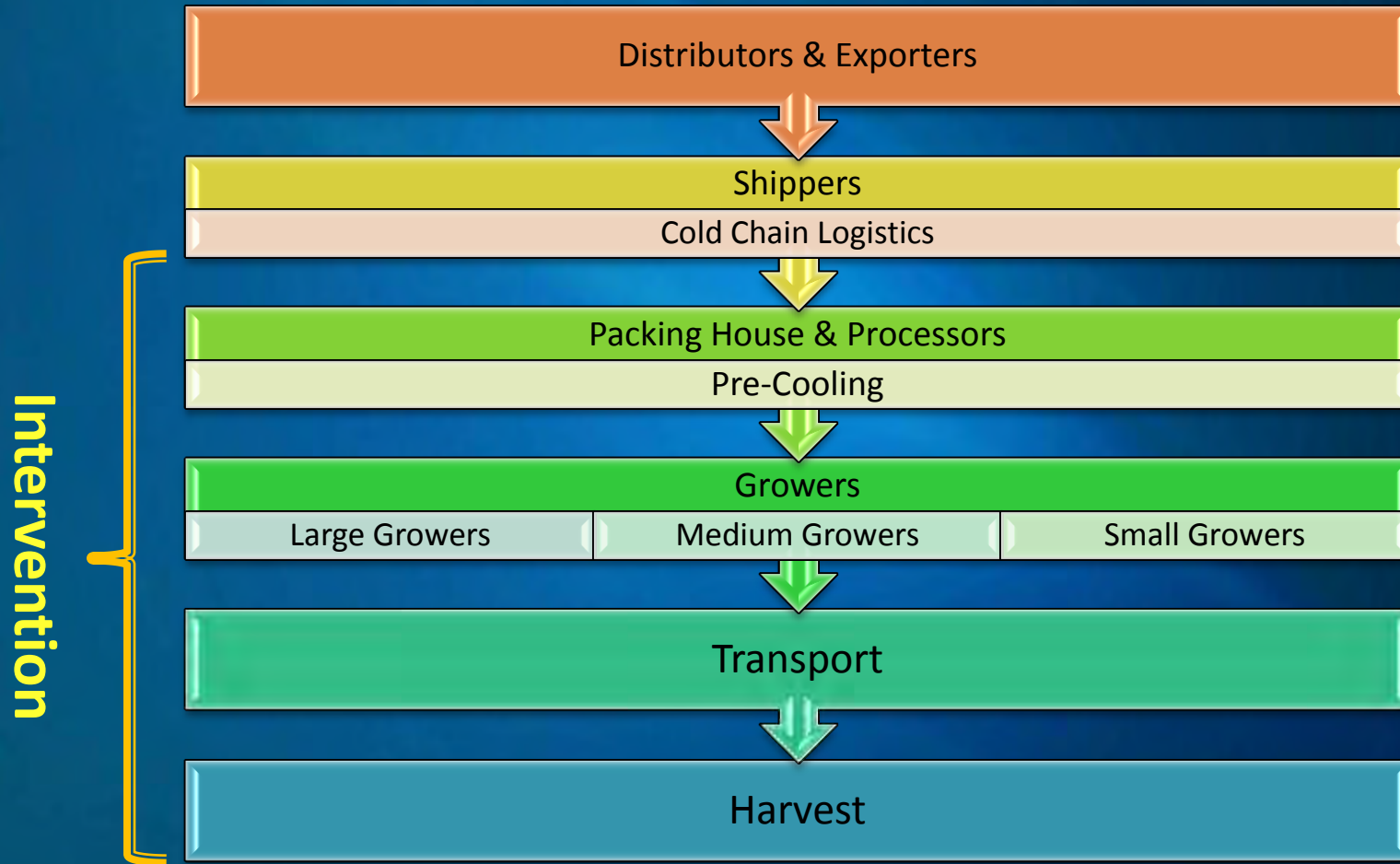
- Results of past cooperation & investment...



Cold Chain Project



- Horticulture distribution – field to market



Sources: Adapted from Webber and Labaste, 2011

Cold Chain Project

- Cold chain technologies?

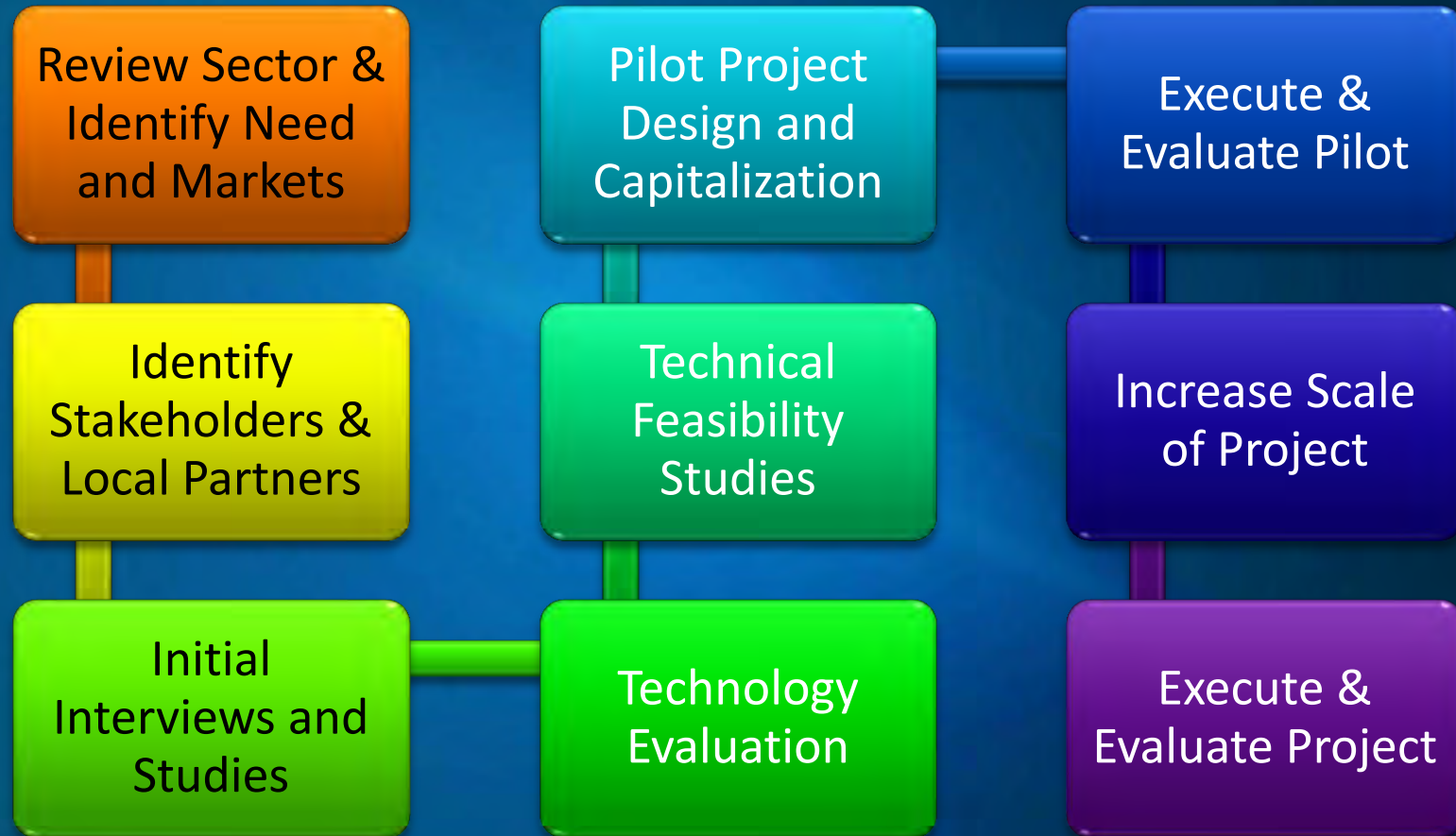


Credits: Nanolce, GCCA, Ingersoll-Rand, University of North Carolina

Cold Chain Project



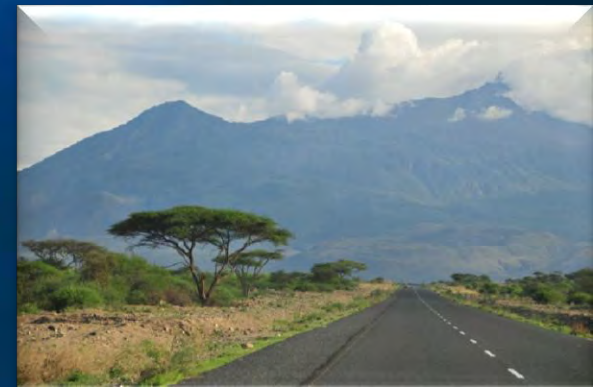
- Project flow overview



Cold Chain Goals



- Cold chain is only part of the solution to productivity issue
 - Infrastructure (roads and power)
 - Supportive policy (trade, taxes and regulation)
 - Access to credit and technology
 - Many other parts to the equation
- Part of a way to liberate value of agriculture
- Improve incomes
- Feed Africa
- Feed the World





Acknowledgements/Sources:

USDA/Foreign Agricultural Service (FAS), TAHA, Economic Research Service (ERS)
Congressional Research Service, GCCA, GMF