

# Modernising Agriculture

*Monash University*

*Grow Asia*

*Market Development Facility*

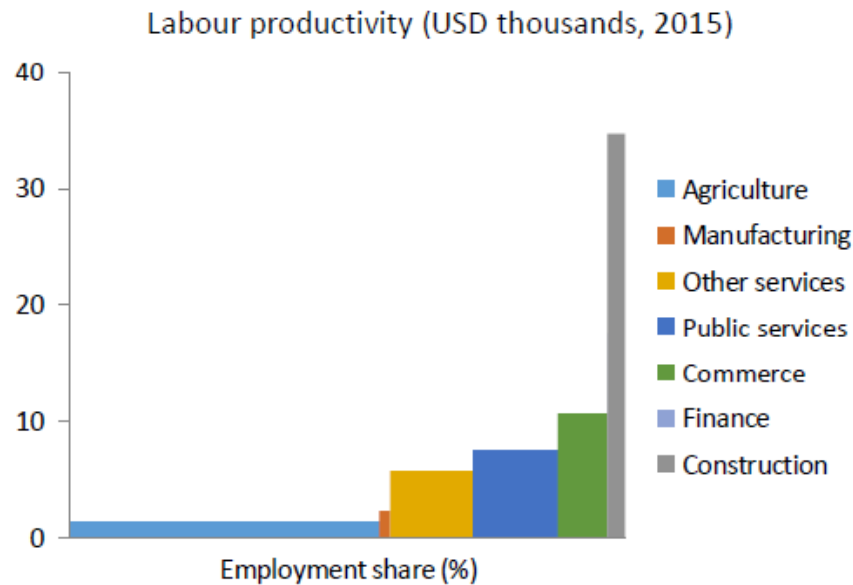
Brett Inder, June 2021

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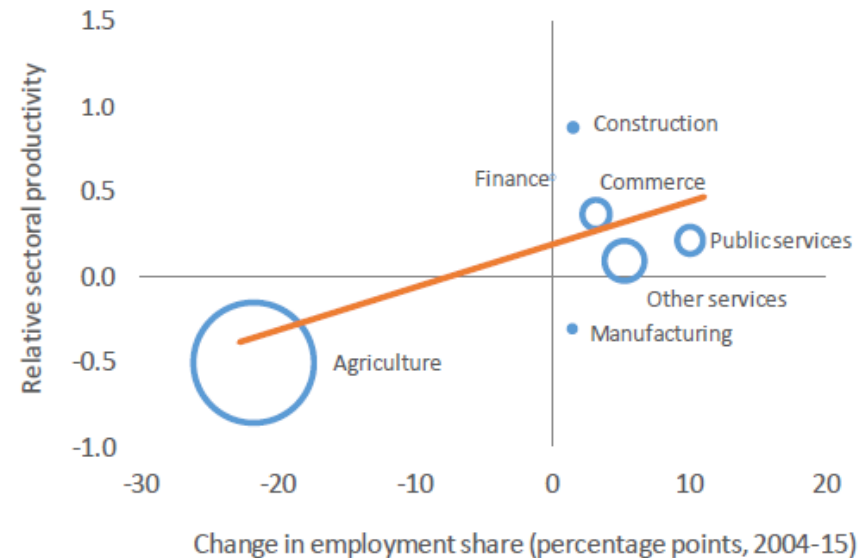
# Timor-Leste Economy: World Bank Analysis

*There is evidence of structural transformation, with labor moving away from agriculture to services*

Sectoral productivity in agriculture is very low, so labor shifts towards 'modern' sectors will strengthen growth



Labour moved to higher-productivity sectors (mainly services)...



# But:

## Theory:

- Agricultural growth is the beginning point; it creates a push towards other sectors.

## Other Countries:

- 90% of the world's farmers are smallholders (less than 2 hectares)
- In most countries, 30-50% of smallholders transition to commercial activities (*move up*); others drift slowly (often intergenerational) out of agriculture (*move out*).

## Timor-Leste Realities

- Agriculture-led growth is the only hope for creating enough employment.
  - Tourism forecasts: 15,000 ongoing jobs by 2030 (see Tourism Policy, 2017).
  - LNG Facility on the South Coast: less than 500 ongoing jobs.
- Population forecasts: 50% of Timor-Leste population will still be rural in 2043.

# Basic Principles

- Growth requires sizeable investments – money and people.
- The role of government: policy and allocating funds, not implementing programs.
- Smallholder programs are valuable, but expensive – are they sustainable and scalable?
- Focus on improving productivity – return to effort. If you don't improve productivity, growth relies on farmers working harder, with little reward for extra effort.
- Changing the economic incentives for farmers and agribusinesses encourages additional investment and productivity growth
- Industry structures evolving to include small and large farms, and non-farm businesses.

# The Big Squeeze



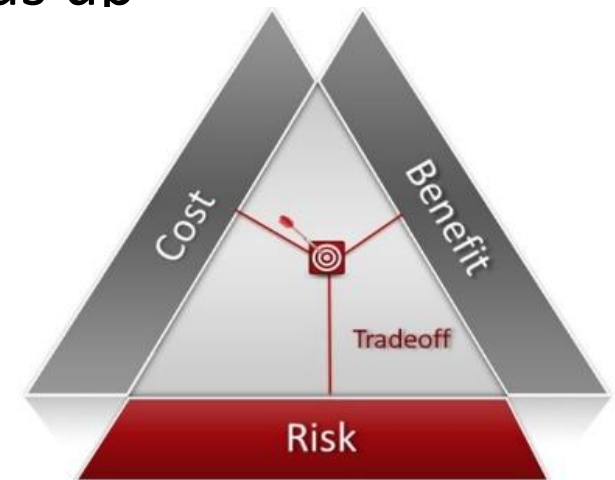
# Farmers are business people

## Assumptions:

- They want to succeed, increase incomes
- They are willing to learn and try new things, if it “adds up”




## The Problem: The Big Squeeze

- Returns (Benefit – Cost) are very low,
- Risks are too high, so  
business or farmers will not invest.



Interventions can reduce costs, increase benefits, reduce risk.

# What can Government do?

- **Regulatory and Infrastructure** interventions  Long Term Impact
  - defining efficient rules and processes for doing business
  - Developing infrastructure that reduces business costs
- **Human Capital Development** (especially education and skills) – farms and businesses rely on skilled workers  Long Term Impact
- Providing **Industry Incentives** that drive investors to make decisions they would not have otherwise made.  Short & medium Term Impact

# Public Investment works: India's example

	Income increase (Agricultural GDP per \$1 invested)*			Rural poverty Reduction (people per \$100,000 invested)**		
	1960s & 1970s	1980s	1990s	1960s & 1970s	1980s	1990s
<b>Agriculture Research</b>	\$8.7	\$7.9	\$9.5	643	409	436
<b>Irrigation Infrastructure</b>	\$8.0	\$4.7	\$4.4	630	267	193
<b>Rural Roads</b>	\$20.0	\$8.9	\$7.7	4124	1311	881
<b>Rural Education</b>	\$14.7	\$7.6	\$5.5	1956	651	336
<b>Fertiliser Subsidy</b>	\$2.8	\$1.9	\$0.9	90	110	37
<b>Credit Subsidy</b>	\$18.8	\$3.0	\$4.3	1449	156	196
<b>Irrigation Operations Subsidy</b>	\$5.2	\$2.3	\$2.5	394	116	113
<b>Electricity Subsidy</b>	\$12.1	\$2.3	\$1.2	998	126	59

\* Annual Increase in Agricultural GDP per \$1 increase in Government investment

\*\* Number of people moved out of poverty for every \$100,000 invested



# Emerging Literature on “Smart Subsidies”

1. Short Term
2. Results-based
3. Fair
4. Simple and Affordable
5. Prioritise Reducing Risk
6. Giving Choice
7. Diversified Approach

<b>Table 1: Value of Non-Oil Exports 2018</b>		
<b>Category</b>	<b>Value of Exports</b>	<b>%</b>
<b>Coffee</b>	\$19,243,641	83.33%
<b>Konjac chips</b>	\$2,380,666	10.31%
<b>Vanilla</b>	\$492,427	2.13%
<b>Candlenut</b>	\$425,049	1.84%
<b>Copra</b>	\$231,554	1.00%
<b>Scrap Metal</b>	\$99,867	0.43%
<b>Fish</b>	\$68,215	0.30%
<b>Areca Nuts</b>	\$40,814	0.18%
<b>Dried Sea Cucumber</b>	\$25,404	0.11%
<b>Other</b>	\$84,751	0.37%
<b>Total</b>	\$23,092,387	100%

**Table: Food Imports 2018**

Category	Value of Imports	%
Cereals (Rice)	\$38,525,000	50.30%
Chicken products	\$16,601,270	21.67%
Milk products	\$8,366,866	10.92%
Pork and pig meat	\$2,138,435	2.79%
Seafood	\$1,899,513	2.48%
Coffee	\$1,782,153	2.33%
Eggs	\$1,770,166	2.31%
Potatoes	\$1,016,391	1.33%
Apples	\$783,711	1.02%
Garlic	\$580,468	0.76%
Onion	\$488,679	0.64%
Beef	\$450,236	0.59%
Tea	\$290,026	0.38%
Oranges	\$281,225	0.37%
Cheeses	\$268,093	0.35%
Butter	\$266,673	0.35%
Other	\$1,086,311	1.42%
<b>Total</b>	<b>\$76,595,216</b>	<b>100.00%</b>

	Intervention	Impact
Coffee	<ul style="list-style-type: none"> <li>• A seedling subsidy to nurseries</li> <li>• A subsidy on supply of tools for pruning, etc</li> <li>• A floor price on exports of coffee</li> <li>• An export guarantee for exporters</li> </ul>	<ul style="list-style-type: none"> <li>• Increased stock of trees</li> <li>• More productive farm work</li> <li>• Improved yield per tree</li> <li>• More stable farmgate prices</li> <li>• More profitable exporters</li> </ul>
Konjac	<ul style="list-style-type: none"> <li>• A seedling subsidy to nurseries</li> </ul>	<ul style="list-style-type: none"> <li>• Lower costs to farmers</li> <li>• Increased production, improved quality</li> </ul>
Meat, Fish & Maize	<ul style="list-style-type: none"> <li>• Subsidised fertiliser and quality maize seeds</li> <li>• Subsidised imported protein for animal feed</li> <li>• Loan subsidy for aquaculture and livestock processing facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Lower costs to farmers</li> <li>• Improved maize yield</li> <li>• Increased demand for maize</li> <li>• Lower cost local supply of feed</li> </ul>
Agribusiness Credit	<ul style="list-style-type: none"> <li>• Partial Government Guarantee scheme for loans</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced infrastructure costs for agribusiness</li> </ul>
Large Farms	<ul style="list-style-type: none"> <li>• Tenders for access to Land with rent “honeymoon”</li> </ul>	<ul style="list-style-type: none"> <li>• Lower risk for investors</li> <li>• Lower costs for large farms</li> </ul>

# Agricultural Transformation Task Force

A “Task Force” for overseeing agricultural investments. E.g. Ethiopia’s Agricultural Transformation Agency.

Chaired by the Minister, representation from Government and Development Partners.

The role of the Task Force:

A. Monitor and Advocate for Public Investments in Rural development –

*Roads, Irrigation, Education, Financial Services, Land Reform, Agricultural Research and Investment Strategies*

B. Oversee process for Incentives for Farmers and Businesses

1. Commission Directorate(s) to develop specific proposals for investments, just a few at first.
2. Secure Budget. Oversee regulatory changes.
3. Receive independent monitoring and evaluation of implementation and effectiveness.
4. Incorporate “lessons learned” in steady expansion into other commodities and investments.