# Agricultural Public Expenditure Reviews: Global Experience

*Pacific Agriculture Policy Planners Workshop*
*Suva, Fiji - 22 September 2015*

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- **Global Context**
- **Scope of CAADP SSA PERs**
- **Findings from Sub Saharan Africa, other PERs and related research**
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  - Allocative Efficiency
  - Technical Efficiency
  - M&E
- **Country Examples**

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# Key Messages

## Global Context

- Global food market will grow by 20 percent by 2030. Urgent need to strengthen investment in agriculture to meet demand.

## Public Agricultural Expenditure (PAE)

- Level of PAE inadequate to meet demand for food and poverty reduction targets.
- Great potential to improve the allocative efficiency of PAE
  - High returns to public investment in R&D, rural infrastructure, irrigation but PAE, particularly in R&D which has the highest long-term impact on sector growth, is low.
  - High proportion of PAE, is currently allocated to economically inefficient programs, primarily production subsidies, which could be reallocated to public goods such as R&D to great effect.
  - Changing the composition of public spending has been an important driver of success in advanced agricultural economies.
  - Imbalance in current and investment spending is a threat to the sustainability of investments
- Great potential to improve the technical efficiency of PAE
  - Improve actual (cf. planned) funding availability and timeliness of disbursement and reduce leakage
- Monitoring and Evaluation: Aim to institutionalize and standardize agricultural PERs to improve allocative and technical efficiency of PAE.

# Global Context

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# Global Context

- 900m people remain in poverty. 200m will migrate to urban areas, 700m will remain in rural areas by 2030.
- Global food market will grow by 20 percent by 2030

Percentage change in projected demand for food products between 2015 and 2030 (%)

| | World | Dev | Devg | SSA | MENA | LAC | SA | EAP |
|---|---|---|---|---|---|---|---|---|
| Cereals, food | 16 | 3 | 18 | 56 | 22 | 14 | 19 | 7 |
| Cereals, all uses | 18 | 12 | 20 | - | - | - | - | - |
| Roots and tubers | 20 | 0 | 24 | 47 | 26 | 12 | 37 | 4 |
| Sugar and sugar crops (raw sugar eq.) | 21 | 1 | 27 | 62 | 25 | 12 | 32 | 22 |
| Pulses, dry | 21 | 5 | 20 | 60 | 15 | 10 | 11 | 4 |
| Vegetable oils, oilseeds & products (oil eq.) | 26 | 6 | 36 | 64 | 30 | 21 | 41 | 30 |
| Meat (carcass weight) | 25 | 8 | 35 | 63 | 45 | 26 | 76 | 30 |
| Milk and dairy, excl. butter (fresh milk eq.) | 23 | 7 | 34 | 50 | 31 | 22 | 37 | 35 |
| Other foods (kcal) | 20 | 7 | 24 | 48 | 26 | 19 | 31 | 17 |
| Total foods (kcal) | 20 | 4 | 23 | 55 | 25 | 16 | 25 | 14 |

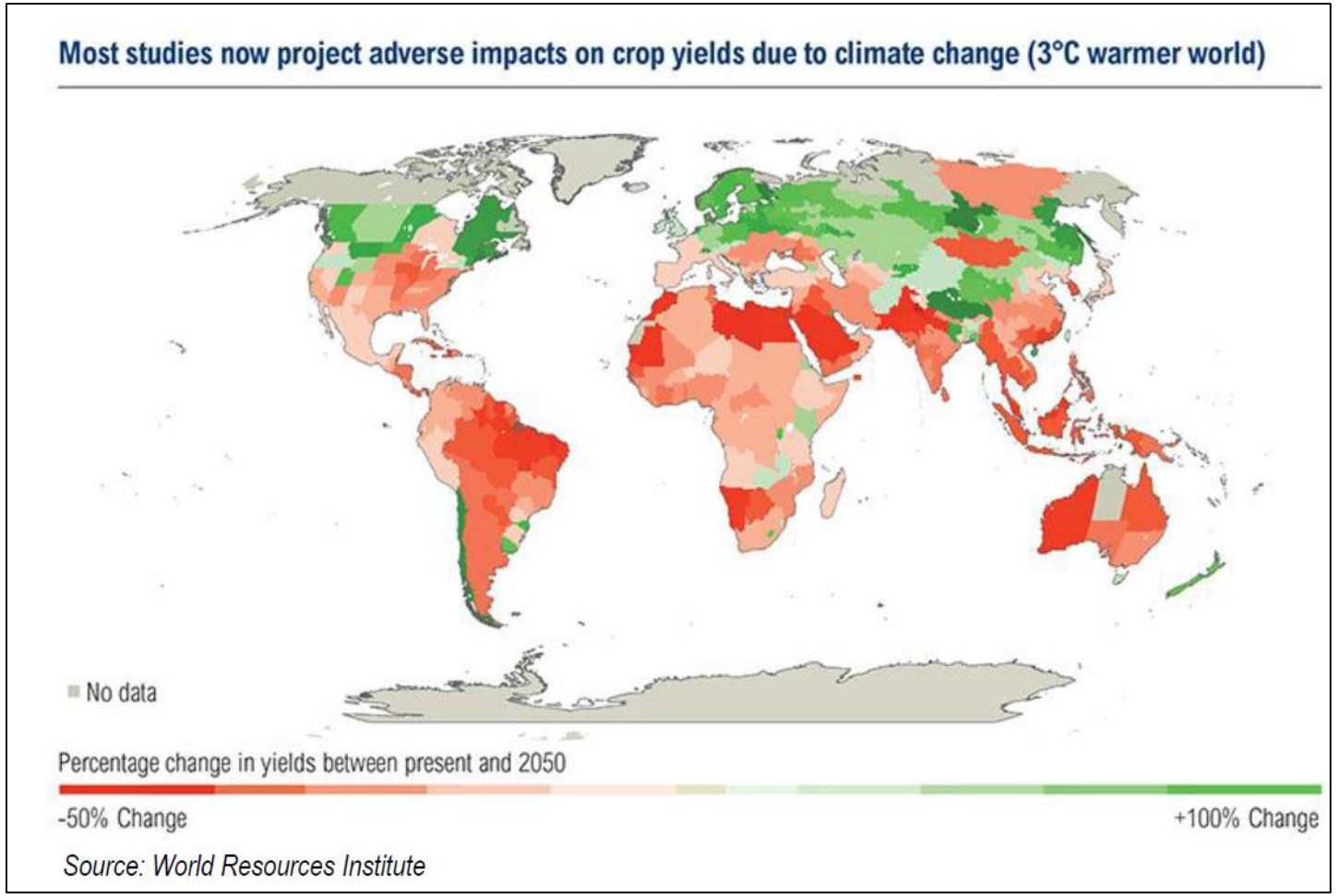
Dev = Developed countries, Devg = Developing countries, SSA = Sub-Saharan Africa, NE/NA = Near East and North Africa, LAC = Latin America and the Caribbean, SA = South Asia, EAP = East Asia and the Pacific

*Source:* Derived from Alexandratos and Bruinesma (2012).

Source: World Bank Plenary Presentation to 12th Agricultural Science Congress, Karnal, India. February 4, 2015

# Global Context

Climate change will reduce global yields by 5% for each 1 degree increase in temperature with large regional variation.

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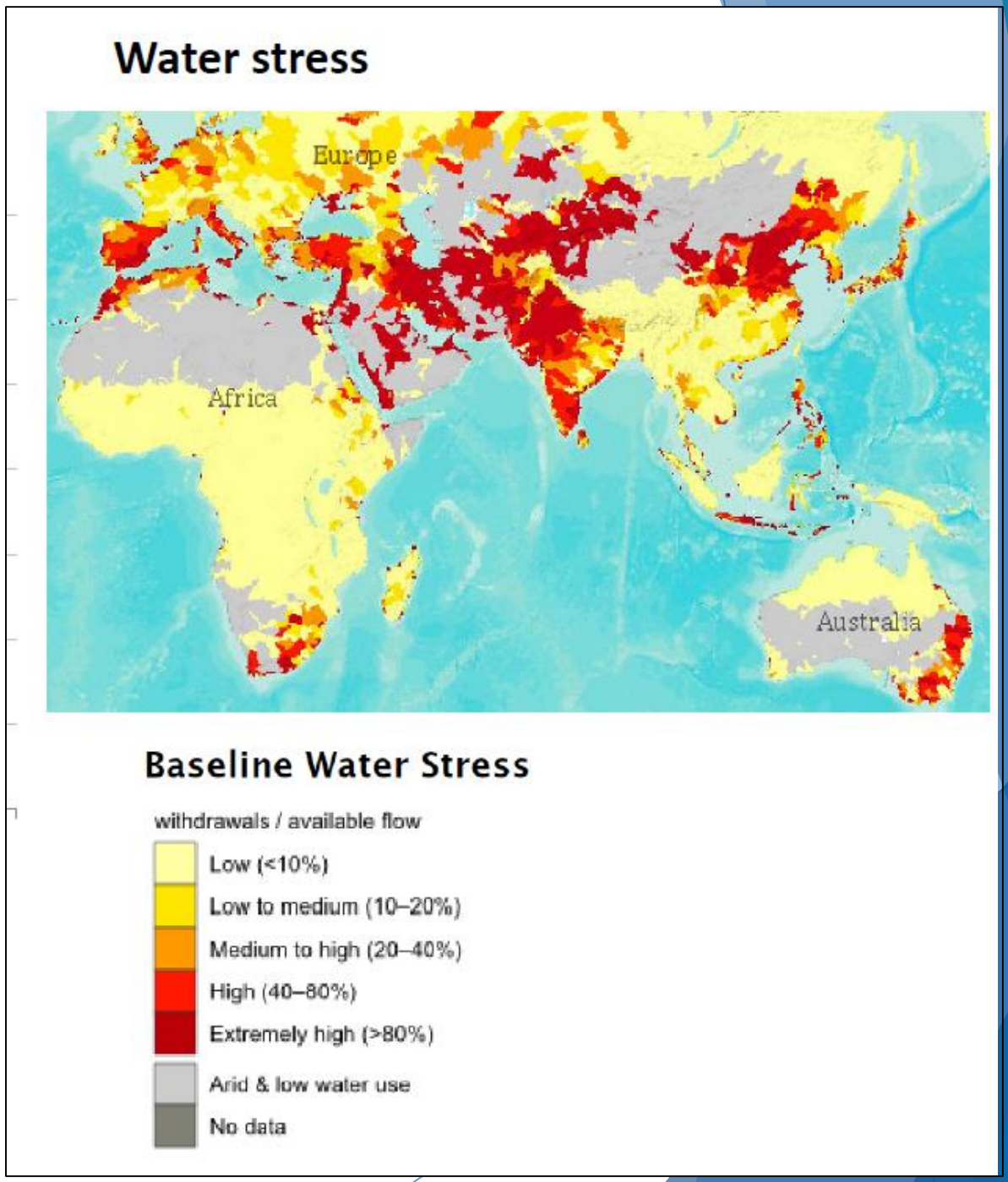
Source: World Bank Plenary Presentation to 12th Agricultural Science Congress, Karnal, India. February 4, 2015

# Global Context

Land and water are becoming more constrained

Source: World Bank Plenary Presentation to 12th Agricultural Science Congress, Karnal, India. February 4, 2015

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# Motivation
# For
# Public Expenditure Reviews In Africa

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# Motivation for Comprehensive African Agricultural Development Program (CAADP 2003)

- Low share of expenditure on agriculture in total budget for countries with a high share of agriculture in GDP.

- Poorly targeted public expenditure on agriculture (low allocative efficiency)

- Poorly implemented public expenditure on agriculture (low technical efficiency)

Compared to Asian countries which were investing 11 percent and achieving 6 percent growth during the green revolution.

- African Union Maputo Declaration (2003) Summit 2009 declaration to increase agricultural expenditure to 10 percent of total expenditure
- Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa (2009 – ongoing)

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# Scope and Approach

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# Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa

## Countries Covered

Countries Covered under the Project in Africa: Ghana, Nigeria, Central African Republic, Mali, Namibia, Nigeria, Tanzania, Togo, Sierra Leone, Cameroon, Chad, Burkina Faso, Botswana - 12 under Comprehensive African Agricultural Development Program (CAADP).

Other countries covered by World Bank or IFPRI under other projects: Ethiopia, Uganda, Nepal, Indonesia, Lao PDR, Philippines, Vietnam, Kazakhstan, Russian Federation, Ukraine, Turkey, Egypt, Lebanon, Mexico, Honduras.

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# Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa

## Analytical Tools

**Budget cycle**

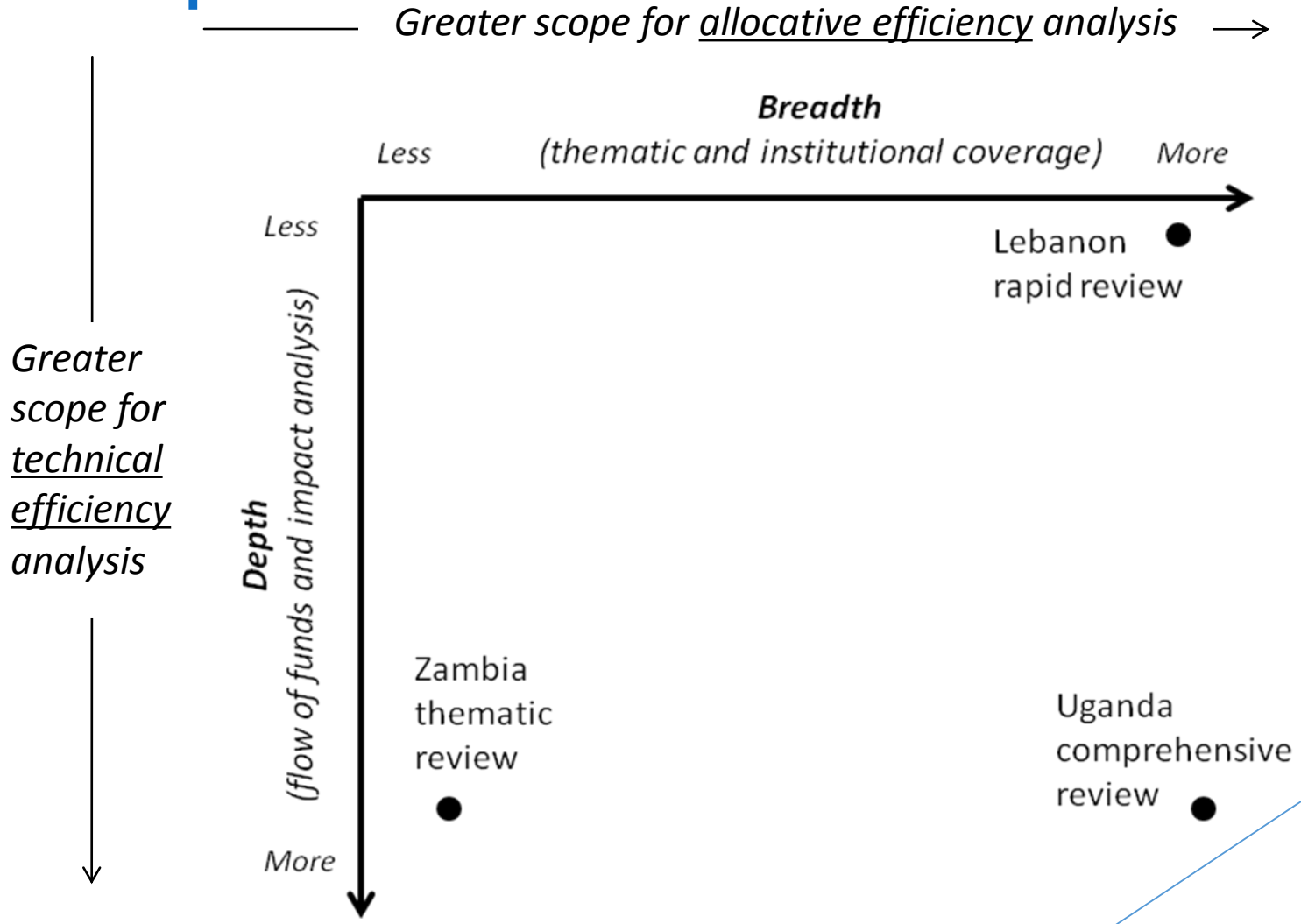
- Sector Objectives and Strategy
- Budget Allocation (annual & multi-year)
- Budget Execution
- Governance, Accountability, Monitoring and Evaluation

**Analysis - Questions Addressed**

- What were the funds spent on?
- Was spending consistent with strategy?
- Was the allocation well targeted - economic rationale? (addressed market failures and provide public goods? address constraints? aligned with importance of sub-sector? aligned with regional development objectives?)
- Where was the leakage? (PETS)
- What were the costs of budget execution?
- What was the return on the investment and impact on sector performance?
- What was the distribution of benefits? (incidence analysis)

# Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa

## Analytical Scope

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# Findings

- Strategy
- Budget Allocation
- Budget Execution
- Monitoring and Evaluation

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# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Strategy

- Strategic objectives are poorly defined (absence of long-term vision, narrow in scope, too low level, lack of emphasis on addressing current issues).
- Planning of programs is rarely based on quantitative analysis of past performance
- Linkage between program outcomes and strategic objectives is weak

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# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Strategy

*Example from a Central Asian Country*

Current Strategic Objective

- *Financial recovery of agriculture and agro-industry*
- *To increase the economic accessibility of goods, works and services*
- *To develop public systems providing support to agriculture and agro-industry*
- *To improve the effectiveness of the regulatory system*

- ✓ Insufficient senior level participation in defining strategic objectives
- ✓ Does not reflect major national strategic objectives (socio-economic, environmental, health, employment, food security)
- ✓ Scope of strategic objectives and the strategy itself were different

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# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Strategy

*Example*

Proposed Strategic Objective

- *To Improve Competitiveness of the Agricultural Sector*
- *To Improve Food Security*
- *To Provide Healthy and Safe Food*
- *To Raise Rural Incomes and Provide Quality Jobs*
- *To Sustain Natural Resources for Agricultural Production*

Implying

- Greater emphasis on accessing growing potential export markets while continuing to improve competitiveness on domestic markets.
- Greater emphasis on adding value to agricultural output through agro-food value chain development while continuing to improve the productivity of primary production.
- Greater emphasis on improving the productivity of small farms while continuing to improve large farm productivity.

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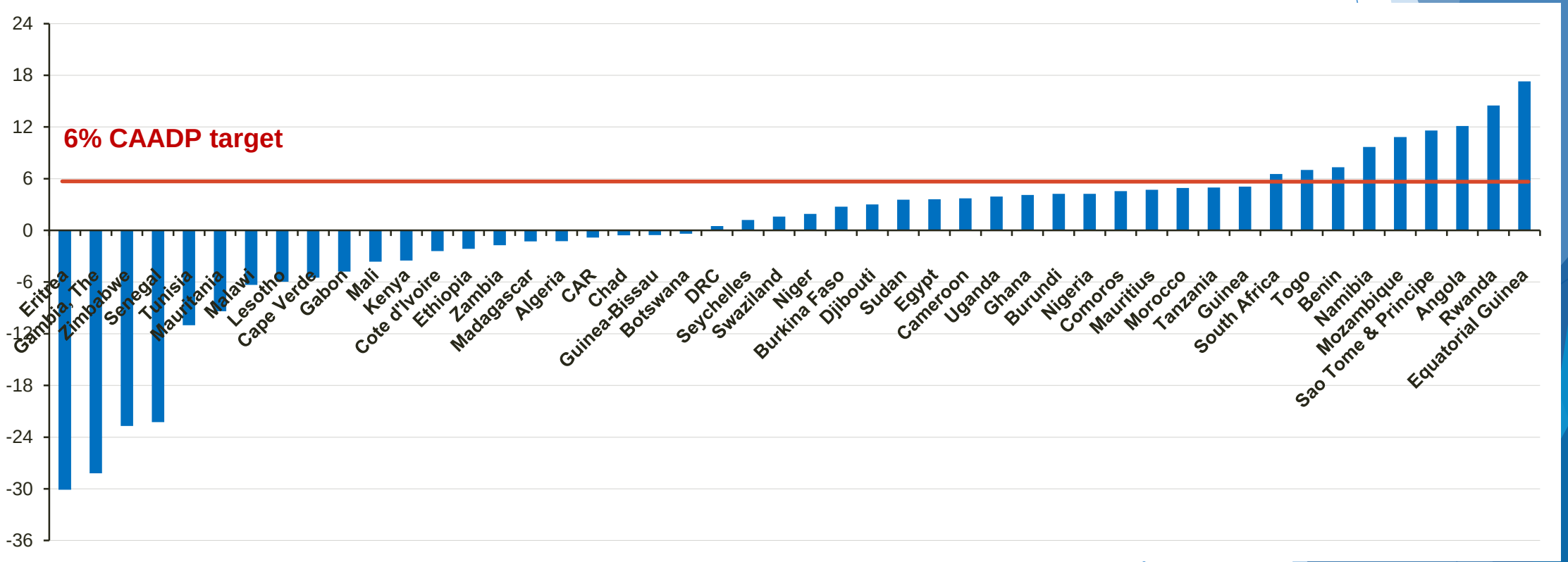
# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Budget Allocation

PAE has been low. Only 9 countries achieved 6% or more annual ag. growth in 2002

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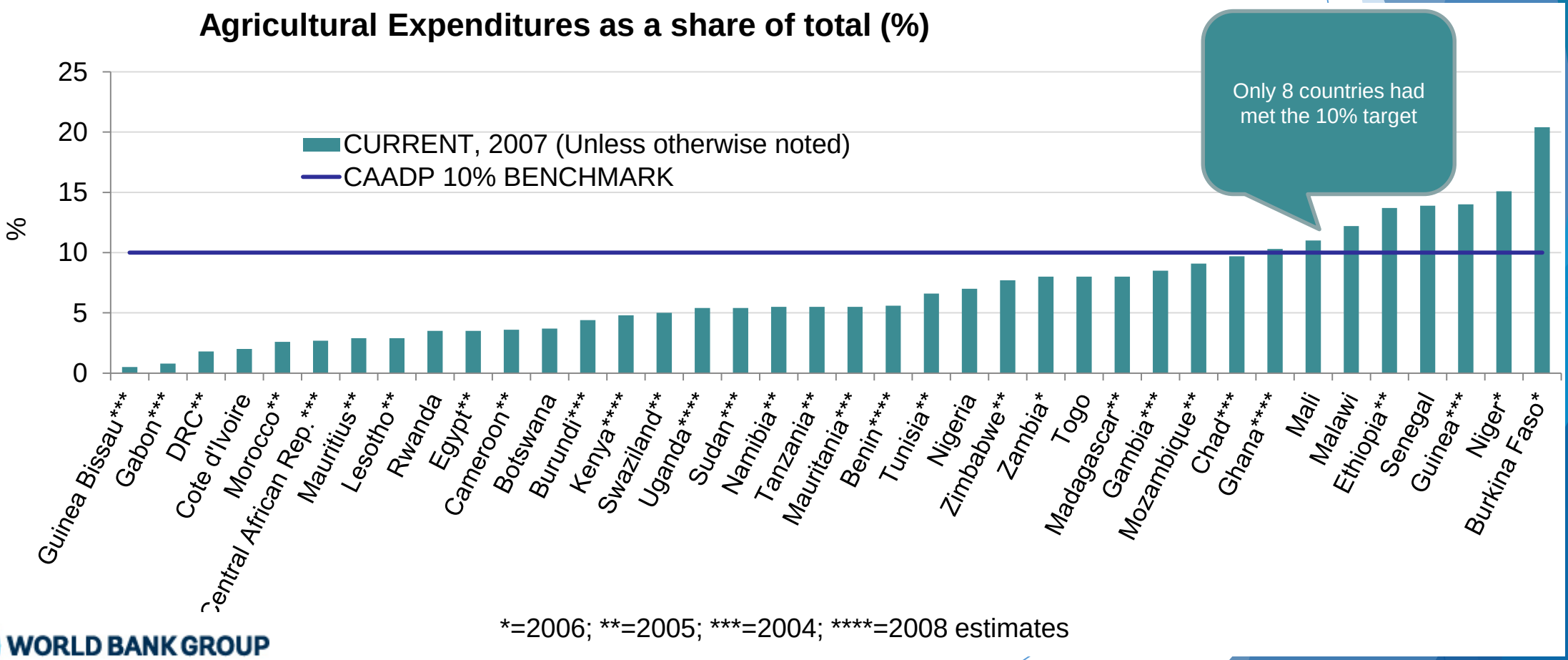
# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Budget Allocation

By 2007 some progress but only 8 countries had met the 10% CAADP target for PAE as percent of total expenditure




*=2006; **=2005; ***=2004; ****=2008 estimates

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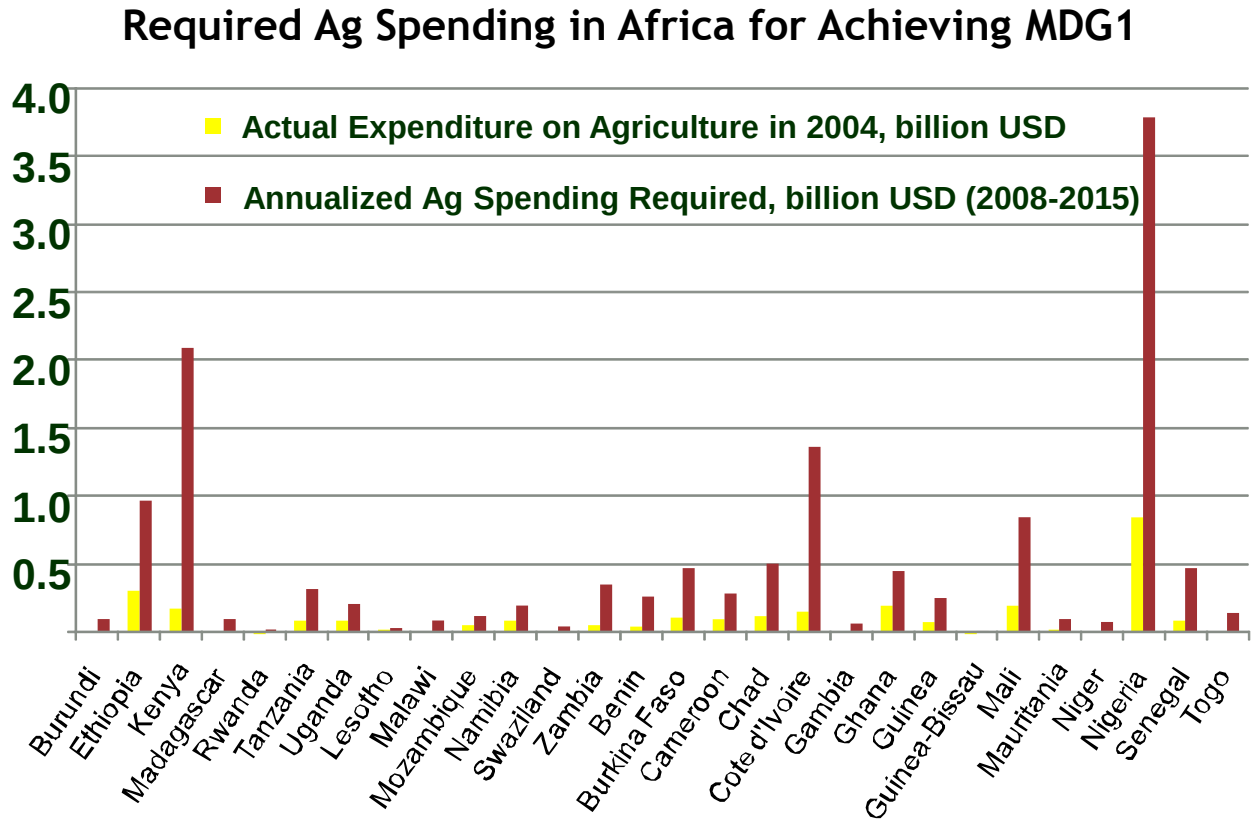
# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Budget Allocation

IFPRI work indicated that much higher levels of PAE would be needed to meet MDG poverty targets




S. Fan (IFPRI, 2009)

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# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Budget Allocation

Agriculture has been a low priority in low income countries with a high share of agriculture GDP

| REGION/COUNTRY | AGRICULTURE AS A SHARE OF GDP<br>*A* | SHARE OF AGRICULTURAL FISCAL EXPENDITURES IN NATIONAL GDP<br>*B* | SHARE OF AGRICULTURAL FISCAL EXPENDITURES IN GDP ADJUSTED TO THE SIZE OF AGRICULTURE<br>*B/A* |
|---|---|---|---|
| Ukraine (budget expenditures) | 11.6% | 1.3% | 0.11 |
| Ukraine (total fiscal expenditures, including VAT expenditures) | 11.6% | 2.1% | 0.18 |
| **HIGH-INCOME COUNTRIES** | | | |
| Australia | 3.0% | 0.31% | 0.10 |
| Canada | 2.3% | 0.51% | 0.22 |
| European Union | 2.3% | 0.65% | 0.28 |
| United States of America | 1.6% | 0.73% | 0.46 |
| **MIDDLE-INCOME COUNTRIES** | | | |
| Turkey | 13.0% | 2.0% | 0.15 |
| Mexico | 4.0% | 0.7% | 0.18 |
| Venezuela | 5.0% | 0.5% | 0.12 |
| China | 15.0% | 1.2% | 0.08 |
| Brazil | 9.3% | 0.7% | 0.08 |
| Russia | 6.0% | 0.95% | 0.16 |
| **LOW-INCOME COUNTRIES** | | | |
| Uganda | 32% | 1.5% | 0.05 |
| Tanzania | 45% | 1.2% | 0.03 |
| Ethiopia | 44% | 2.7% | 0.06 |
| Kenya | 29% | 1.3% | 0.04 |

*Source: OECD (2004), World Bank (2005a), Tangermann (2006), Zorya (2006), and World Bank (2006). Note:* The reference year for Russia is 2003.

Source: Complying with the Maputo Declaration, ReSAKSS (2012)

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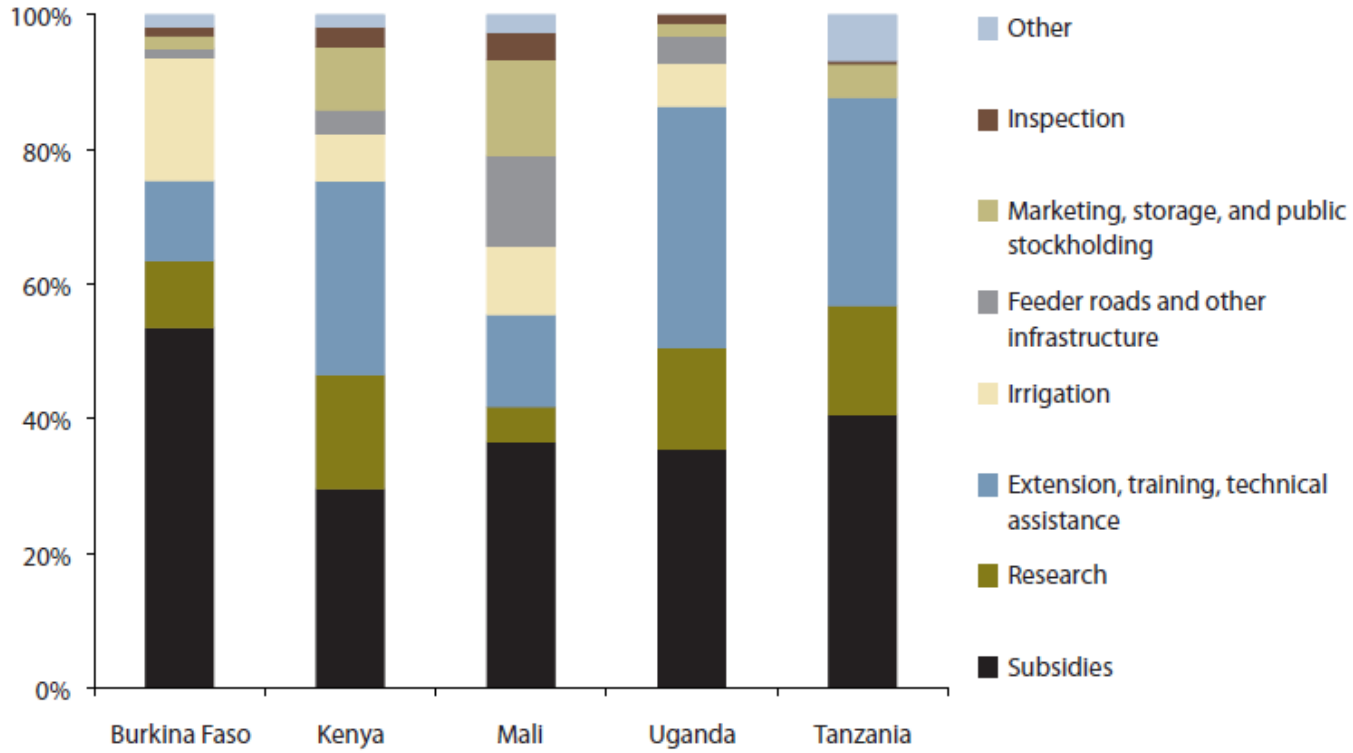
# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Budget Allocation

The quality of PAE was also low. A high proportion of PAE was being allocated to subsidies which were economically inefficient.

FIGURE 5.3—PAE BY FUNCTION IN SELECTED AFRICAN COUNTRIES, ANNUAL AVERAGE PERCENTAGE 2006–2010




Source: Authors' calculations based on MAFAP public expenditure database (FAO 2013). See Table A.4c for details.

Source: Complying with the Maputo Declaration, Target ReSAKSS (2012)

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# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Budget Allocation

For example, fertilizer subsidies, which presented a high proportion of spending in some countries.

| Country | Year | Percentage Subsidy in Market Price for Fertilizer | Share of Fertilizer Budget in Agricultural Budget |
|---|---|---|---|
| Burkina Faso | 2008-11 | 40 | 5 |
| Ghana | 2008-10 | | 33 |
| Liberia | 2008-10 | 100 | 7 |
| Malawi | 2008-11 | 95 | |
| Senegal | 2005-09 | | 23 |
| Togo | 2005-10 | 35 | 28 |

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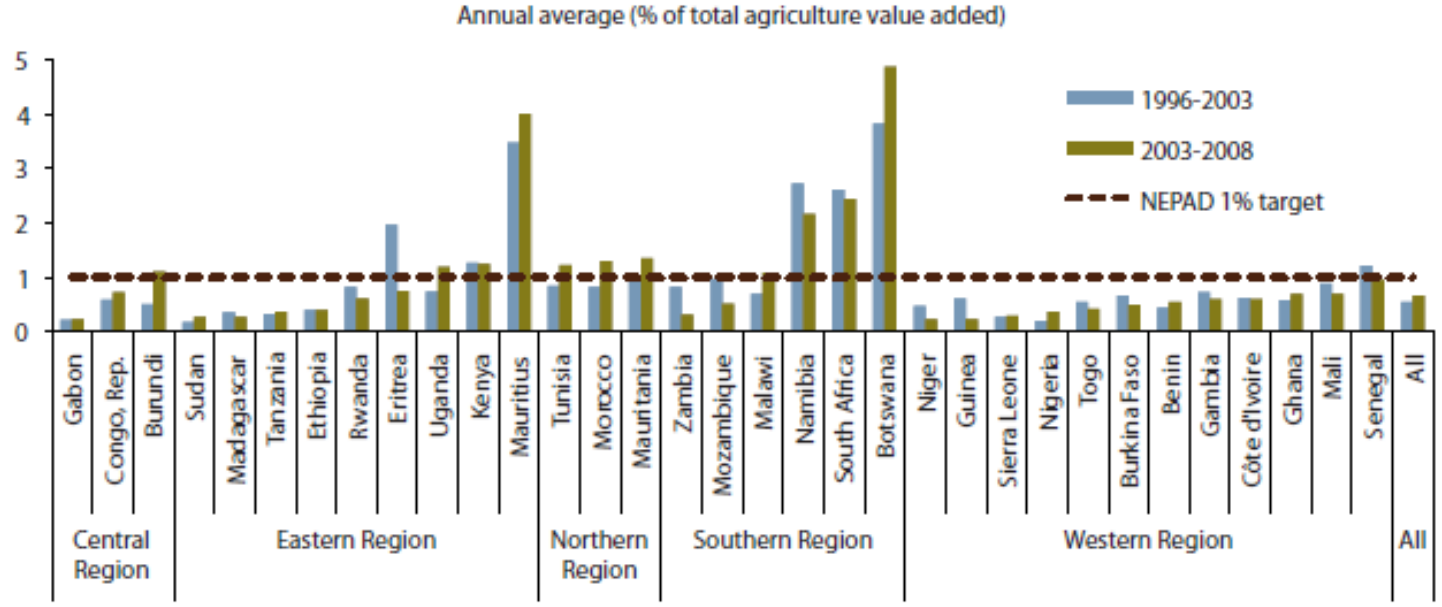
# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Budget Allocation

The proportion of public spending on public goods, especially R&D which has shown high economic returns to investment was low.

**FIGURE 5.4b—PAE ON AGRICULTURAL RESEARCH AND DEVELOPMENT IN SELECTED AFRICAN COUNTRIES, 1996–2008 (% of agGDP)**




Sources: Authors' calculation, based on Yu (2012), AUC (2008), World Bank (2013b), and national sources.
Notes: Plot is based on 41 countries that have data on all indicators, using 2003–2010 annual average values. The equations are estimates for the fitted lines: where y is agGDP growth rate and x is PAE; and R2 is the statistical significance of the fitted line.

Source: Complying with the Maputo Declaration Target, ReSAKSS (2012)

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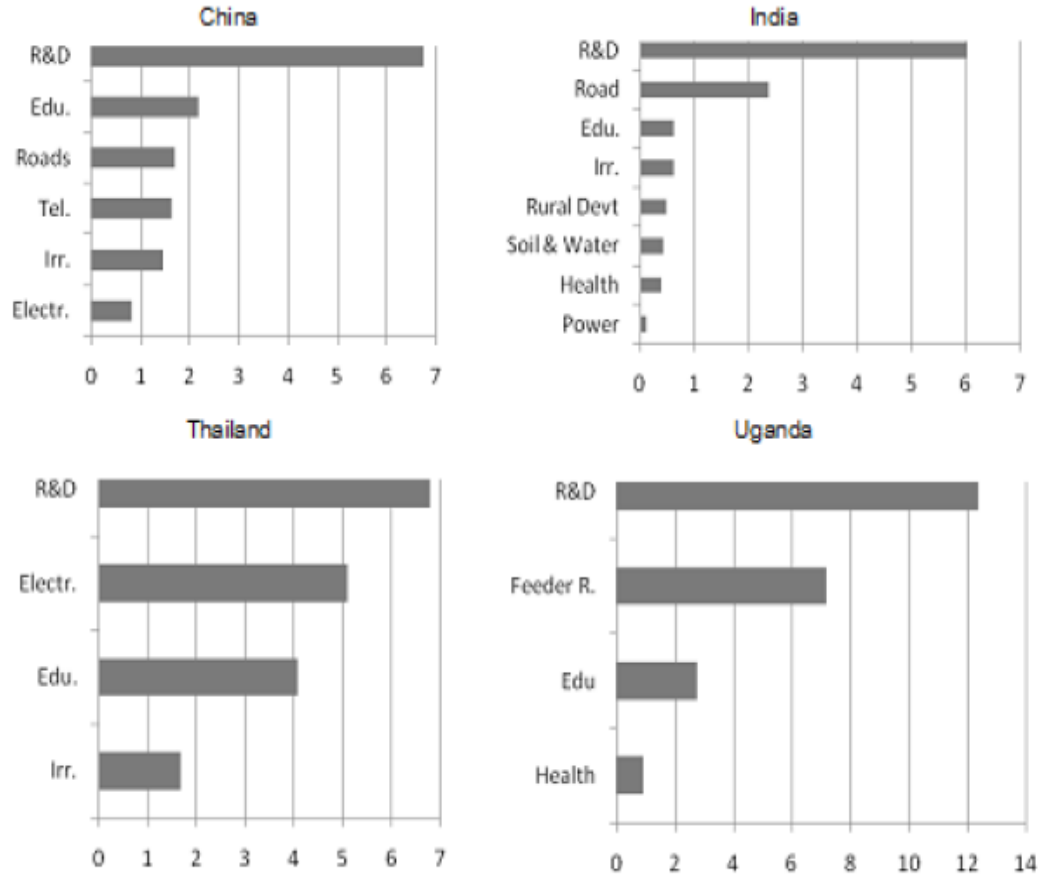
# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Budget Allocation

High returns to R&D on agricultural sector performance and poverty reduction have also been shown in other regions

**Figure 5.1—Returns to public spending in terms of agricultural performance**




Source: Adapted from Fan, Zhang, and Zhang (2004); Fan, Hazell, and Thorat (2000); Fan, Yu, and Jitsuchon (2008); and Fan and Zhang (2008).

Source: The Impact of Investment in and for Agriculture. Synthesis of Existing Evidence, IFPRI 2012

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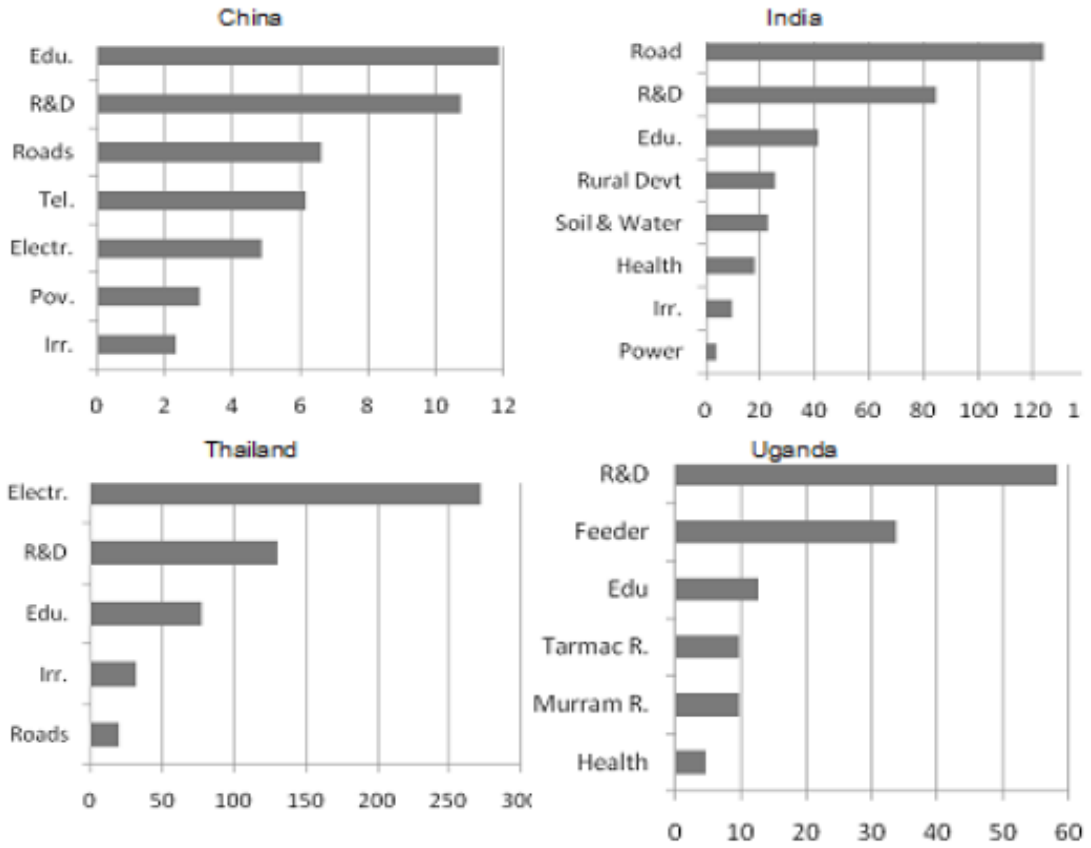
# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Budget Allocation

High returns to R&D on agricultural sector performance and poverty reduction have also been shown in other regions (IFPRI, 2012)

**Figure 5.2—Returns to public spending in terms of poverty reduction**




Source: Adapted from Fan, Zhang, and Zhang (2004); Fan, Hazell, and Thorat (2000); Fan, Yu, and Jitsuchon (2008); and Fan and Zhang (2008).

Source: The Impact of Investment in and for Agriculture. Synthesis of Existing Evidence, IFPRI 2012

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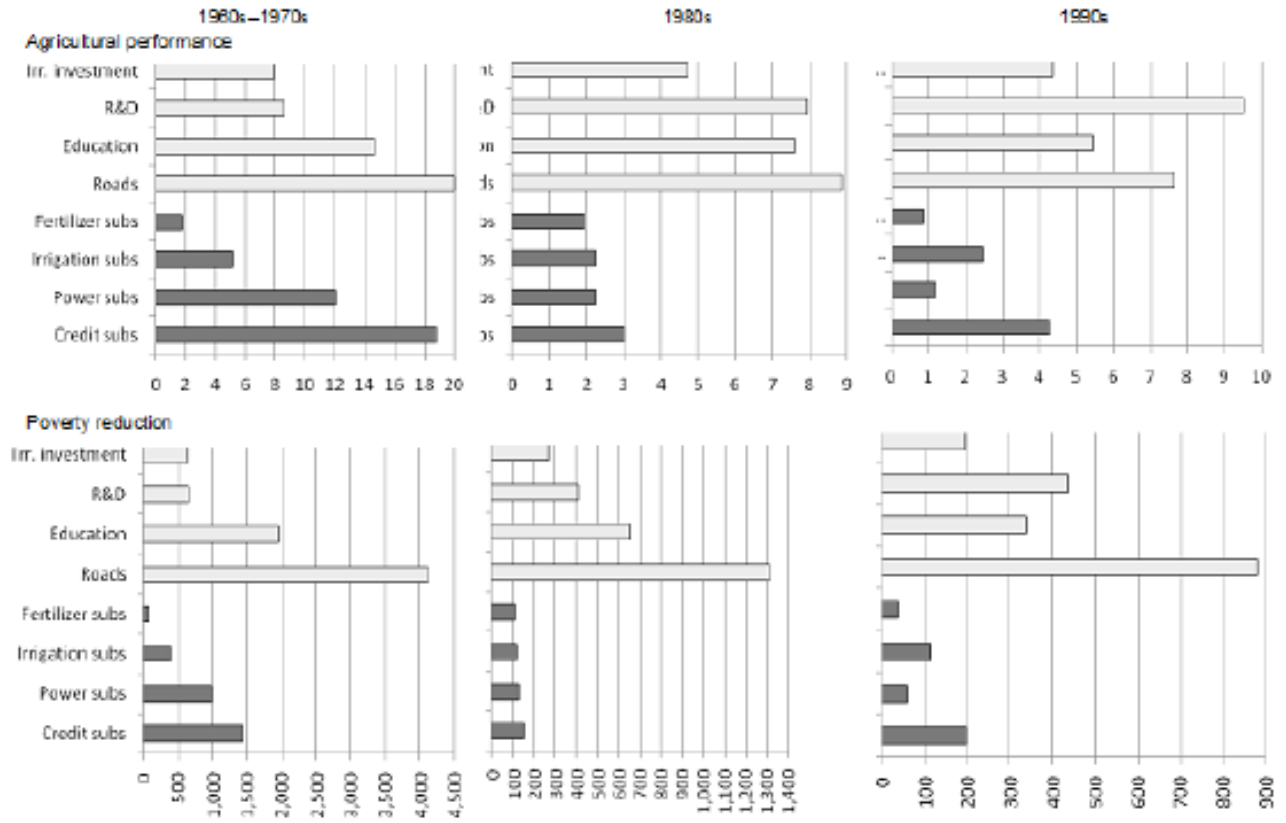
# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Budget Allocation

Returns to R&D and irrigation investment have also shown higher returns than subsidies e.g. India

**Figure 5.3—Evolution of returns to public spending over time in India, and comparison between returns to investments and subsidies**




Source: Adapted from Fan, Gulati, and Thorat (2008).
Note: The magnitudes in the top panel are returns to one monetary unit of different types of public spending in terms of (the same) monetary unit of agricultural gross domestic product. The bottom panel shows the reduction in the population size of the poor for a one million rupee increase in different types of public spending

Source: The Impact of Investment in and for Agriculture. Synthesis of Existing Evidence, IFPRI 2012

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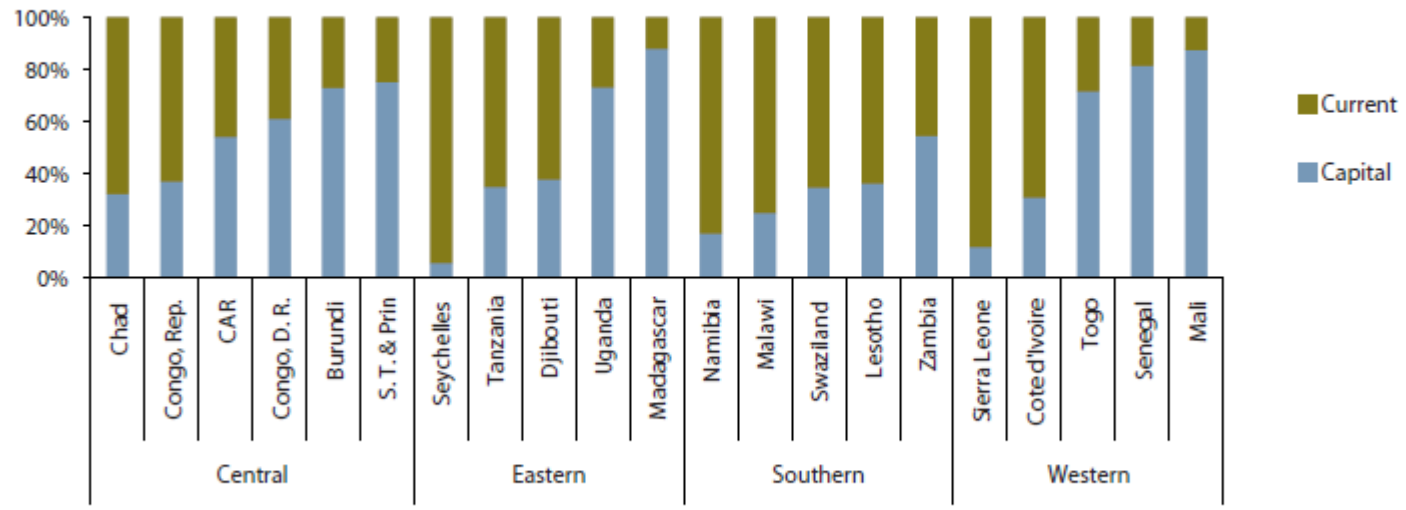
# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Budget Allocation

Low current : investment expenditure ratios threaten the sustainability of investments.

Inconsistent classification of spending also made analysis of current: investment ratios difficult.

FIGURE 5.2—PAE BY CURRENT EXPENDITURES AND INVESTMENTS IN SELECTED AFRICAN COUNTRIES, ANNUAL AVERAGE PERCENTAGE 2003–2007




Source: Authors' calculation, based on Yu (2012), AUC (2008), and national sources.

Source: Complying with the Maputo Declaration Target, ReSAKSS (2012)

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# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Budget Allocation

Low current : investment expenditure ratios threaten the sustainability of investments.

| | Ratio of Non-Wage Recurrent to Investment Expenditure | | Investment Change Over Period, %, current value |
|---|---|---|---|
| | Start of Period | End of Period | |
| Chad (2004-11) | 0.03 | 0.02 | 0.94 |
| Cote d'Ivoire (2000-10) | 0.52 | 4.51 | 0.46 |
| **Ghana (2004-11)** | **0.85** | **0.43** | **1.61** |
| Guinea (2004-12)* | 0.04 | 0.05 | 1.61 |
| **Sierra Leone (2004-12)** | **16.13** | **5.13** | **7.33** |
| **Togo (2002-10)** | **0.19** | **0.12** | **5.09** |
| Madagascar (2007-12)* | 0.14 | 0.35 | 0.19 |
| **Mozambique (2002-07)*** | **0.04** | **0.03** | **2.95** |

Source: ReSAKSS Annual Conference Presentation 2015 – Beyond a Middle Income Africa

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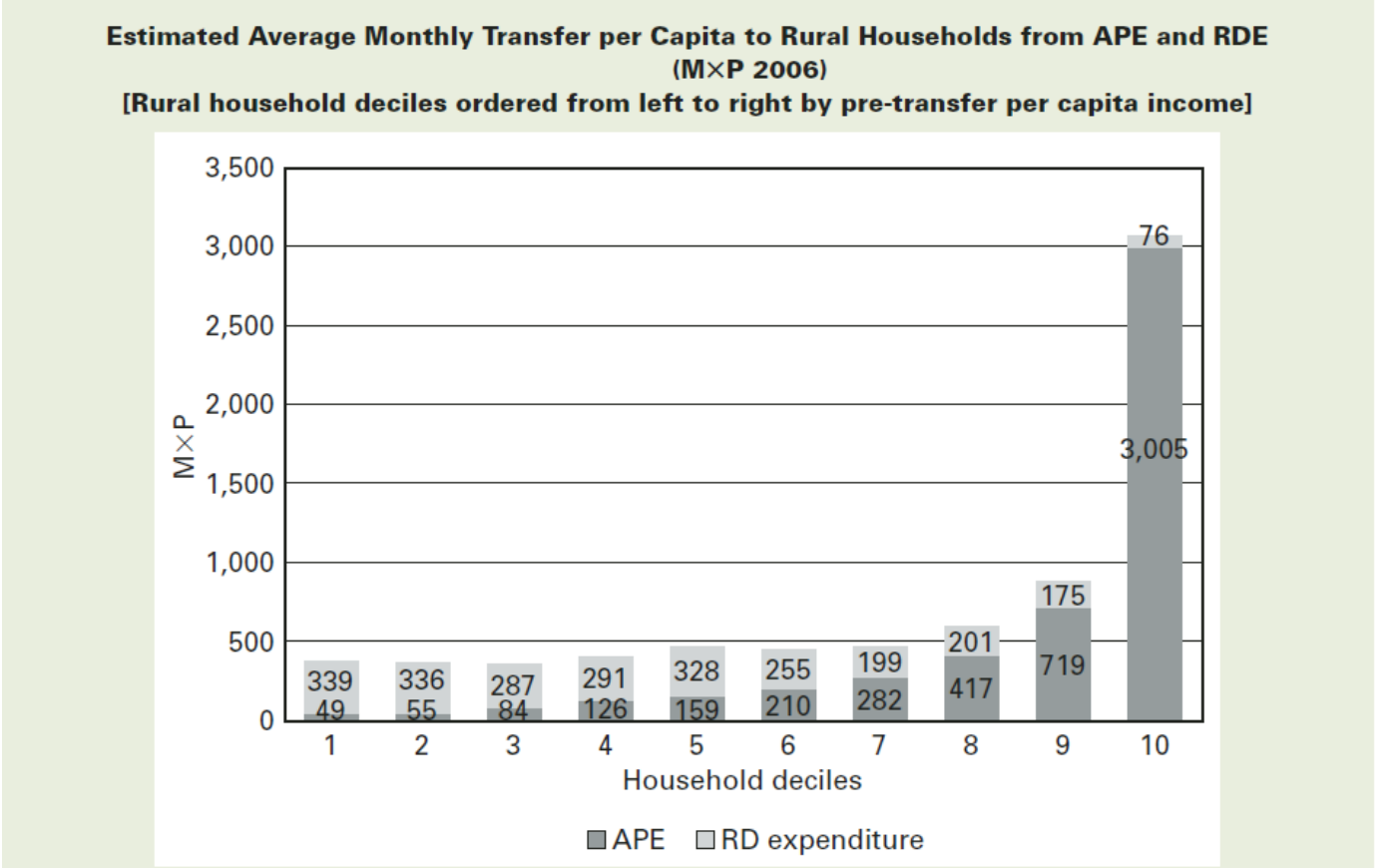
# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Budget Allocation

Poverty Targeting is weak and inconsistent with national poverty reduction objectives

- Incidence analysis revealed that programs are quite regressive ARD programs compared to rural development programs

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# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Budget Allocation

- In OECD countries, there has been a shift towards public good provision (in particular R&D) in the composition of public spending. See OECD Ag. Policy M&E (2011, 2013)

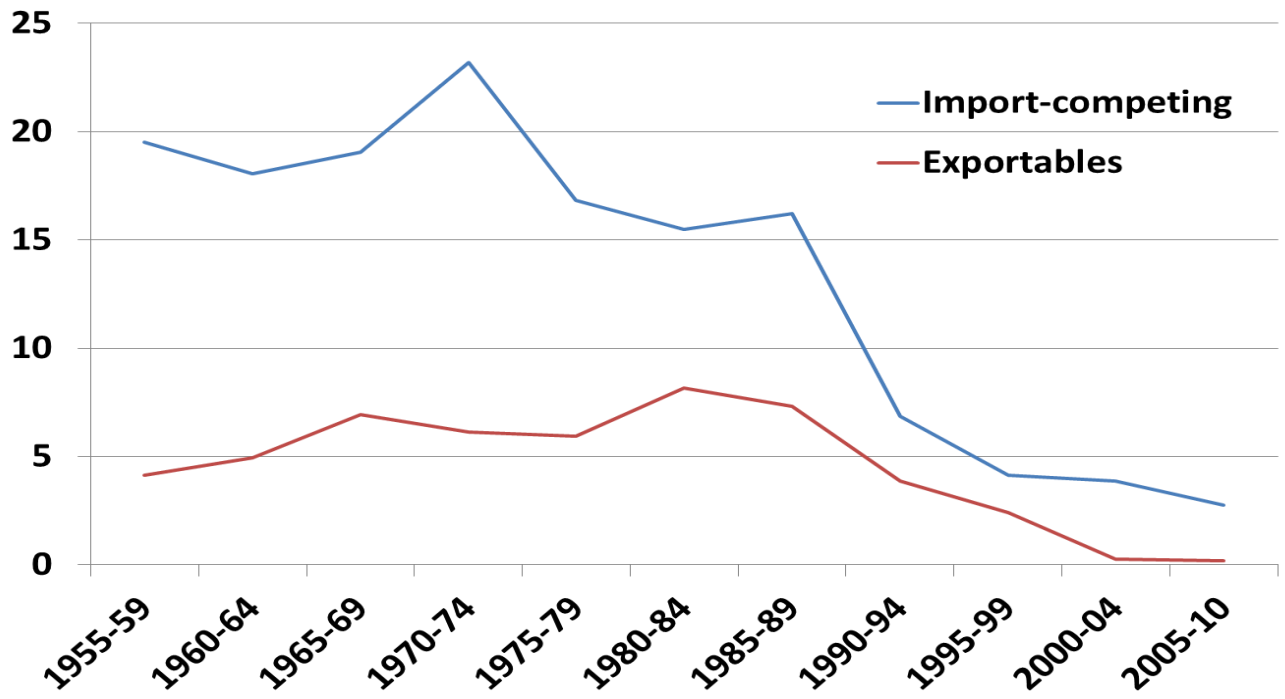
- See 


- The case of Australia, New Zealand, Chile demonstrate how a radical change in the approach to the support of agriculture through the composition of PAE (as well as trade measures) lead to substantial diversification and growth of the agricultural sector

# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Budget Allocation

Nominal Rates of Assistance to Producers Australia and NZ (%)

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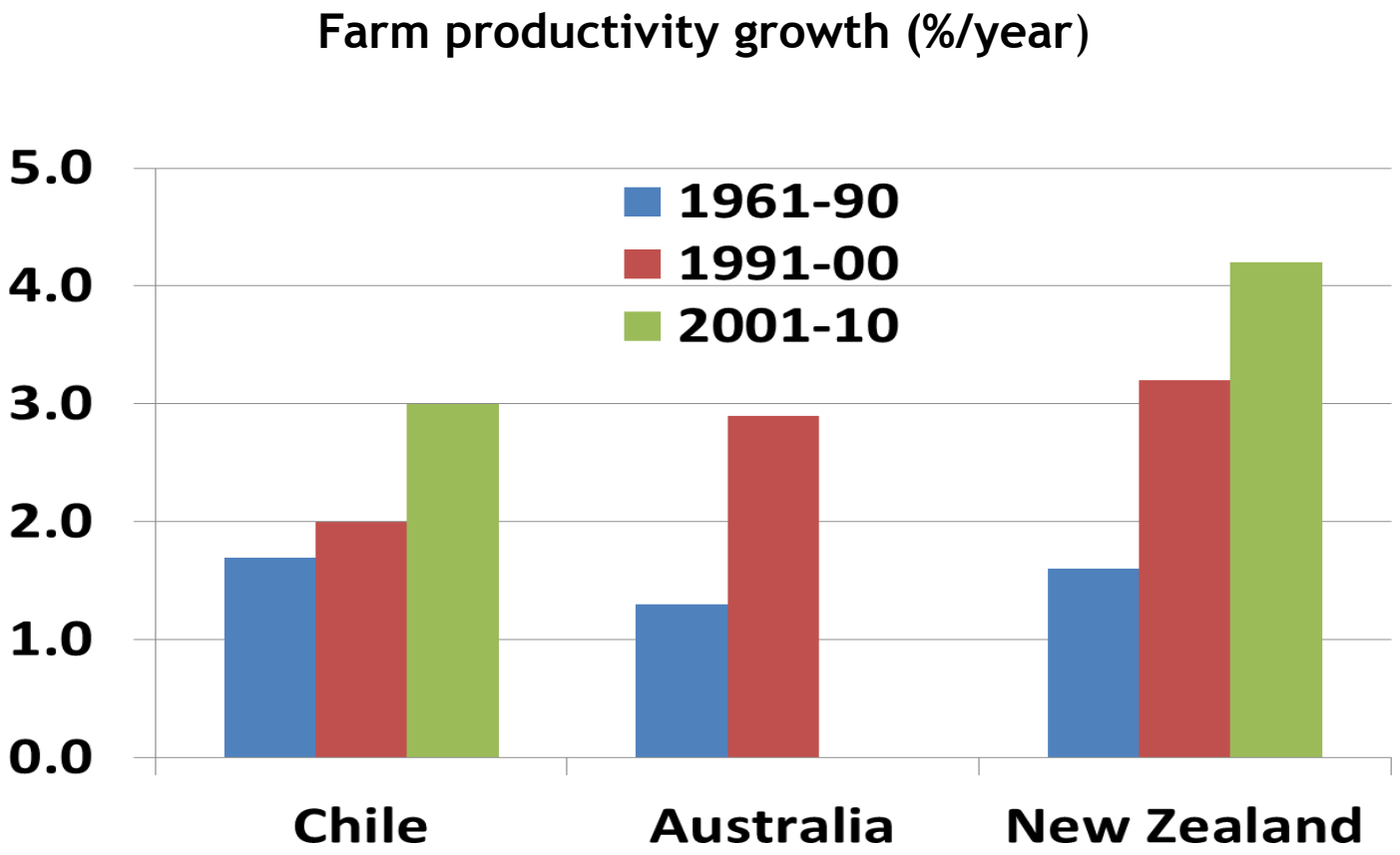
Source: Fuglie et al. (2012) – Professor Kym Anderson presentation Agriculture Brainstorming Kazakhstan 2015

# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Budget Allocation

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Source: Fuglie et al. (2012) – Professor Kym Anderson presentation Agriculture Brainstorming Kazakhstan 2015

# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Budget Execution

- Low levels of budget utilization (large gap between planned and actual disbursement)
  - ✓ Public Expenditure and Financial Accountability Partnership suggests deviation should not exceed 10 percent.
  - ✓ Execution rates for recurrent costs are higher than for investment costs.
  - ✓ Supply side causes
    - Mid-year reallocation and cuts
    - Untimely disbursement meant funding misses the critical season
  - ✓ Utilization side causes
    - Unrealistically optimistic plans in investment project designs
    - Low procurement and implementation capacity
    - Weak tracking and therefore slow response to addressing causes of delay

- Disbursements  untimely and insensitive to agricultural seasons

- High levels of leakage and weak admin systems create opportunities for corruption. Use PETS to track spending and identify weaknesses in execution

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# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research

## Budget Execution

**TABLE 4:** Budget Allocation versus Disbursements

| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | AVERAGE EXECUTION RATE (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Honduras** | | | | | | | | | | | |
| Ag. & Forestry | n.e. | 67.7 | 64.9 | 56.6 | 73.4 | 56.8 | 44.9 | 60.1 | 57.3 | 62.4 | **59.4** |
| **Nigeria** | | | | | | | | | | | |
| Ag. | n.e. | n.e. | n.e. | n.e. | 91 | 58 | 60 | 85 | 103 | n.e. | **79** |
| **Ethiopia** | | | | | | | | | | | |
| Ag. & Rural | 83 | 86 | 72 | 71 | 80 | 79 | 85 | 82 | n.e. | n.e. | **79.8** |
| **Uganda** | | | | | | | | | | | |
| Ag., Animal Industries & Fisheries* | n.e. | n.e. | n.e. | n.e. | 85.2 | 82.1 | 103.5 | 160.5 | 118.7 | 90.4 | **106.7** |

*Source: Brzeska and Fan (2009).*

*Note:* n.e. = not estimated, * = Recurrent cost only

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# Findings from Strengthening National Comprehensive Agricultural Public Expenditure in Sub-Saharan Africa PERs and Related Global Research
## Monitoring and Evaluation

- Too many indicators
- Indicators not strongly linked to strategic objectives or program outcomes
- Lack of consistency and continuity poor of lack of standardization of indicators
- Insufficient M&E resources
- Too frequent M&E (Africa)
- Could use client satisfaction survey

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# Country Case Studies

- Ghana

  Source: Ghana, Basic Agricultural Public Expenditure Diagnosis Review, World Bank, Bill and Melinda Gates Foundation, CAADP, 2013

- Mexico

  Source: Mexico, Agriculture and Rural Development Public Expenditure Review, World Bank 2009

- Nigeria

  Source: Agricultural Public Expenditure Review at the Federal and Sub National Levels in Nigeria (2008-2012), World Bank, Bill and Melinda Gates Foundation, CAADP, 2014

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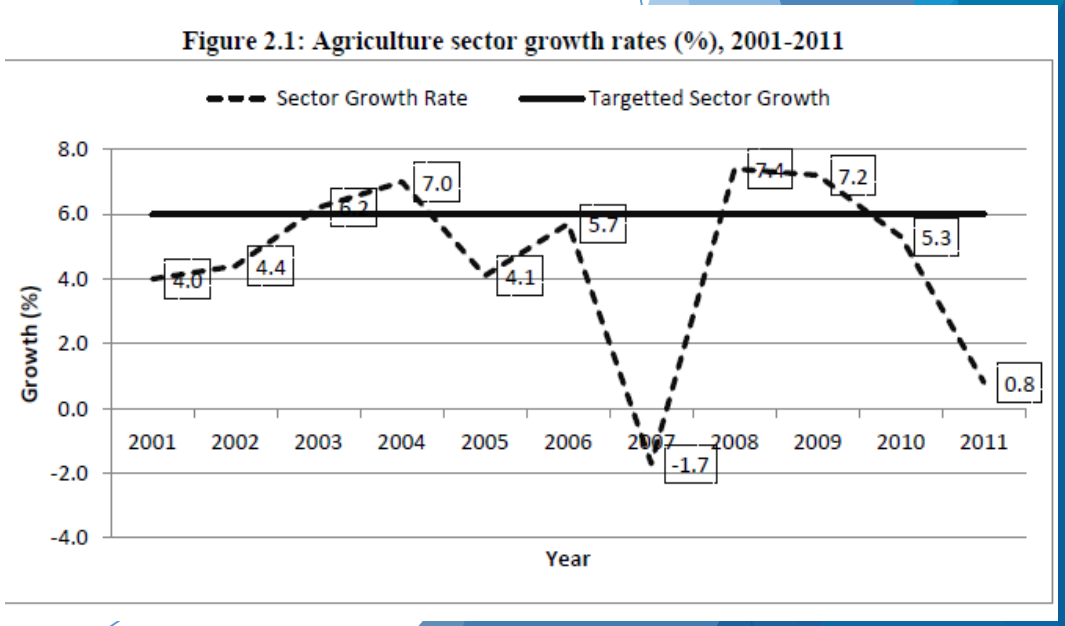
# Country Case Study: Ghana

| | |
|---|---|
| Agriculture share in GDP: | 40 percent 2001-2005, declining to 26.5 % 2011 |
| Agriculture share in employment: | 42 percent |
| Agriculture share in exports: | 75 percent |
| Structure of production: | 90 percent smallholders<br>25 percent of world cocoa production<br>95 percent of fisheries mainly artisanal employing 2 million people |
| Constraints to growth: | Irrigation, access to finance, over-fishing, illegal logging, low value addition through processing. |
| Sector performance: | Erratic growth exceeding 6 percent in some years. |

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# Country Case Study: Ghana

- Medium Term Expenditure Framework
- Agricultural Strategy

  (i) food security and emergency preparedness;

  (ii) improved growth in incomes;

  (iii) increased competitiveness &enhanced integration into domestic and international markets

  (iv) sustainable management of land and environment

  (v) science and technology applied in food and agriculture development;

  (vi) enhanced institutional coordination

- Medium Term Agricultural Sector Investment Plan 2011-2015: target growth 6-10 %
- Forestry and Wildlife Policy to deal with illegal logging
- Fisheries and Aquaculture Sector Development Plan
- Complex range on institutions involved in budget execution

*MOFA; Min Fin and Economic Planning (Cocoa Board); Ministry of Land Natural Resources (forestry); Ministry of Science and Technology (Research); Ministry of Trade (Selected Export Commodities); Ministry of Local Government and Rural Development*

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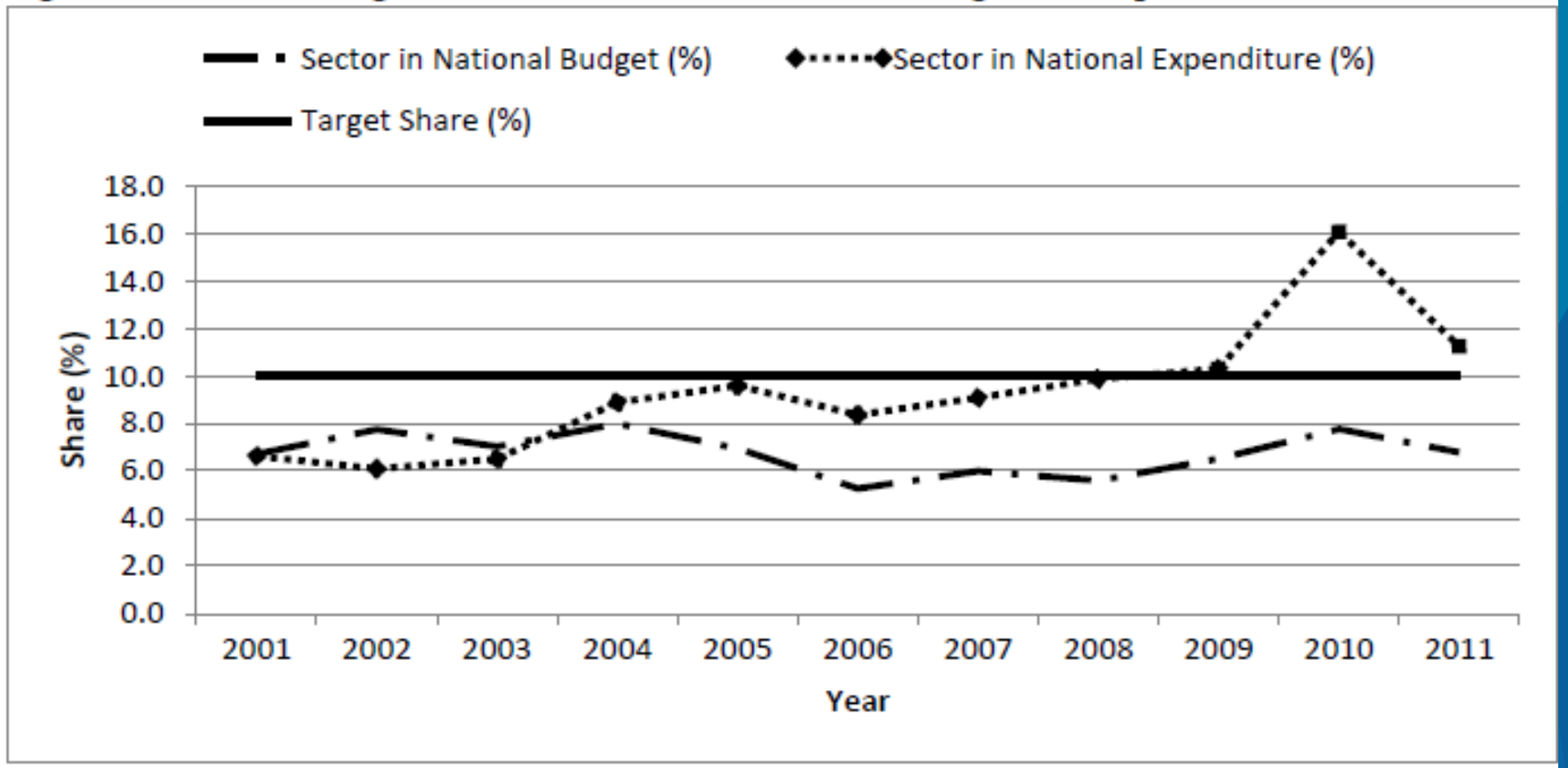
# Country Case Study: Ghana

- Agricultures sector share in national expenditure:
  Achieved CAADP 10 percent target

**Figure 3.6: Shares of agricultural sector in the national budget and expenditure (%), 2001-2011**

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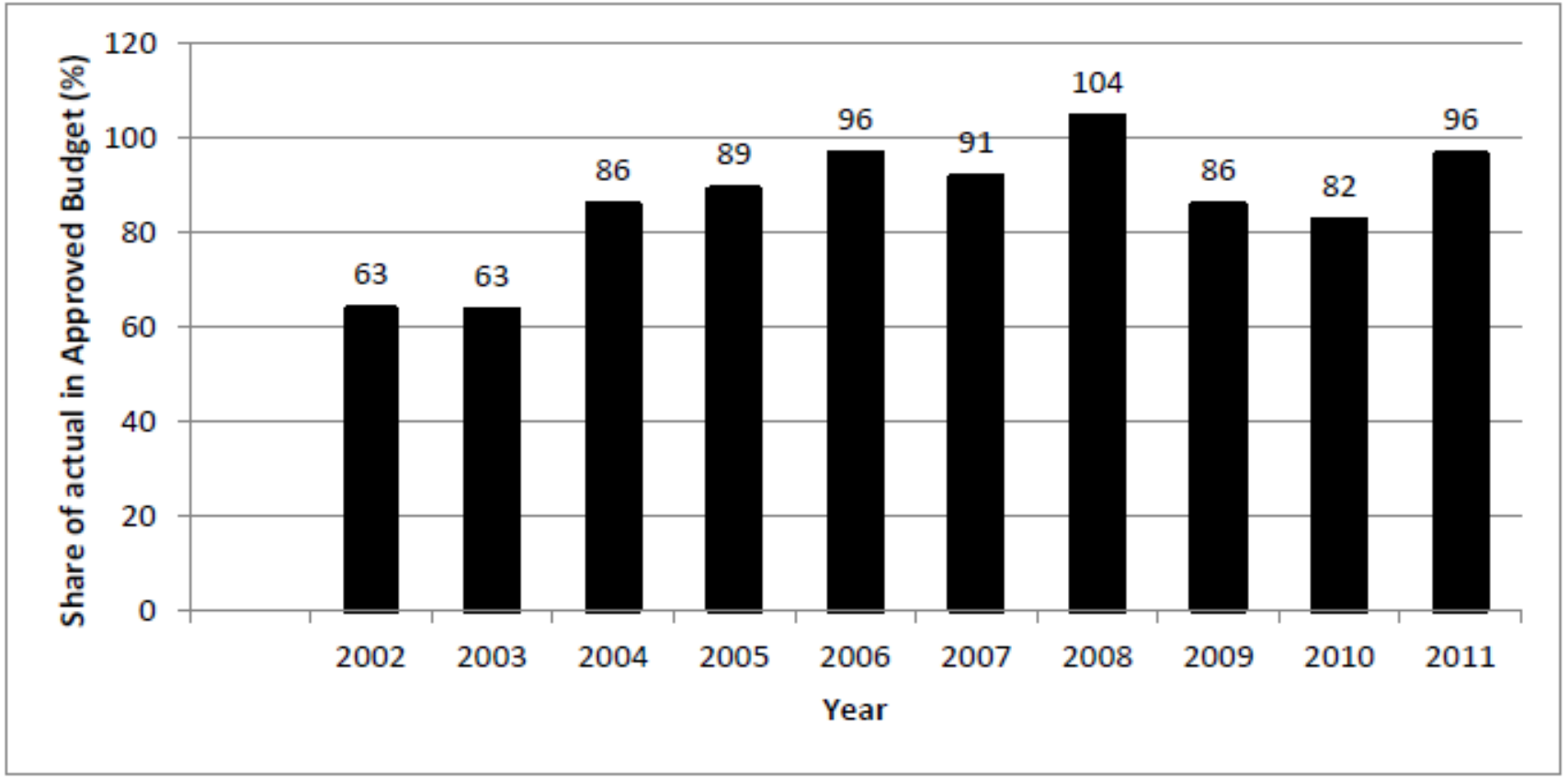
# Country Case Study: Ghana

- Reasonable level of budget utilization

**Figure 3.32: Actual expenditure as percentage of approved budget, 2002-2011**




*Source*: Data from sector MDAs; CAGD.

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# Country Case Study: Ghana

**Allocative efficiency issues** identified by PER which warrant further specialized study

- Rationale for such a high allocation of PAE to COCOBOD (Cocoa Board) given its relatively contribution to AgGDP cf. other subsector. Need to examine the rational for public management of the cocoa export trade and opportunities to crowd in private sector investment.

Table 3.5: Comparison of subsector shares in expenditure and contribution to AgGDP, 2006-2011

| | (a) | (b) | (c=a:b) |
|---|---|---|---|
| Subsector | Average share in sector expenditure (%) 2006-2011 | Average contribution to AgGDP (%) 2006-2011 | Share in expenditure relative to contribution to AgGDP |
| Non-cocoa crops | 58.5 | 62.0 | 0.9:1 |
| Cocoa | 31.2 | 10.0 | 3.1:1 |
| Livestock | 2.7 | 8.0 | 0.3:1 |
| Fisheries | 1.2 | 8.0 | 0.2:1 |
| Forestry | 6.3 | 12.0 | 0.5:1 |
| Total | 99.9 | 100.0 | |

# Country Case Study: Ghana

**Allocative efficiency issues** identified by PER which warrant further specialized study:

- Very high proportion of spending on fertilizer subsidies likely undermined the allocative efficiency of the budget. Requires a specialized study to examine the rationale and impact of the program, impact on productivity, distribution of costs and benefits (welfare analysis), economic losses to the economy.

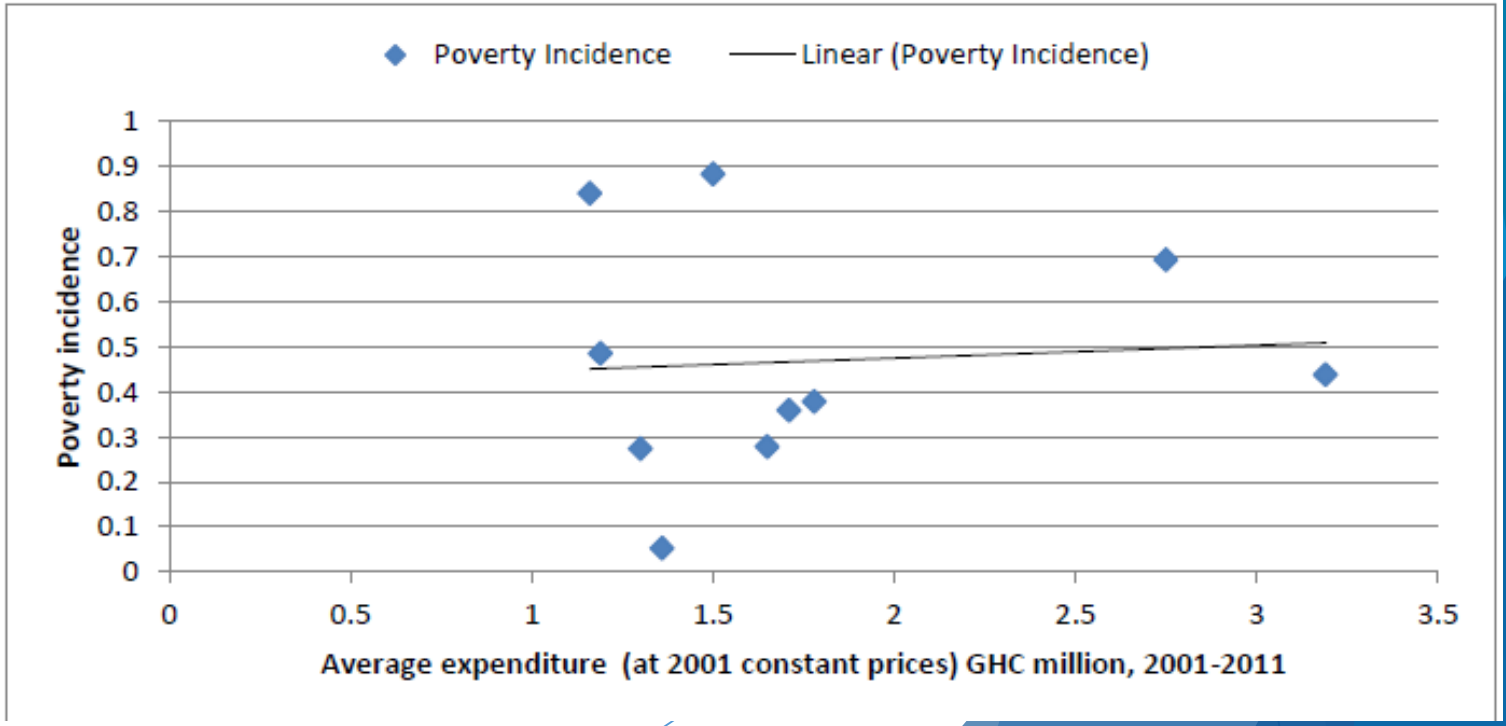
- Represented 79 percent of total agricultural sector PAE 2008-2011.

# Country Case Study: Ghana

Allocative efficiency issues identified by PER which warrant further specialized study:

- The agricultural budget could be more strongly aligned with the national strategic objective of poverty alleviation by better regional targeting since the correlation of PAE and poverty incidence were low. Need better feedback of incidence analysis into planning.

**Figure 3.39: Relationship between regional expenditure and poverty incidence**

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# Country Case Study: Mexico

**Motivation for PER in Mexico**

- Impact of climate change (increasing incidence of storms, droughts expected)
- Food price crisis and potential social tensions
- Concerns about impact of the end of North America Free Trade Agreement and the need to adjust

**Overall**

- Overall, the cause of allocative and technical inefficiency appears to have been related to difficulties of making a decentralized system of government work effectively.

# Country Case Study: Mexico

**Allocative Efficiency Issues**

- Weak institutional arrangements for strategic planning lead to inefficient resource allocation.
  - ✓ A National Commission for Rural Development has not been able to formulate an ARD strategy and coordinate federal resource allocation.

- Dominance of provision of private goods (market price support) in the budget compared to public goods.
  - ✓ 80 percent of programs support private goods and only 25 percent provide public goods (irrigation, research, extension, SPS).
  - ✓ Subsidies have been introduced on an ad hoc basis over time and been difficult to remove.
  - ✓ Reducing public spending on private goods has a positive impact on growth: 10 percent increase in public spending on private goods as a percentage of agricultural production, reduces agricultural growth by 2.5 percent

# Country Case Study: Mexico

| Comparison of Support to Agriculture (2010-2012) | | | |
|---|---|---|---|
| | PSE (% of farm gross receipts) | Most distorting support (%of PSE) | TSE (% of GDP) |
| **High support, highly distorted** | | | |
| Japan | 54.00 | 84.00 | 1.20 |
| Turkey | 24.00 | 85.00 | 2.50 |
| ***Moderate support, highly distorted*** | | | |
| Russia | 17.00 | 78.00 | 1.10 |
| China | 15.00 | 69.00 | 2.30 |
| Kazakhstan | 12.00 | 82.00 | 1.10 |
| Mexico (2008-2010) | 12.00 | 49.00 | 0.80 |
| OCED | 19.00 | 50.00 | 0.90 |
| ***Moderate support, moderate distortion*** | | | |
| EU | 19.00 | 23.00 | 0.70 |
| ***Low support, moderate distortion*** | | | |
| US | 8.00 | 21.00 | 1.00 |
| Chile | 3.00 | 26.00 | 0.30 |
| ***Low support, low distortion*** | | | |
| Australia | 3.00 | 6.00 | 0.20 |
| Adapted from OCED (2013) and OECD (2011) | | | |

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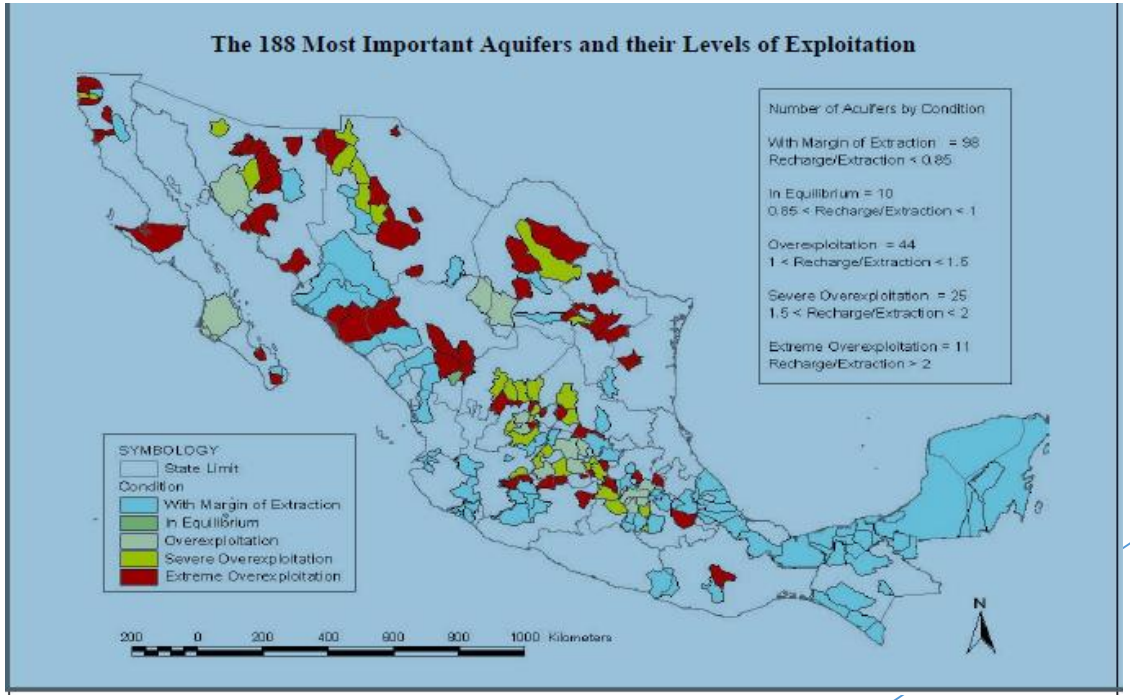
# Country Case Study: Mexico

- Inconsistency with Mexico's 2007 National Climate Change Strategy which set ambitious CC goals.

  - ✓ Electricity subsidies for pumping ground water were depleting aquifers in water scarce regions
  - ✓ Huge negative environmental externalities to some programs were not incorporated in appraisal
  - ✓ 80 percent of economic losses from weather are in agriculture

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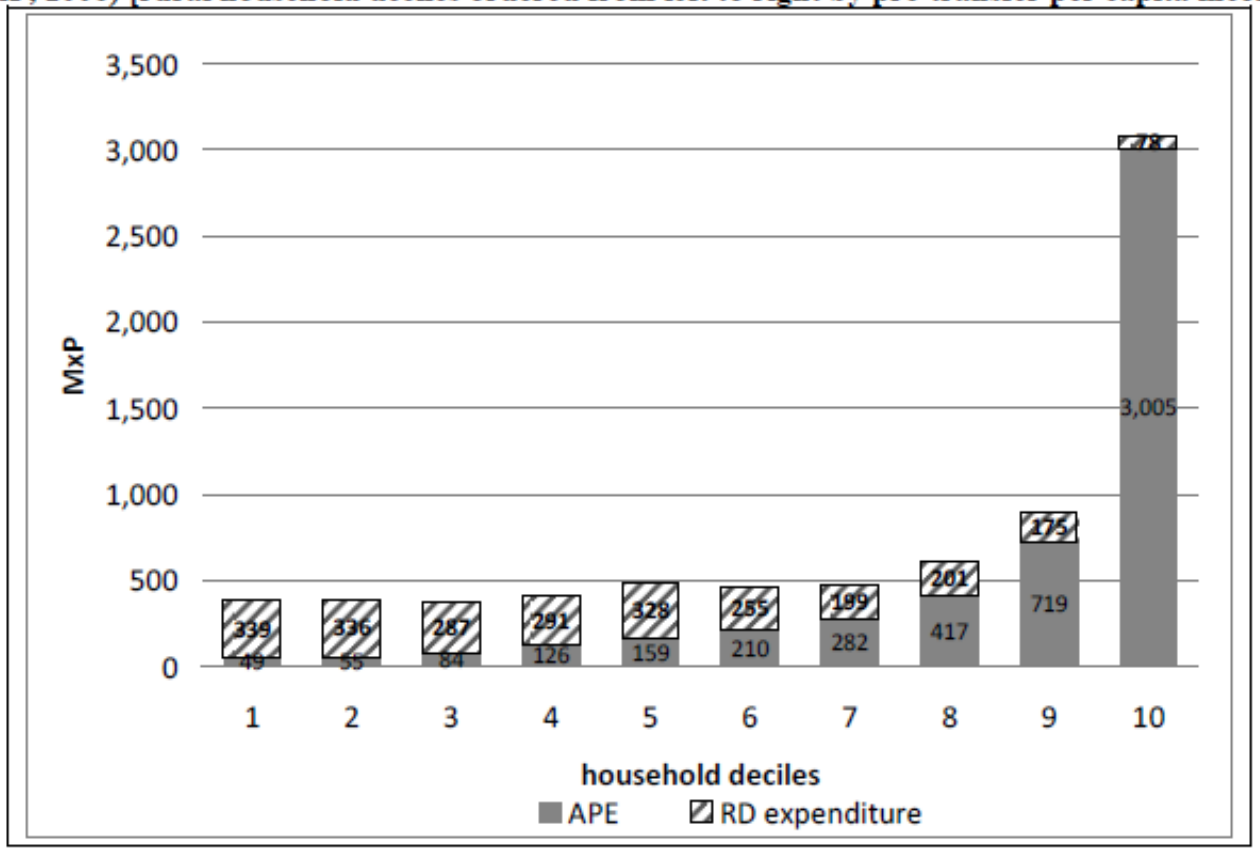
# Country Case Study: Mexico

Poverty targeting. Agricultural spending is highly regressive. Rural development spending reduces inequity by 14 percent but agricultural spending increases it by 7 percent.

**Figure 4-11: Estimated Average Monthly Transfer per Capita to Rural Households from APE and RDE (MxP, 2006) [rural household deciles ordered from left to right by pre-transfer per capita income]**




Source: Scott (2008) , using ENIGH 2006

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# Country Case Study: Nigeria

| | |
|---|---|
| Agriculture share in GDP: | Oil rich yet agriculture contributed 22 percent to GDP (2012)<br>Represents two thirds of West Africa's agricultural GDP |
| Agriculture share in employment: | 45 percent (2004) |
| Sector performance: | Average annual growth of 5.9 percent 2002-2012<br>Higher labor productivity than rest of West Africa and most of SSA. |
| Economic and national strategies | Vision 2020<br>National Empowerment and Development Strategy 2004<br>Agricultural Transformation Agenda |

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# Country Case Study: Nigeria

- Strategy well linked with Agricultural Transformation Agenda and National Vision 2020.

- Technical inefficiency is far more acute that allocative inefficiency because of very unpredictable budget flows from national to sub-national government, weak financial management systems and low revenue generation at sub-national government level, increasing their dependence on federal government.

- PER has strong emphasis on sources of funding, which are a cause of major unpredictability of funding and increasing sub-national revenue independent through better revenue generation.

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# Country Case Study: Nigeria

- Federal Level
  - ✓ Slow approvals of legislation and budgets
  - ✓ Periodic oil shocks affect available budget resources
  - ✓ Results in very unpredictable availability of funding to state level government

- State level and local Level
  - ✓ Higher proportion of spending on agriculture but much lower utilization;
  - ✓ Major debts of some states to federal government are deducted from budgets before allocation
  - ✓ Major leakage through fraudulent practices.

- Need for a stabilization mechanism to improve predictability of available funding.
- Need for greater internal revenue generation (e.g. cost recovery on services) to reduce dependence on federal government.

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# Key Messages

## Global Context

- Global food market will grow by 20 percent by 2030. Urgent need to strengthen investment in agriculture to meet demand.

## Public Agricultural Expenditure (PAE)

- Level of PAE inadequate to meet demand for food and poverty reduction targets.
- Great potential to improve the allocative efficiency of PAE
  - High returns to public investment in R&D, rural infrastructure, irrigation but PAE, particularly in R&D which has the highest long-term impact on sector growth, is low.
  - High proportion of PAE, is currently allocated to economically inefficient programs, primarily production subsidies, which could be reallocated to public goods such as R&D to great effect.
  - Changing the composition of public spending has been an important driver of success in advanced agricultural economies.
  - Imbalance in current and investment spending is a threat to the sustainability of investments
- Great potential to improve the technical efficiency of PAE
  - Improve actual (cf. planned) funding availability and timeliness of disbursement and reduce leakage
- Monitoring and Evaluation: Aim to institutionalize and standardize agricultural PERs to improve allocative and technical efficiency of PAE.